



Easy product selection

Welcome to our catalogue 2017.

A lot of new products and the conveniently structured catalogue will make it easy for you to find the appropriate product solutions.

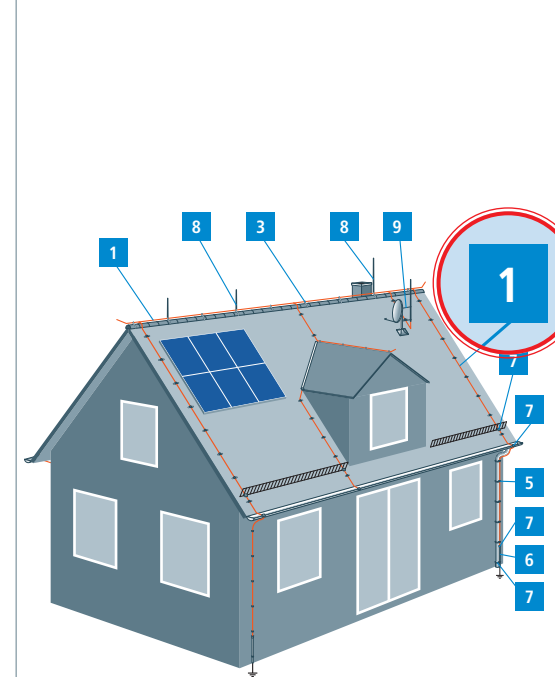
Lightning Protection / Earthing

Catalogue valid as of January 1, 2017

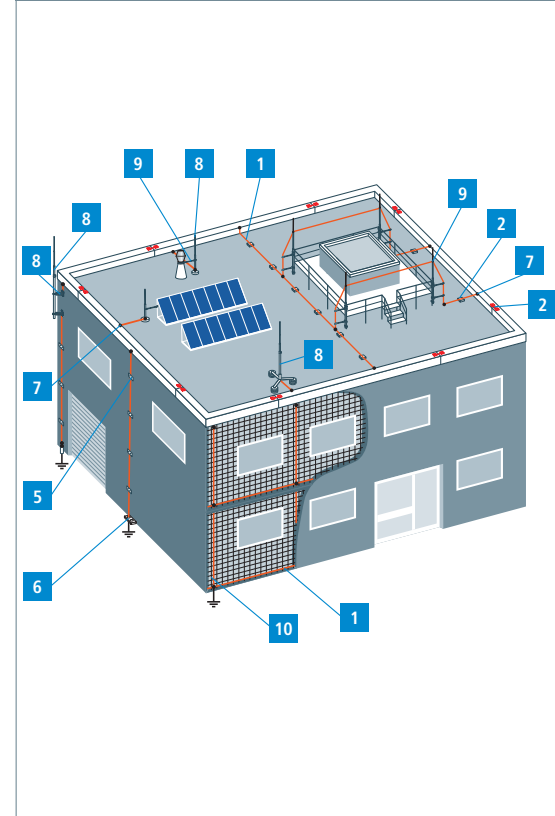


Air-termination System / Down Conductor / Isolated Lightning Protection

External Lightning Protection of a Residential Building



External Lightning Protection of an Industrial Building



Valid as of January 1, 2017

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	2 Flat Roof – Roof Conductor Holders Bridging Braids Page 25
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Air-termination System
Down Conductor

Extreme weather conditions are on the rise all over the world as a result of global warming. Consequences such as high wind speeds, an increased number of storms and heavy rainfall cannot be ignored. Therefore, designers and installers will face new challenges particularly with regard to wind loads. This does not only affect building structures (statics of the structure), but also air-termination systems.

In the field of lightning protection, the DIN 1055-4:2005-03 and DIN 4131 standards have been used as dimensioning basis so far. In July 2012, these standards were replaced by the Eurocodes which provide Europe-wide standardised structural design rules (planning of structures).

The DIN 1055-4:2005-03 standard was integrated in Eurocode 1 (EN 1991-1-4: Actions on structures – Part 1-4: General actions - Wind actions) and DIN V 4131:2008-09 in Eurocode 3 (EN 1993-3-1: Part 3-1: Towers, masts and chimneys – Towers and masts). Thus, these two standards form the basis for dimensioning air-termination systems for lightning protection systems, however, Eurocode 1 is primarily relevant.

The following parameters are used to calculate the actual wind load to be expected:

- Wind zone (Germany is divided into four wind zones with different base wind speeds)
- Terrain category (the terrain categories define the surrounding of a structure)
- Height of the object above ground level
- Height of the location (above sea level, typically up to 800 m above sea level)

Other influencing factors such as:

- Icing
- Position on a ridge or top of a hill
- Object height above 300 m
- Terrain height above 800 m (sea level)

have to be considered for the specific installation environment and have to be calculated separately.

The combination of the different parameters results in the gust wind speed which is to be used as a basis for dimensioning air-termination systems and other installations such as elevated ring conductors. In our catalogue, the maximum gust wind speed is specified for our products to be able to determine the required number of concrete bases depending on the gust wind speed, for example in case of isolated air-termination systems. This does not only allow to determine the static stability, but also to reduce the necessary weight and thus the roof load.

Important note:

The "maximum gust wind speeds" specified in this catalogue for the individual components were determined according to the Germany-specific calculation requirements of Eurocode 1 (DIN EN 1991-1-4/NA:2010-12) which are based on the wind zone map for Germany and the associated country-specific topographic particularities.

When using products of this catalogue in other countries, the country-specific particularities and other locally applicable calculation methods, if any, described in Eurocode 1 (EN 1991-1-4) or in other locally applicable calculation regulations (outside Europe) must be observed. Consequently, the maximum gust wind speeds mentioned in this catalogue only apply to Germany and are only a rough orientation for other countries. The gust wind speeds have to be newly calculated according to the country-specific calculation methods!



Stainless Steel Strip (printed)

- Ink-printed stainless steel strip (in increments of 2 m)
- Page 22



KS Connector StSt (V4A)

- Single-part StSt (V4A)
 - With screw and nut M10
- Page 51



Assortment Case – Variable Number Plate

- With number marking kit
 - The pre-marked number inserts can be quickly and individually clipped onto the number plate on site without additional tool
- Page 69



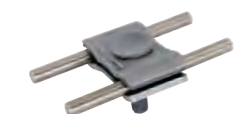
Variable Number Plate for Round and Flat Conductors

- Consists of slotted carrier plate, bracket and combo slotted-head screw
- Page 69



Pre-marked Number Insert

- For clipping onto the slotted number plate without tool
- Page 70



Parallel Connector

- Clamping range 6-22 mm
 - For connecting two parallel conductors by means of one screw
- Page 77



DEHNclip® Rebar Clip

- Compact, lightweight and resource-conserving
 - Quick and without tool
 - Efficient and time-saving
 - For connecting round conductors / flat conductors with the reinforcement
- Page 132



Fixing Bolt

- For fixing an aluminium cable 50 mm² on a HVI supporting tube
 - Fixing on air-termination rod (Ø22 / Ø16 mm) or HVI connection plate
- Page 143



HVI®power long Conductor (cut to length)

- HVI power long Conductor cut to length for assembly on site
- Page 191



Parallel Connector for Ex Areas Zone 1/21, 2/22



- For equal and different cable diameters, small and large
 - Parallel connector with spring washer for connecting round conductors / cables in explosion hazardous areas zone 1/21, 2/22
- Page 272



Lightning Strike Counter

- Counter for digital recording of impulse currents
 - Device for installation on down conductors of the lightning protection system or between equipotential bonding bar and earth-termination system
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Main Catalogue Lightning Protection/Earthing valid as of January 1, 2017

This catalogue replaces the Main Lightning Protection / Earthing Catalogue 2016.

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Our promise



"We are a reliable partner for our customers and employees."

Dr. Philipp Dehn
Managing Partner / CEO

DEHN protects.®

Dear customers, friends, partners,

Every facet of life, whether business or private, is today highly complex. In order to cater to your ever increasing needs we provide innovations and manifold new products. We offer comprehensive protection solutions which, obviously, go hand in hand with the appropriate service. The key to the implementation of protection solutions for our and your own customers is in-depth and comprehensive consultation. Extended services and improved processes help both you and us to transform requirements into possibilities. We would like you, as our partner, to link up your protection requirements and needs with our services and expertise, in order for us both to reap the mutual advantages. Our new and constantly evolving protection concepts are designed to make your daily life and surroundings safer.

Of course, we also continue to provide all of Dehn's traditional, reliable products and safety solutions. We aim to be your safety partner worldwide for surge and lightning protection and safety equipment. Effective protection against the risks presented by lightning and surges for people and equipment is our business. A feel for the market, determination and ideas are the lifeblood for new safety products and concepts. This is the main focus of our family business and has, coupled with the pioneering spirit and innovation which have been our trademark for more than 100 years, made us a market leader with about 1700 employees.

The hub of our activities is in Neumarkt in Bavaria, Germany. It is here that developers work with project and product managers to further advance our protection technology. And it is here that we produce your safety products. Every day we endeavour to ensure that your business can continue to grow thanks to our innovative solutions and services. The DEHN brand name stands for innovation, consistent customer and market orientation and the highest possible quality. Now and in the future.

Take advantage of our range of surge and lightning protection and safety equipment and join us in providing a tad more safety.

I look forward to your interest and future cooperation with you.

Dr. Philipp Dehn



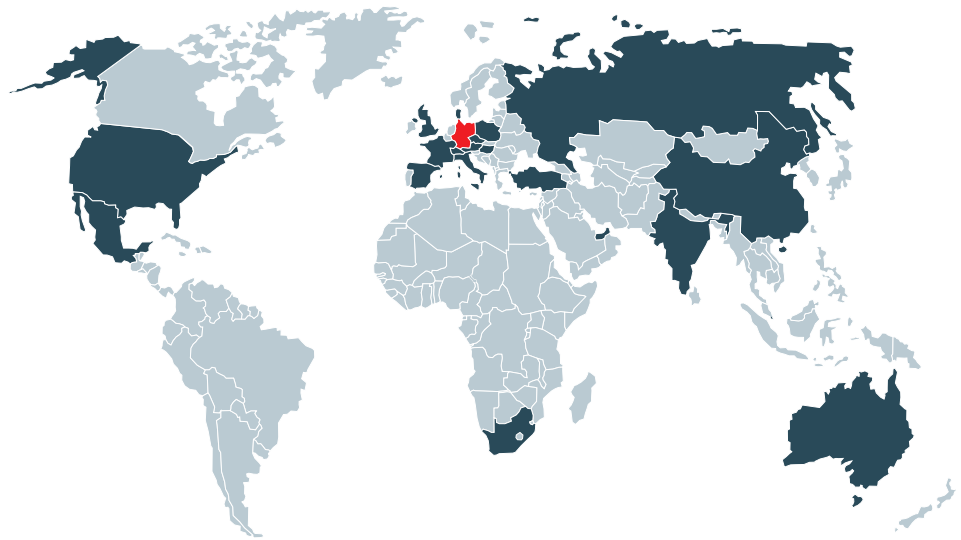
"Our customers are the focal point of our activities."

Helmut Pusch
Managing Director / CSO

Fair partnership for the best solution

Our goal is to be a reliable and fair partner for our industrial, commercial and technical customers all over the world. To this end, we always focus on the best protection solution.

Our sales teams in our global network in Germany, in our 20 subsidiaries and offices as well as more than 70 international partners ensure the competent and customer-oriented marketing of our products. Proximity to and close contact with our customers is of great importance to us, be it on-site support by our experienced team, our telephone hotline or personal contact at trade fairs. In hundreds of seminars, workshops and conferences held every year throughout the world, we impart practical knowledge on our products and solutions based on specific sample applications, technical and physical correlations and standardisation.



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Sales activities in more than 70 countries worldwide

At www.dehn-international.com you can find your local contact partner.

Benjamin Franklin, inventor of the lightning rod, recognised lightning as an electrical phenomenon back in 1752. It is common knowledge today that lightning protection is more than a "cage" of air-termination system, down conductors and earth-termination system. A comprehensive protection system which is explained and specified in standard, is necessary. The current standard series IEC/EN 62305 is an internationally coordinated standard and provides a comprehensive overall concept for lightning protection.

DEHN offers components and devices for complete lightning protection systems. Components for the installation of the external lightning protection system have to meet the mechanical and electrical requirements as specified in the standard series EN 62561-x. Our products are of course manufactured and tested in accordance with these relevant standards.

It has been, and will always be our aim to be one step ahead of the current state of engineering and to continuously improve in the interest and benefit of our customers.

In our highly specialised laboratories lightning parameters are simulated in order to test installations/systems for lightning safety and to upgrade them if necessary.

Special solutions for lightning and surge protective systems can be tested and analysed in accordance with the current international and national standards. In addition, we have been working actively on international and national standardisation committees for decades. You can be assured that our devices and extensive knowledge are based on the current state of standardisation. Implementation of a functional lightning protection system requires the application of components and devices that are tested and conform to the latest standards. The installers of lightning protection systems have to choose the components in accordance with the installation requirements of individual sites and to install them correctly. Apart from the mechanical requirements, the electrical criteria also have to be considered and complied with in lightning protection engineering. DEHN provides tests and analyses of lightning and surge protection systems for your safety.



Test Reports, Test Certificates and Data Sheets

DEHN provides you with detailed installation instructions, data sheets and test reports in order to support you in the design of installations and systems. The necessary technical details are practice-orientated and documentation is continuously updated and always available at www.dehn-international.com. After the system installation we also assist you in the technical documentation, e.g. concerning a system inspection and the corresponding test certificates (e.g. a lightning protection system tested in accordance with IEC/EN 62305-3 or a documentation of the earth-termination system). These are also available under www.dehn-international.com.

Numerous brochures with practical information on our products as well as many application proposals complete the range of services available and can also be downloaded at www.dehn-international.com.

Planning Software for Lightning Protection Systems

The DEHNsupport Toolbox software program provides easy to use and practical programs for planners and installers, ranging from a complete risk assessment to the calculation of the air-termination rod length, the determination of the separation distance and the calculation of the length of the earth electrodes. Designing of a lightning protection system is thus considerably easier. See also page 15 for more details.

LIGHTNING PROTECTION GUIDE Textbook

The DEHN LIGHTNING PROTECTION GUIDE has been an indispensable aid for technical experts and is the benchmark for practice-orientated technical literature in the field of lightning and surge protection of buildings and structures. Whatever you need for the practical understanding of lightning and surge protection – the LIGHTNING PROTECTION GUIDE provides comprehensive and detailed expert knowledge about e.g. standards, regulations, project planning basics, installation examples and application proposals for special cases on more than 400 pages. The DEHN LIGHTNING PROTECTION GUIDE is available as printed book, as pdf file, on CD or at www.dehn-international.com.



DEHNacademy

DEHN offers a wide spectrum for practice-orientated education and training in the fields of surge protection, lightning protection / earthing and safety equipment. In seminars we give instructions and training for the practical application of components and devices in special structures and systems. You can also use our e-Learning service at www.dehn-international.com/en/dehnacademy-e-learning.

DVD

A picture is worth a thousand words. With DVD (DS708) we provide 3D-animated films to show the use of our products, and we invite you to meet DEHN on a tour through the company with the DEHNTour (DS707) DVD.

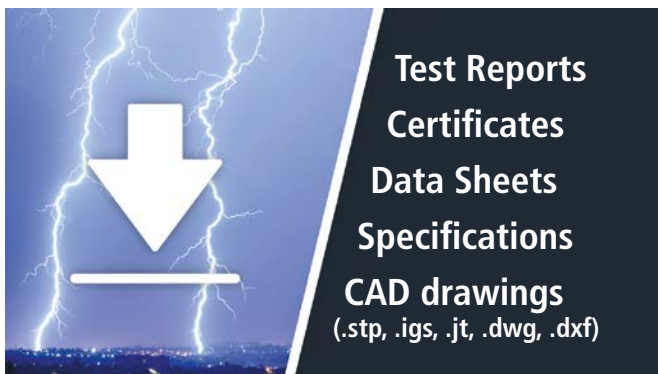
Tender Specifications

A current description of our products for tenders (delivery list texts) is available in the service download area at www.dehn-international.com.

DEHN – quick and direct

Proximity to our customers is important to us! We are at your disposal for any questions on special application topics concerning DEHN products under the service hotline +49 9181 906-1750. You can also contact our competent partners in your region. We shall be pleased to provide you with the name of the contact person of our subsidiaries or representatives. More details and information at www.dehn-international.com.

The lightning protection / earthing catalogue comprises components for lightning protection, earthing and equipotential bonding. More technical information is available at www.dehn-international.com. We also shall be pleased to send you brochures.



Product documentation / construction and CAD drawings

Planning, design and implementation drawings of lightning and surge protection systems require a detailed product documentation. Computer Aided Engineering (CAE) is based on construction and CAD drawings.

DEHN provides you with the following documents and drawings for collective download:

- Installation instructions / instructions for use
- Test reports
- Certificates
- Data sheets
- Specifications
- CAD drawings (file formats: .stp, .igs, .jt, .dwg, .dxf)

Supported product ranges:

- **Surge Protection** Red/Line and Yellow/Line (complete)
- **Lightning Protection / Earthing** (partly; other in preparation)
- **Safety Equipment** (partly; other in preparation)

Proceed as follows:

1. Registration under <https://www.dehn-international.com/user/register> or
2. Login under <https://www.dehn-international.com/user>
3. Selected products into the shopping cart
4. Collective download of all components in the shopping cart

Collective download of certificates and test reports

Collective download of certificates and test reports from the notepad of our website is immediately possible. Procedure is the same as with the collective downloads of data sheets etc.

Please note: A certificate and/or test report is not available for all products.

More information under www.dehn-international.com.

Data sheets, test reports, 3D data and more also on the internet: <http://de.hn/depd>

Information and Documentation

Brochures

- DS139E Protection Against Touch Voltage – High-voltage-resistant, insulated CUI Conductor
- DS151E Reliable System Solutions for Isolated Air-Termination Systems
- DS162E Foundation Earth Electrode
- DS202D/E DEHN UNI Earthing Clamp / Saddle Clamp (pdf only)
- DS210E HVI®power Conductor (pdf only)
- DS212E Innovation in lightning protection – High voltage-resistant, insulated HVI®Conductor
- DS236E Lightning protection for ETIC systems – Test junction box for external thermal insulation composite systems (pdf only)
- DS242E Copperbonded earth rods and accessories (pdf only)
- DS244E 200 kA-clamps – For classes of LPS I and II (pdf only)
- DS254E Safe and robust – Six-legged support for 10 m and 11 m air-termination rods (pdf only)
- DS255E HVI® and HVI®power Conductor for Ex zones 1 and 21 (pdf only)
- DS264E Maxi MV clamp with tear-off screw (pdf only)
- DS266E Registration of lightning strikes – Lightning strike counter for discharge occurrences up to 100 kA (pdf only)

DEHN CD

- DS702CD Lightning Protection Guide 2015 on CD
- DS708E Animations on DVD (Stand 03/15)
Lightning Protection
- HVI®power conductor example cell site
 - HVI®power conductor example flat roofs
 - HVI®long conductor – in supporting tube
 - Driving in earth rods
 - External lightning protection systems of a residential building
 - DEHNcon H – Isolated air-termination system
 - Straightening of lightning protection wires

Reprints

- SD75E Lightning protection systems with ESE devices ... under scrutiny – Aus Elektropraktiker, Ausgabe 10/2010

Components used for installing the external lightning protection system shall meet the mechanical and electrical requirements, as specified in the EN 62561-x standard series. Lightning protection components are categorised according to their function, for example connection components (EN 62561-1), conductors and earth electrodes (EN 62561-2).

Testing of conventional lightning protection components

Metal lightning protection components (clamps, conductors, air-termination rods, earth electrodes) exposed to weathering have to be subjected to artificial ageing/conditioning prior to testing to verify their suitability for the intended application. In accordance with EN 60068-2-52 and EN ISO 6988 metal components are subjected to artificial ageing and tested in two steps.

Natural weathering and exposure to corrosion of lightning protection components

Step 1: Salt mist treatment

This test applies to components or devices for installation in saline atmosphere. The specimens are tested with severity level 2 in a salt mist chamber (Figure 1) for three days. Test level 2 provides three spraying phases of 2 h each, using a 5% sodium chloride solution (NaCl) at a temperature between 15 °C and 35 °C followed by a humidity storage at a relative humidity of $93 \pm 3\%$ and a temperature of 40 ± 2 °C for 20 to 22 hours in accordance with EN 60068-2-52.

Step 2: Humid sulphurous atmosphere treatment

This test is to evaluate the resistance of materials or objects to condensed humidity containing sulphur dioxide in accordance with EN ISO 6988.

The test is carried out in a test chamber (Figure 2) in seven test cycles of 24 h each cycle in a sulphur dioxide concentration of 667×10^{-6} ($\pm 24 \times 10^{-6}$) of the volume. Each cycle has a heating period of 8 h at a temperature of 40 ± 3 °C in a humid, saturated atmosphere followed by a rest period of 16 h. After that, the humid sulphurous atmosphere is replaced. Both components for outdoor use and components buried in the ground are subjected to ageing / conditioning. For components buried in the ground additional requirements and measures have to be considered. No aluminium clamps or conductors may be buried in the ground. If stainless steel is to be buried in the ground, only high-alloy stainless steel may be used, e.g. StSt (V4A). In accordance with the German DIN VDE 0151 standard, StSt (V2A) is not allowed. Components for indoor use such as equipotential bonding bars do not have to be subjected to ageing / conditioning. The same applies to components which are embedded in concrete. These components are therefore often made of non-galvanised (black) steel.

Air-termination systems / air-termination rods

Air-termination rods are typically used as air-termination systems. They are available in many different designs, for example with a length of 1 m for installation with concrete base on flat roofs, up to the telescopic lightning protection masts with a length of 25 m for biogas plants.

EN 62561-2 specifies the minimum cross sections and the permissible materials with the corresponding electrical and mechanical properties for air-termination rods.

In case of air-termination rods with larger heights, the bending resistance of the air-termination rod and the stability of complete systems (air-termination rod in a tripod) have to be verified by means of a static calculation. The required cross sections and materials have to be selected based on this calculation. The wind speeds of the relevant wind load zone also have to be taken into account for this calculation.

Testing of connection components

Connection components, or often simply called clamps, are used as lightning protection components to connect conductors (down conductor, air-termination conductor, earth entry) to each other or to an installation. Depending on the type of clamp and clamp material, a lot of different clamp combinations are possible. The conductor routing and the possible



Figure 1:
Test in a salt mist chamber.

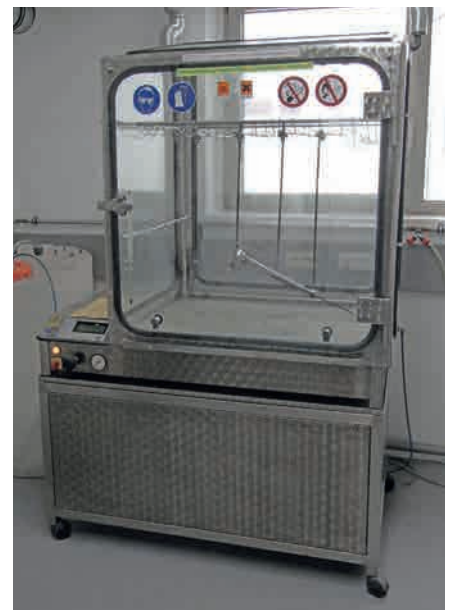


Figure 2:
Test in a Kesternich chamber.

material combinations are decisive in this respect. The kind of conductor routing describes how a clamp connects the conductors in cross or parallel arrangement.

In case of a lightning current load, clamps are subjected to electrodynamic and thermal forces which highly depend on the kind of conductor routing and the clamp connection. **Table 1** shows materials which may be combined without causing contact corrosion.

The combination of different materials with one another and their different mechanical strengths and thermal properties have different effects on the connection components when lightning current flows through them. This is particularly evident for stainless steel (StSt) connection components where high temperatures occur due to the low conductivity as soon as lightning currents flow through them. Therefore, a lightning current test in compliance with EN 62561-1 has to be carried out for all clamps. In order to test the worst case, not only the different conductor combinations, but also the material combinations specified by the manufacturer have to be tested.

Tests based on the example of an MV clamp

At first, the number of test combinations has to be determined. The MV clamp used is made of stainless steel (StSt) and hence can be combined with steel, aluminium, StSt and copper conductors as stated in Table 1. Moreover, it can be connected in cross and parallel arrangement which also has to be tested. This means that there are eight possible test combinations for the MV clamp used (Figures 3 and 4).

In accordance with EN 62561 each of these test combinations has to be tested on three suitable specimens / test set-ups. This means that 24 specimens of this single MV clamp have to be tested to cover the complete range. Every single specimen is mounted with the adequate tightening torque in compliance with normative requirements and is subjected to artificial ageing by means of salt mist and humid sulphurous atmosphere treatment as described above. For the subsequent

	Steel	Aluminium	Copper	StSt	Titanium	Tin
Steel (St/tZn)	yes	yes	no	yes	yes	yes
Aluminium	yes	yes	no	yes	yes	yes
Copper	no	no	yes	yes	no	yes
StSt	yes	yes	yes	yes	yes	yes
Titanium	yes	yes	no	yes	yes	yes
Tin	yes	yes	yes	yes	yes	yes

Table 1: Possible material combinations for air-termination systems and down conductors and for connection with structural parts.



Figure 3: New and aged components.



Figure 4: Test combinations for MV clamps (parallel and cross arrangement).



Figure 5: Specimen fixed on insulating plate (MV clamp) for a test in the impulse current laboratory.

electrical test the specimens have to be fixed on an insulating plate (Figure 5).

Three lightning current impulses of 10/350 μ s wave shape with 50 kA (normal duty) and 100 kA (heavy duty) are applied to every specimen. After being loaded with lightning current, the specimens must not show signs of damage.

In addition to the electrical tests where the specimen is subjected to electrodynamic forces in case of a lightning current load, a static-mechanical load was integrated in the EN 62561-1 standard. This static-mechanical test is particularly required for parallel connectors, longitudinal connectors, etc. and is carried out with different conductor materials and clamping ranges. Connection components made of stainless steel are tested under worst case conditions with a single stainless steel conductor only (extremely smooth surface). The connection components, for example the MV clamp shown in Figure 6, are prepared with a defined tightening torque and then loaded with a mechanical tensile force of 900 N (\pm 20 N) for one minute. During this test period, the conductors must not move more than one millimetre and the connection components must not show signs of damage. This additional static-mechanical test is another test criterion for connection components and also has to be documented in the manufacturer's test report in addition to the electrical values.

The contact resistance (measured above the clamp) for a stainless steel clamp must not exceed 2.5 m Ω or 1 m Ω in case of other materials. The required loosening torque has to be ensured. A manufacturer's test report is prepared for every test combination. A detailed test report is available from the manufacturer upon request or a less detailed report (Figure 7) can be downloaded from the internet (www.dehn-international.com => Products => Product data).

Consequently installers of lightning protection systems have to select the connection components for the duty (H or N) to be expected on site. A clamp for duty H (100 kA), for example, has to be used for an air-termination rod (full lightning current) and a clamp for duty N (50 kA) has to be used in a mesh or at an earth entry (lightning current already distributed).



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Conductors

EN 62561-2 also places special demands on conductors such as air-termination and down conductors or earth electrodes e.g. ring earth electrodes, for example:

- Mechanical properties (minimum tensile strength, minimum elongation),
- Electrical properties (max. resistivity) and
- Corrosion resistance properties (artificial ageing as described above).

The mechanical properties have to be tested and observed. **Figure 8** shows the test set-up for testing the tensile strength of circular conductors (e.g. aluminium). The quality of coating (smooth, continuous) as well as the minimum thickness and adhesion to the base material are important and have to be tested particularly if coated materials such as galvanised steel (St/tZn) are used.

This is described in the standard in the form of a bending test. For this purpose, a specimen is bent through a radius equal to 5 times of its diameter to an angle of 90°. In doing so, the specimen may not show sharp edges, breakage or exfoliation. Moreover, the conductor materials shall be easy to process when installing lightning protection systems. Wires or strips (coils) are supposed to be easily straightened by means of a wire straightener (guide pulleys) or by means of torsion. Furthermore, it should be easy to install / bend the materials at structures or in the soil. These standard requirements are relevant product features which have to be documented in the corresponding product data sheets of the manufacturers.

Earth electrodes / earth rods

The separable DEHN earth rods are made of special steel and are completely hot-dip galvanised or consist of high-alloy stainless steel (StSt V4A); material No. 1.4571). A coupling joint which allows connection of the rods without enlarging the diameter is a special feature of these earth rods. Every rod provides a bore and a pin end.

EN 62561-2 specifies the requirements for earth electrodes such as material, geometry, minimum dimensions as well as mechanical and electrical properties. The coupling joints linking the individual rods are weak points. For this reason EN 62561-2 requires that additional mechanical and electrical tests have to be performed to test the quality of these coupling joints.

For this test, the rod is put into a guide with a steel plate as impact area. The specimen consists of two joined rods with a length of 500 mm each. Three specimens of each type of earth electrode are to be tested. The top end of the specimen is impacted by means of a vibration hammer with an adequate hammer insert for a duration of two minutes. The blow rate of the hammer must be $2000 \pm 1000 \text{ min}^{-1}$ and the single stroke impact energy must be $50 \pm 10 \text{ [Nm]}$.

If the couplings have passed this test without visible defects, they are subjected to artificial ageing by means of salt mist and humid sulphurous atmosphere treatment. Then the couplings are loaded with three lightning current impulses of 10/350 μs wave shape of 50 kA and 100 kA each. The contact resistance (measured above the coupling) of stainless steel earth rods must not exceed $2.5 \text{ m}\Omega$. To test whether the coupling joint is still firmly connected after being subjected to this lightning current load, the coupling force is tested by means of a tensile testing machine.

The installation of a functional lightning protection system requires that components and devices tested according to the latest standard are used. Installers of lightning protection systems have to select and correctly install the components according to the requirements at the installation site. In addition to mechanical requirements, electrical criteria of the latest state of lightning protection are to be considered and complied with.

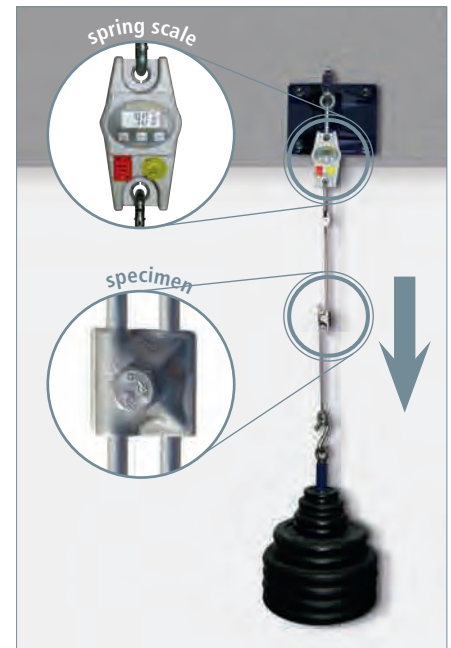


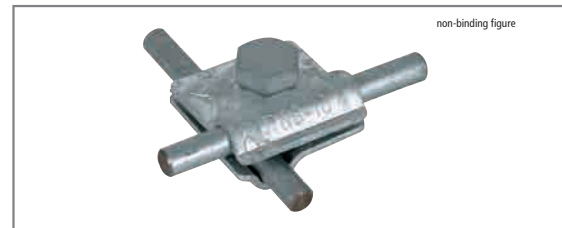
Figure 6:
Static-mechanical test.

Manufacturer's Test Report

Testing according to EN 62561-1

MV Clamps Part No. 390 050 Material: St/tZn

For static mechanical load (900 N) been suitable.



Application: overground

Conductor connected	Test Result
Conductor (1): Rd 8 Al	H
Conductor (2): Rd 8 Al	H
Conductor (1): Rd 8 St/tZn	H
Conductor (2): Rd 8 St/tZn	H
Conductor (1): Rd 8 StSt	H
Conductor (2): Rd 8 StSt	H

Application: protected areas

Conductor connected	Test Result
Conductor (1): Rd 10 St/tZn	N
Conductor (2): Rd 8 reinforcement	N
Conductor (1): Rd 10 St/tZn	N
Conductor (2): threaded rod M10 St/tZn	N
Conductor (1): Rd 10 St/tZn	N
Conductor (2): threaded rod M10 St/tZn	N
Conductor (1): Rd 8 reinforcement	N
Conductor (2): Rd 8 reinforcement	N
Conductor (1): Rd 10 St	H
Conductor (2): Rd 8 reinforcement	H

Caption

Withstand lightning current class H 100 kA (10/350 μs)

Withstand lightning current class N 50 kA (10/350 μs)

Protected areas are e.g. terminals installed in concrete or EBB installed in buildings

Detailed data of testing conditions can be requested on demand.

Figure 7: Less detailed manufacturer's test report.

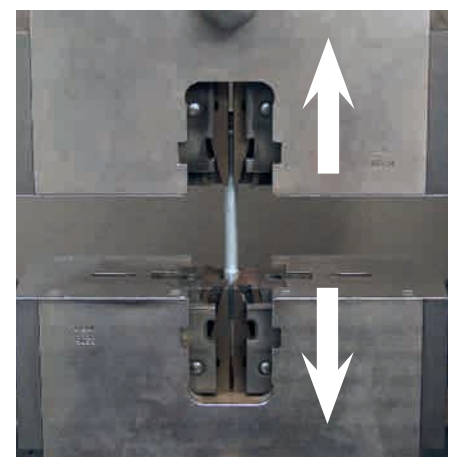


Figure 8:
Tensile testing of conductors



DEHN protects.®

Services

DEHN offers comprehensive services in the field of
Lightning Protection / Earthing

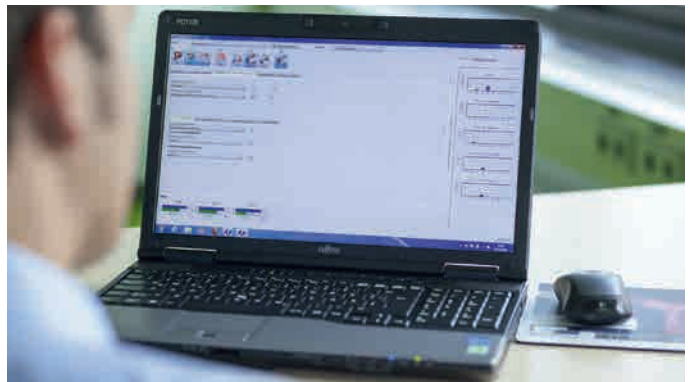
DEHNconcept - Planning of
lightning protection systems



DEHN Engineering EB –
Customised lightning protection /
earthing products



DEHNsupport Toolbox



Our engineering know-how for your projects

In addition to our globally used protective devices and solutions DEHN also offers planning services. Our expertise is based on more than ten years of experience in planning lightning and surge protection solutions for different projects and industries. Our services include planning for industrial plants such as petro-chemical systems and plants as well as for office and protection buildings. We provide planning services which are essential for the successful implementation of the project. The requirements being industry and country-specific this service needs close co-operation with our customers. The basis for professional planning is good preparation. Project discussions as well as on-site consulting and surveys ensure high planning quality. Upon customer's order we create a lightning protection and earthing concept system including drawings, mounting details, descriptions, instructions, tender specifications and bills of material. The planning documents are available for our customers so that they can create their own documentation. Upon request we also provide a material quotation.

Our services include:

- As- built data collection, project discussions, site surveys
- Risk analysis*
- Assessment of material costs
- Planning of the lightning protection/earthing concept
- Lightning protection concept including detail engineering, detailed descriptions and 3D/2D drawing
- Calculation of the separation distance
- Detailed mounting drawing of the air-termination system
- Calculation of the earthing system for the transformer
- Tender specifications for tender invitations
- Bill of material and material quotation (optional)

3D planning of lightning protection concepts

Planning complex objects and structures by means of a 3D program allows to effectively design air-terminations while taking into consideration all parts of the structure. This way, air-termination systems can be installed more effectively than if the 2D method is used. Due to the increasing requirements regarding the building architecture, 3D planning is a very good solution for visually representing lightning protection measures. Based on our 3D planning, customers get an idea of how to integrate the lightning protection measures into the building architecture. Another advantage is the clear visualisation of the protected volume of the air-termination systems.

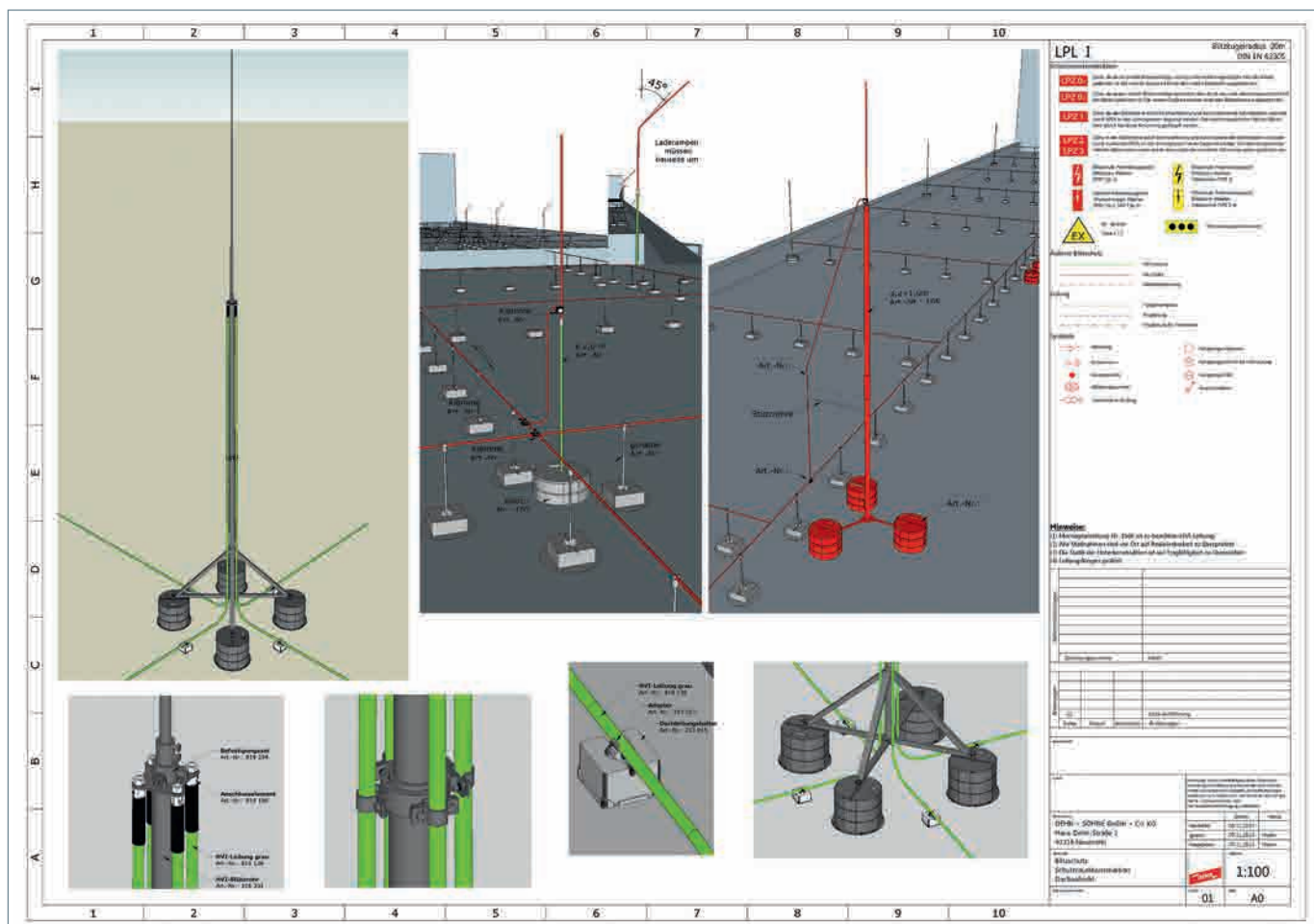
For more detailed information and enquiries, please contact our DEHNconcept team:

Contact:

DEHNconcept Team
 Tel.: + 49 9181 906 1600
 Fax: + 49 9181 906 1046

dehnconcept@dehn.de
 www.dehn-international.com/dehnconcept

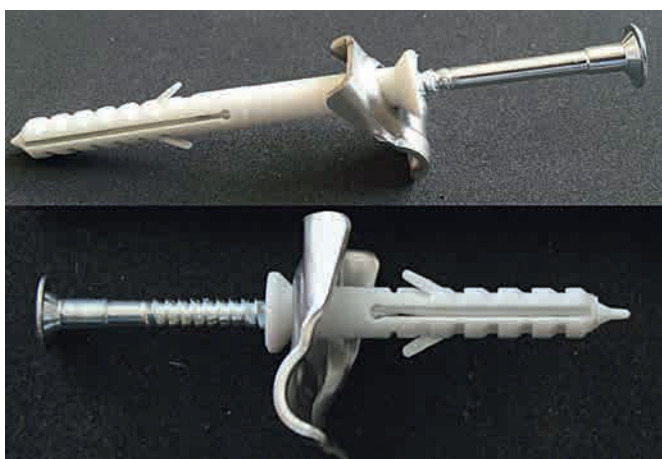
* IEC 62305-2: Protection against lightning – Part 2: Risk management



Detailed view of the earth-termination system



Air-termination rods with special lengths



DEHNQUICK with nail plug (6 mm and 8 mm)



Spacer with tensing strap fastener



Supporting tube for crane rail

We also manufacture customised products – easily, quickly and at low costs

Continuous change of the materials used in the building sector and different methods and kinds of construction require individual solutions – e.g. of holder systems or clamping devices for lightning protection and earth-termination systems. In addition to our broad lightning protection / earthing portfolio, we also offer numerous customised products in proven DEHN quality.

Examples

- Air-termination rods with special lengths or for higher wind loads including calculation
- Components for increased corrosion requirements
- Clamps and holders for other cross-sections or with other screws
- Equipotential bonding bars with other cross-section or other hole pattern
- Special conductor material also in special winding
- Different accessories (e.g. hammer inserts for earth rods)

Enquiry for customised products

To be able to efficiently process your enquiries for customised products, the following information is required:

- Detailed description of the desired product or product modification with reference to our standard product
- Description of special framework parameters (e.g. wind load, corrosion requirements, mounting possibilities)
- Quantity and desired delivery date
- Contact data

Please use the form for customised lightning protection / earthing products for your enquiry:

It is available on our homepage at [www.dehn-international.com / Service / DEHN services / Customised lightning protection/earthing](http://www.dehn-international.com/Service/DEHN%20services/Customised%20lightning%20protection/earthing).

Within three working days, you will receive the following information:

- Feasibility of the customised product or an alternative suggestion
- Prices and scheduled delivery date

Contact:

For enquiries, please contact your customer support or:

DEHN Engineering EB
Tel.: + 49 9181 906 1638
Fax: + 49 9181 906 251638

engineering.eb@dehn.de
www.dehn-international.com



- System requirements:**
- Supported Operating Systems: Windows® Vista / 7 / 8 / 8.1 / 10
 - Office package with word processing and spreadsheet
 - Internet connection (optional)

DEHNsupport Software Basic-Version¹

Part No.	199991
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DEHNsupport Software Distance Edition¹

Part No.	199942
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Upgrade Modul DEHN Distance Tool¹

Part No.	199962
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Multi-User Installation DEHNsupport^{1,2}

Part No.	99411
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1) Software for 2 workstations (Single-user installation)

2) Multi-user installation is also available for 2 or more workstations

Program contents

Calculation Program for Lightning Protection Systems

The DEHNsupport Toolbox is a calculation tool for the specific determination and implementation of lightning and surge protection measures based on the requirements of the IEC/EN 62305-1 to 4 standard series. In addition to international requirements, country-specific adaptations are integrated in the software which are regularly extended. In order to specifically support users with their application, the DEHNsupport Toolbox offers a variety of planning aids:

DEHN Risk Tool; risk management in accordance with IEC/EN 62305-2

Risk analysis: An analysis of the hazard potential for structures allows an economically reasonable selection of protection measures which are suitable for the characteristics and the utilisation of the building.

DEHN Air-Termination Tool; calculation of the air-termination rod length in accordance with IEC/EN 62305-3

This software tool allows for calculating air-termination rod lengths depending on the class of LPS.

DEHN Distance Tool; calculation of the separation distance in accordance with IEC/EN 62305-3

A 3D building model with automatic calculation of the separation distances forms the basis of the DEHN Distance Tool module. This automatic calculation is based on nodal analysis, saves time and simplifies work steps.

DEHN Earthing Tool; calculation of the earth electrode length in accordance with IEC/EN 62305-3

This software tool allows for determining the necessary earth electrode length depending on the type of earth electrode, the class of LPS and soil resistivity.

DEHNselect SPD Tool (free of charge); selection of surge protective devices

The new DEHNselect SPD Tool facilitates planning and provides a professional support for implementing an efficient internal lightning and surge protection concept.

Order Information

Due to its user-friendly interface, the DEHNsupport software allows experts to consider the objects they are supposed to protect according to normative requirements. The DEHNsupport Toolbox software is available in different combinations:

Basic-Version (Part No. 199991)

DEHNsupport Basic Version software with risk analysis, calculation of the length of earth electrodes, determining the length of air-termination rods, and selection of the protective devices.

Distance Edition (Part No. 199942)

DEHNsupport Distance Edition software with risk analysis, calculation of the length of earth electrodes, determining the length of air-termination rods, and calculation of the separation distance based on the nodal-point-potential analysis method, selection of the protective devices.

Upgrade from Basic to Distance Edition (Part No. 199962)

An upgrade for calculating the separation distance according to the nodal-point-potential analysis method can be obtained for an already installed Basic Version.

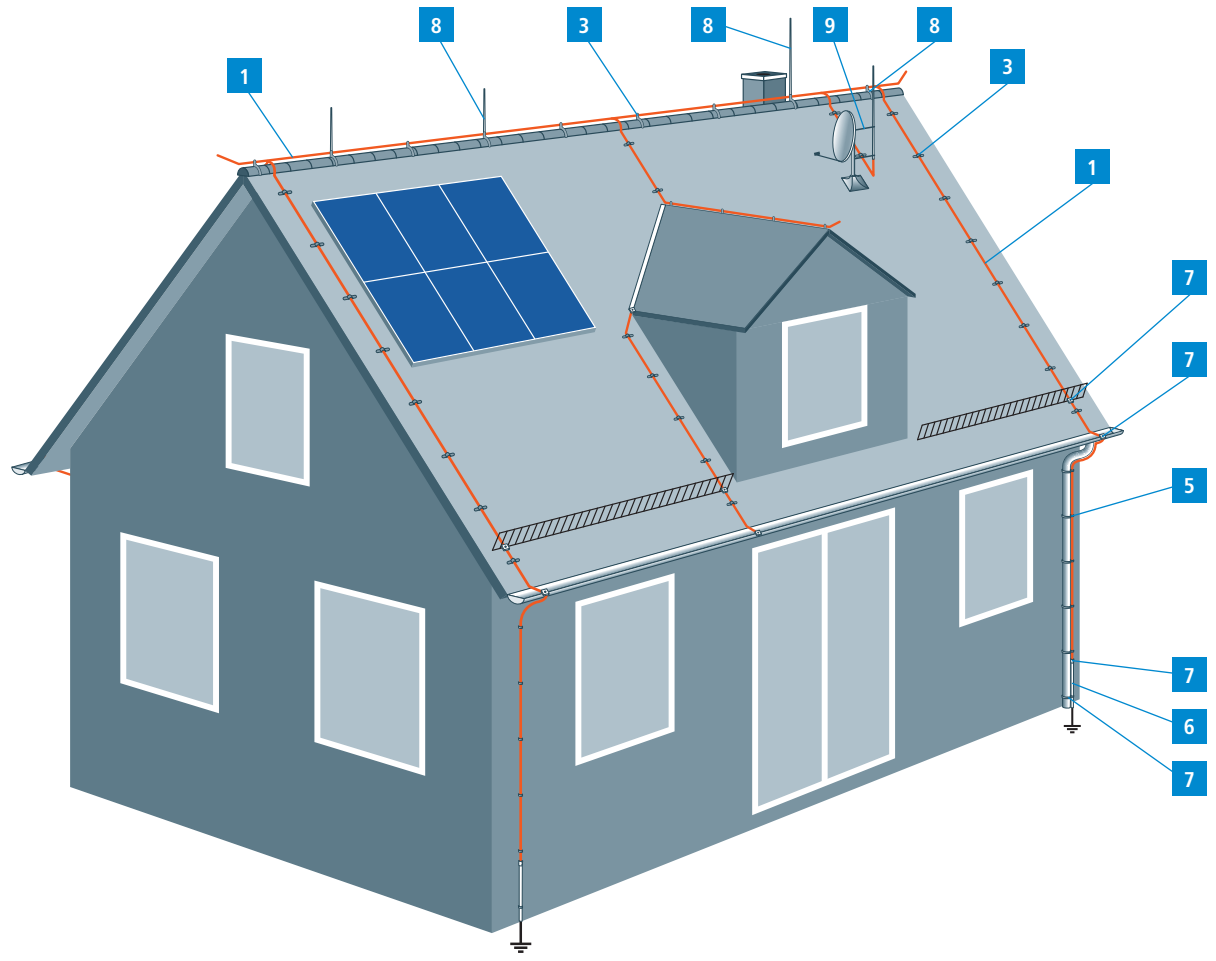
Multi-user installation of the DEHNsupport software (Part No. 99411)

The content is identical to that of the DEHNsupport Distance Edition. Multi-user installation is available for server solutions (two or more workstations).

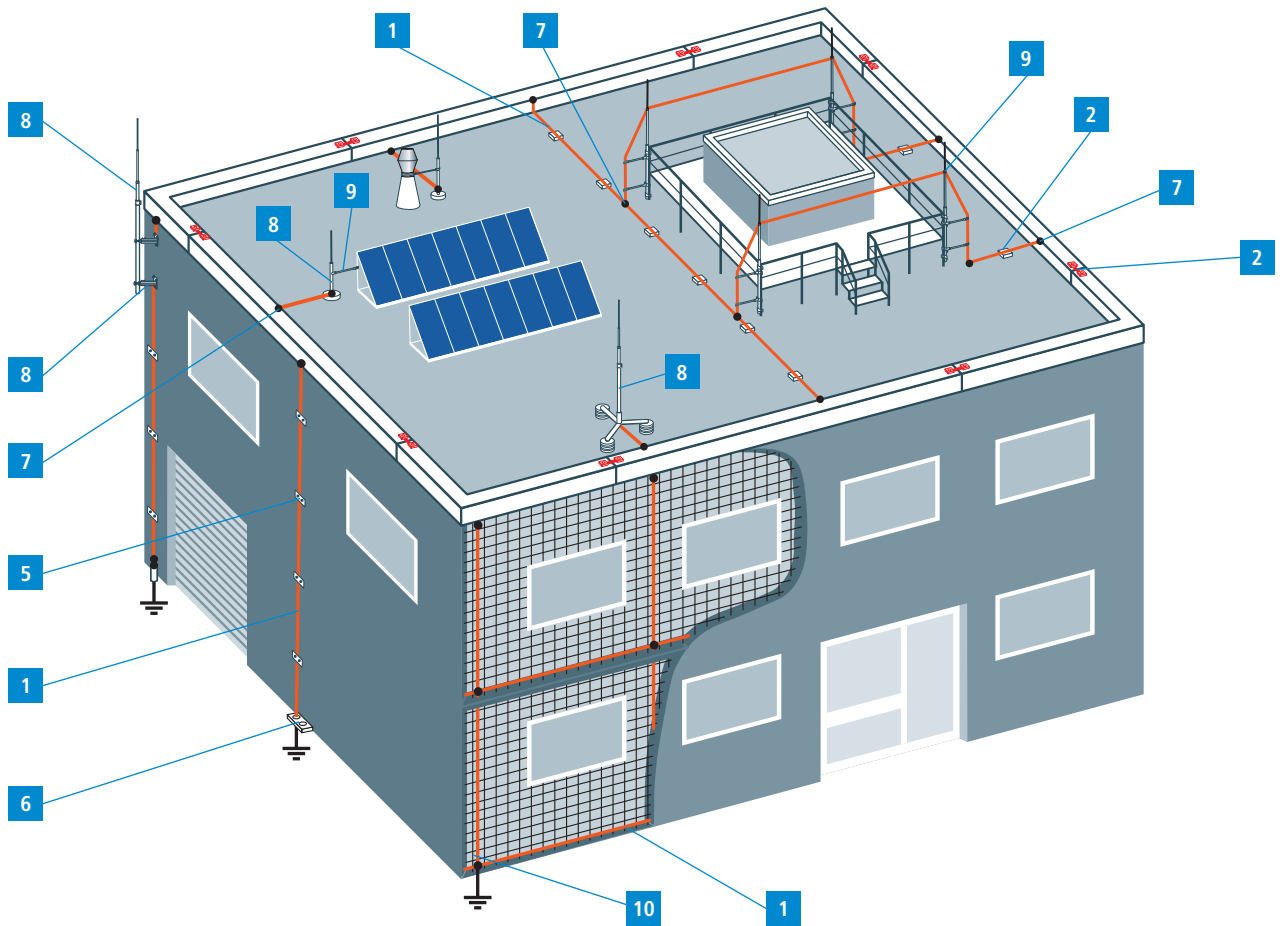
Detailed information, an information request form and a demo version is available at www.dehn-international.com. The demo version already includes the new free of charge DEHNselect SPD Tool module.

Air-termination System / Down Conductor / Isolated Lightning Protection

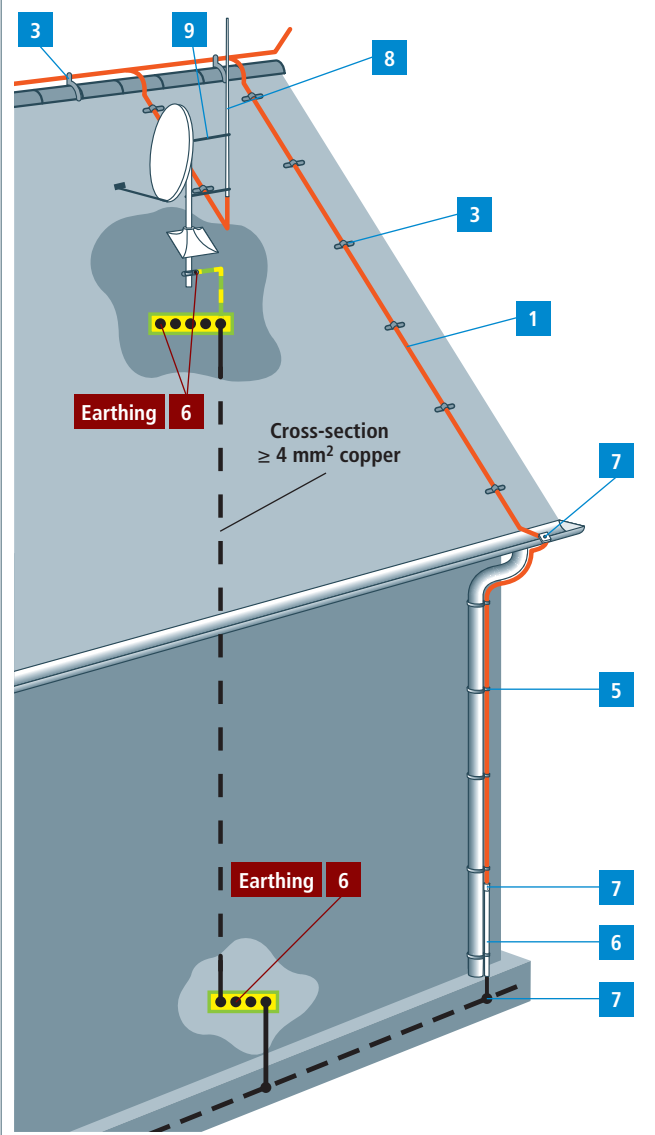
External Lightning Protection of a Residential Building



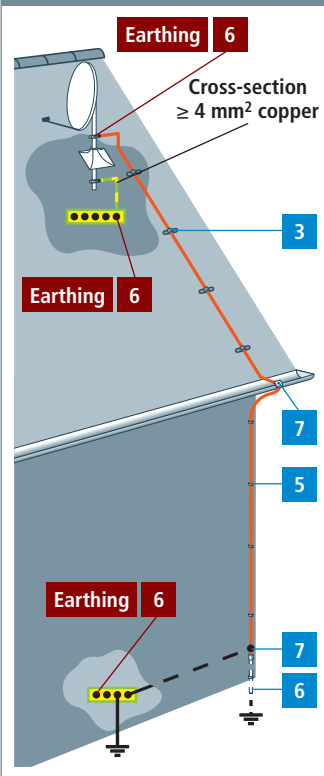
External Lightning Protection of an Industrial Building



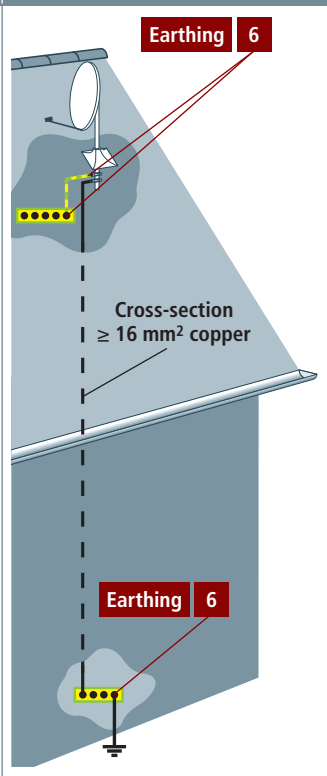
Protection of an antenna system in case of an existing lightning protection system in accordance with IEC 60728-11



Equipotential bonding outside of a building without lightning protection system



Equipotential bonding inside of a building without lightning protection system

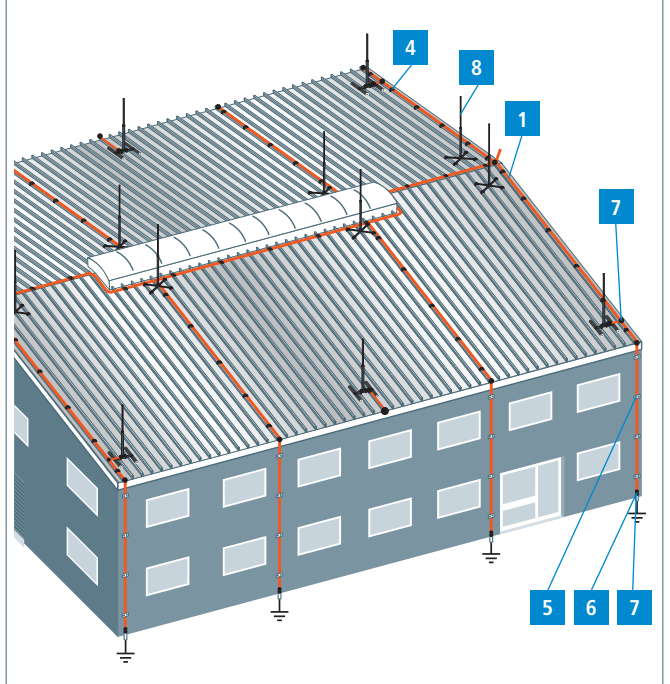


Product	Product name
	Round Wires Strips Cables Page 19
	Flat Roof – Roof Conductor Holders Bridging Braids Page 25
	Pitched Roof – Roof Conductor Holders Page 31
	Metal Roof / Corrugated Sheet Roofing – Roof Conductor Holders Page 41
	Down Conductor – Conductor Holders Page 45
	Earth Entries Connection Lugs Test Joint Boxes Conductor Holders Page 57
	Gutter Clamps Clamps Connectors Page 73
	Air-termination Rods Accessories Page 95
	Isolated Lightning Protection Page 113
	Reinforcement Technology Page 127

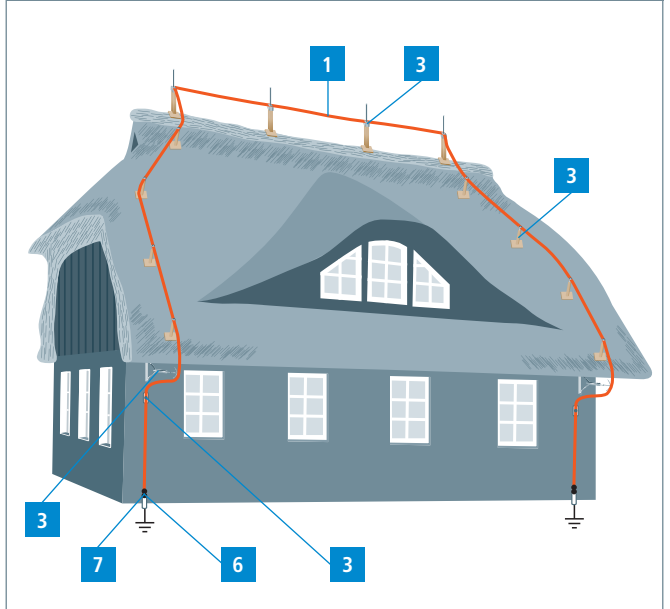
Air-termination System
Down Conductor

Product name	Product
Round Wires Strips Cables Page 19	1 
Flat Roof – Roof Conductor Holders Bridging Braids Page 25	2 
Pitched Roof – Roof Conductor Holders Page 31	3 
Metal Roof / Corrugated Sheet Roofing – Roof Conductor Holders Page 41	4 
Down Conductor – Conductor Holders Page 45	5 
Earth Entries Connection Lugs Test Joint Boxes Conductor Holders Page 57	6 
Gutter Clamps Clamps Connectors Page 73	7 
Air-termination Rods Accessories Page 95	8 
Isolated Lightning Protection Page 113	9 
Reinforcement Technology Page 127	10 

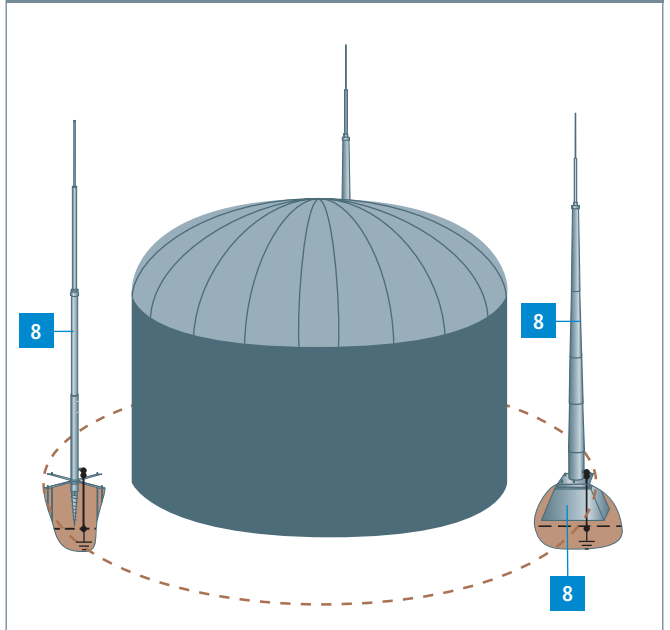
External lightning protection of an industrial building with a metal roof



External lightning protection of a residential building with a thatched roof



External lightning protection of a gas container e.g. a fermenter



Round Wires

According to EN 62561-2, for use in lightning protection and earth-termination systems.

DEHNalu wire

Part No.	840 008	840 108	840 018
Diameter Ø conductor	8 mm	8 mm	8 mm
Cross-section	50 mm ²	50 mm ²	50 mm ²
Material	AlMgSi	AlMgSi	AlMgSi
Characteristics	semi-rigid	semi-rigid	torsion-soft
Standard	EN 62561-2	EN 62561-2	based on EN 62561-2
Coil weight	approx. 20 kg	approx. 3 kg	approx. 20 kg
PU	148 m	21 m	148 m

Part No.	840 028	840 010
Diameter Ø conductor	8 mm	10 mm
Cross-section	50 mm ²	78 mm ²
Material	AlMgSi	Al
Characteristics	torsion-soft	torsion-soft
Standard	based on EN 62561-2	EN 62561-2
Coil weight	approx. 3 kg	approx. 21 kg
PU	21 m	100 m

Note: Al and AlMgSi must not be installed directly (without distance) on, in, or under plaster, mortar or concrete, and not in soil.

DEHNalu wire with plastic sheath

Wire with plastic sheath (halogen-free, frost-resistant and UV stabilised) as additional mechanical protection / corrosion protection e.g. for installation behind facades.

Part No.	840 118	840 128
Diameter Ø conductor	8 mm	8 mm
Cross-section	50 mm ²	50 mm ²
Material	AlMgSi	Al
Characteristics	soft	soft
Standard	based on EN 62561-2	EN 62561-2
Diameter Ø outside	11 mm	11 mm
Material of sheath	plastic	plastic
Sheath thickness	1.5 mm	1.5 mm
Coil weight	approx. 20 kg	approx. 20 kg
PU	100 m	100 m

DEHNcupal wire

New composite material. Lighter than copper.

For use above ground as air-termination and down conductor, or for equipotential bonding.

Part No.	833 008
Diameter Ø conductor	8 mm
Cross-section	50 mm ²
Material	Al / Cu
Characteristics	torsion-soft
Standard	based on EN 62561-2
Cu sheath	min. 0.26 mm
Coil weight	approx. 20 kg
PU	110 m

Note: DEHNcupal wire can be twisted or straightened with the wire straightening devices.

Copper wire

Part No.	830 008	830 108	830 038
Diameter Ø conductor	8 mm	8 mm	8 mm
Cross-section	50 mm ²	50 mm ²	50 mm ²
Material	Cu	Cu	Cu
Characteristics	soft F20	soft F20	semi-rigid F25
Standard	EN 62561-2	EN 62561-2	EN 62561-2
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.8 kA	9.8 kA	9.8 kA
Coil weight	approx. 45 kg	approx. 9 kg	approx. 45 kg
PU	100 m	20 m	100 m



Conductor material
1



Steel wire

With zinc coating $\geq 50 \mu\text{m}$ average (approx. 350 g/m^2).

Part No.	800 008	800 010	800 310
Diameter \varnothing conductor	8 mm	10 mm	10 mm
Cross-section	50 mm ²	78 mm ²	78 mm ²
Material	St/tZn	St/tZn	St/tZn
Standard	based on EN 62561-2	based on EN 62561-2	based on EN 62561-2
Short-circuit current (50 Hz) (1 s; $\leq 300 \text{ }^\circ\text{C}$)	—	5.5 kA	5.5 kA
Coil weight	approx. 50 kg	approx. 50 kg	approx. 18.5 kg
PU	127 m	81 m	30 m

Steel wire straightened, cut to length, bars

With zinc coating $\geq 50 \mu\text{m}$ average (about 350 g/m^2). Suitable for installation in reinforcements (e.g. concrete supports).

NEW



Part No.	800 910	800 911 ^{NEW}
Diameter \varnothing conductor	10 mm	10 mm
Cross-section	78 mm ²	78 mm ²
Material	St/tZn	St/tZn
Standard	based on EN 62561-2	based on EN 62561-2
Short-circuit current (50 Hz) (1 s; $\leq 300 \text{ }^\circ\text{C}$)	5.5 kA	—
Length	3 m	6 m
PU	10 pc(s)	1 pc(s)

Stainless steel wire

Stainless steel wire (Rd 10 mm) for use in soil has to be made of StSt (V4A) with a molybdenum proportion of $> 2 \%$, e.g. 1.4571 or 1.4404, in accordance with EN 62561-2 and IEC/EN 62305-3, DIN 18014 and DIN VDE 0151.

General technical data:	
Standard	based on EN 62561-2

NEW



Part No.	860 908	860 920	860 950	860 910
Diameter \varnothing conductor	8 mm	10 mm	10 mm	10 mm
Cross-section	50 mm ²	78 mm ²	78 mm ²	78 mm ²
Material	StSt	StSt	StSt	StSt
Material No.	1.4301 / 1.4303	1.4301 / 1.4303	1.4301 / 1.4303	1.4301 / 1.4303
ASTM / AISI:	—	—	—	—
Short-circuit current (50 Hz) (1 s; $\leq 300 \text{ }^\circ\text{C}$)	—	—	—	—
Coil weight	approx. 50 kg	approx. 12 kg	approx. 31 kg	approx. 50 kg
PU	125 m	20 m	50 m	80 m

Part No.	860 008	860 010	860 020	860 050
Diameter \varnothing conductor	8 mm	10 mm	10 mm	10 mm
Cross-section	50 mm ²	78 mm ²	78 mm ²	78 mm ²
Material	StSt (V4A)	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L	316Ti / 316L	316Ti / 316L
Short-circuit current (50 Hz) (1 s; $\leq 300 \text{ }^\circ\text{C}$)	—	2.9 kA	2.9 kA	2.9 kA
Coil weight	approx. 50 kg	approx. 50 kg	approx. 12 kg	approx. 31 kg
PU	125 m	80 m	20 m	50 m

Steel wire with plastic sheath

With plastic sheath as additional mechanical protection / corrosion protection e.g. at connections to the lightning protection system. Suitable for installation on, in and under plaster, mortar or concrete.

NEW



Part No.	800 108	800 110
Diameter \varnothing conductor	8 mm	10 mm
Cross-section	50 mm ²	78 mm ²
Material	St/tZn	St/tZn
Standard	based on EN 62561-2	based on EN 62561-2
Diameter \varnothing outside	11 mm	13 mm
Material of sheath	plastic	plastic
Sheath thickness	1.5 mm	1.5 mm
Coil weight	approx. 33 kg	approx. 34 kg
PU	75 m	50 m

Conductor materials will be delivered in original coil weights only.
More conductor materials and components as specified in the standard series EN 62561-2 upon request.

Identification for Terminal Lugs

For attaching to round wires or strips as striking marker (as required according to DIN 18014) during the construction phase.

Part No.	478 099
Material	PVC
Diameter Ø	70 mm
Attach to Fl	30 x 3.5 mm
Attach to Rd	10 mm
Colour	green ● / yellow ●
PU	20 pc(s)



Dripping Water Protective Collars

Prevent rain water draining down the round wire, thus less façade pollution.

Part No.	276 056	276 057
Material	plastic	plastic
Conductor Rd	8 mm	8 mm
Colour	grey ●	brown ●
Diameter Ø	37 mm	37 mm
PU	100 pc(s)	100 pc(s)



Strips

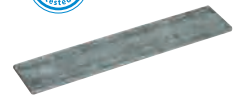
According to EN 62561-2, for use in earth-termination and lightning protection systems as well as for ring equipotential bonding.

Steel strip

Zinc coating $\geq 70 \mu\text{m}$ average (approx. 500 g/m²).

General technical data:			
Material	St/tZn		
Part No.	810 225	810 335	852 335
Width	20 mm	30 mm	30 mm
Thickness	2.5 mm	3.5 mm	3.5 mm
Cross-section	50 mm ²	105 mm ²	105 mm ²
Standard	based on EN 62561-2	EN 62561-2	EN 62561-2
Short-circuit current (50 Hz) (1 s; $\leq 300 \text{ }^\circ\text{C}$)	—	7.3 kA	7.3 kA
Coil weight	approx. 40 kg	approx. 42 kg	approx. 21 kg
PU	100 m	50 m	25 m

Part No.	810 304	810 404	810 405
Width	30 mm	40 mm	40 mm
Thickness	4 mm	4 mm	5 mm
Cross-section	120 mm ²	160 mm ²	200 mm ²
Standard	EN 62561-2	EN 62561-2	EN 62561-2
Short-circuit current (50 Hz) (1 s; $\leq 300 \text{ }^\circ\text{C}$)	8.4 kA	11.2 kA	14 kA
Coil weight	approx. 50 kg	approx. 50 kg	approx. 50 kg
PU	52 m	40 m	30 m



Copper strip

Part No.	831 225
Width	20 mm
Thickness	2.5 mm
Cross-section	50 mm ²
Material	Cu
Standard	EN 62561-2
Short-circuit current (50 Hz) (1 s; $\leq 300 \text{ }^\circ\text{C}$)	9.8 kA
Coil weight	approx. 45 kg
PU	100 m





NEW



Stainless steel strip, printed

Stainless steel strip, ink labelled in increments of one metre.

Stainless steel strip for use in soil has to be made of StSt (V4A) with a molybdenum content of > 2 % e.g. 1.4571, 1.4404 in accordance with EN 62561-2 and IEC/EN 62305-3, DIN 18014 and DIN VDE 0151.

Part No.	861 325 ^{NEW}	861 335 ^{NEW}
Width	30 mm	30 mm
Thickness	3.5 mm	3.5 mm
Cross-section	105 mm ²	105 mm ²
Material	StSt (V4A)	StSt (V4A)
Material No.	1.4404	1.4404
ASTM / AISI:	316L	316L
Type	ink labelled	ink labelled
Standard	based on EN 62561-2	based on EN 62561-2
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	3.9 kA	3.9 kA
Coil weight	approx. 21 kg	approx. 49 kg
PU	25 m	60 m

Stainless steel strip

General technical data:	
Standard	EN 62561-2

Part No.	860 925	860 900	860 325
Width	30 mm	30 mm	30 mm
Thickness	3.5 mm	3.5 mm	3.5 mm
Cross-section	105 mm ²	105 mm ²	105 mm ²
Material	StSt	StSt	StSt (V4A)
Material No.	1.4301 / 1.4303	1.4301 / 1.4303	1.4571 / 1.4404
ASTM / AISI:	—	—	316Ti / 316L
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	—	—	3.9 kA
Coil weight	approx. 21 kg	approx. 49 kg	approx. 21 kg
PU	25 m	60 m	25 m

Part No.	860 335	860 404	860 405
Width	30 mm	40 mm	40 mm
Thickness	3.5 mm	4 mm	5 mm
Cross-section	105 mm ²	160 mm ²	200 mm ²
Material	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L	316Ti / 316L
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	3.9 kA	—	—
Coil weight	approx. 49 kg	approx. 50 kg	approx. 50 kg
PU	60 m	43 m	34 m

Other dimensions and materials upon request.

Cables



For use in lightning protection and earth-termination systems.

Aluminium cable

E.g. for spanning in case of isolated air-termination systems (DEHNiso Combi).

Part No.	840 050
Cross-section	50 mm ²
Cable structure qty x Ø wire	19 x 1.8 mm
Material	Al
Standard	EN 62561-2
Diameter Ø outside	9 mm
Coil weight	approx. 13.5 kg
PU	100 m

Note: Al must not be installed directly (without distance) on, in or under plaster, mortar or concrete, and not in soil.

Steel cable

E.g. for equipotential bonding.

Part No.	801 050
Cross-section	42 mm ²
Cable structure qty x Ø wire	[6x] 19 x 0.65 mm
Material	St/gal Zn
Diameter Ø outside	10 mm
Coil weight	approx. 33 kg
PU	100 m

Stainless steel cable

E.g. for equipotential bonding.

Part No.	850 008	850 010
Cross-section	27 mm ²	42 mm ²
Cable structure qty x Ø wire	[7x] 19 x ca. 0.59 mm	[7x] 19 x ca. 0.68 mm
Material	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L
Diameter Ø outside	8 mm	10 mm
Coil weight	approx. 23.5 kg	approx. 39.5 kg
PU	100 m	100 m



Copper cable

General technical data:	
Material	Cu
Standard	EN 62561-2

Part No.	832 739	832 740	832 192
Cross-section	50 mm ²	50 mm ²	70 mm ²
Cable structure qty x Ø wire	19 x 1.8 mm	19 x 1.8 mm	19 x 2.1 mm
Diameter Ø outside	9 mm	9 mm	10.5 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.8 kA	9.8 kA	13.7 kA
Coil weight	approx. 22 kg	approx. 44 kg	approx. 30 kg
PU	50 m	100 m	50 m

Part No.	832 193	832 095	832 120
Cross-section	70 mm ²	95 mm ²	120 mm ²
Cable structure qty x Ø wire	19 x 2.1 mm	19 x 2.5 mm	19 x 2.8 mm
Diameter Ø outside	10.5 mm	12.5 mm	14.5 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	13.7 kA	18.5 kA	23.4 kA
Coil weight	approx. 60 kg	approx. 42 kg	approx. 53 kg
PU	100 m	50 m	50 m



Copper cable tinned

General technical data:	
Material	Cu/gal Sn
Standard	EN 62561-2

Part No.	832 839	832 202	832 292
Cross-section	50 mm ²	70 mm ²	70 mm ²
Cable structure qty x Ø wire	19 x 1.8 mm	19 x 2.1 mm	19 x 2.1 mm
Diameter Ø outside	9 mm	10.5 mm	10.5 mm
Short-circuit current (50 Hz) (1 s; ≤ 150 °C)	7.2 kA	10.1 kA	10.1 kA
Coil weight	approx. 44 kg	approx. 30 kg	approx. 60 kg
PU	100 m	50 m	100 m

Part No.	832 295	832 320
Cross-section	95 mm ²	120 mm ²
Cable structure qty x Ø wire	19 x 2.5 mm	19 x 2.8 mm
Diameter Ø outside	12.5 mm	14.5 mm
Short-circuit current (50 Hz) (1 s; ≤ 150 °C)	13.8 kA	17.3 kA
Coil weight	approx. 42 kg	approx. 53 kg
PU	50 m	50 m



Other dimensions and materials upon request.

Different wire straightening devices on page 282





DEHN protects.®

Roof Conductor Holders for Flat Roofs



Roof conductor holders to fix round conductors and strips (with adapter) on flat roofs.

- Conductor holder with support plate of weather-resistant plastic, UV stabilised and halogen-free
- Frost-resistant concrete block in accordance with EN 1338 for paving stones, frost-resistance tested according to EN 1926 (frost-dew-test)
- Concrete block and support plate separately recyclable

With double conductor holder Type FB2

Part No.	253 050	253 060
Conductor leading	loose	fixed
Material of conductor holder	plastic	plastic
Colour of conductor holder	black ●	black ●
Conductor holder support Rd	8 mm	8 mm
Weight	1 kg	1 kg
Block	concrete (C35/45)	concrete (C35/45)
Dimension	141 x 86 x 70 mm	141 x 86 x 70 mm
PU	10 pc(s)	10 pc(s)



With double conductor holder Type KF2

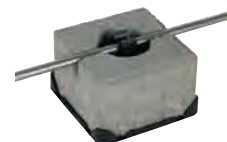
For clamping into roofing sheet stripes (up to 5 mm thick) which are welded with or adhered to the roofing sheet.

Part No.	253 051
Conductor leading	loose
Material of conductor holder	plastic
Colour of conductor holder	black ●
Conductor holder support Rd	8 mm
Dimension	141 x 86 x 70 mm
PU	100 pc(s)



With single conductor holder Type FB

Part No.	253 015
Conductor leading	loose
Material of conductor holder	plastic
Colour of conductor holder	black ●
Conductor holder support Rd	8 mm
Weight	1 kg
Block	concrete (C35/45)
Dimension	100 x 100 x 70 mm
PU	10 pc(s)



With single conductor holder Type KF

For clamping on roofing sheet stripes (up to 2.5 mm thick) which are welded with or adhered to the roofing sheet.

Part No.	253 030
Conductor leading	loose
Material of conductor holder	plastic
Colour of conductor holder	black ●
Conductor holder support Rd	8 mm
Dimension	110 x 100 x 75 mm
PU	100 pc(s)



Separate plastic top Type KF Part No. 253 016 upon request.

Accessories for Roof Conductor Holders for Flat Roofs

Adapter for Round Conductors Type FB and KF

For snapping onto roof conductor holders for conductors Rd 10 mm, loose conductor leading.
Adapter for conductors Rd 6 mm Part No. 253 022 upon request.

Part No.	253 023
Conductor holder support Rd	10 mm
Material	plastic
Colour	black ●
PU	50 pc(s)



Accessories for Roof Conductor Holders for Flat Roofs

Adapter for Conductor Holders Type FB and KF

For snapping on roof conductor holder (Part No. 253 015) for flat conductors 30 mm, loose conductor leading.



Part No.	253 021
Conductor holder support Fl	30 mm
Material	plastic
Colour	black ●
PU	50 pc(s)

Clip for Type FB and KF

For snapping onto roof conductor holders (Part No. 253015), as an additional fixing of air-termination conductor holders installed on pitched roofs.



Part No.	253 025
Conductor holder support Rd	8 mm
Material	plastic
Colour	black ●
PU	50 pc(s)

Roof Conductor Holders for Flat Roofs with Fixing Bores

For the installation of air-termination systems on flat roofs and walls.

Type St/tZn, large

With conductor holder DEHNQUICK, fixed conductor leading, height up to conductor mid 60 mm.



Part No.	202 060
Material of roof conductor holder	St/tZn
Dimension	100 x 100 mm
Fixing	[4x] Ø4 / [4x] Ø10 mm
Material of roof conductor holder	St/tZn
Conductor holder support Rd	6-10 mm
PU	50 pc(s)

Type St/tZn, small

With conductor holder DEHNQUICK, fixed conductor leading, height up to conductor mid 60 mm.



Part No.	202 030
Material of roof conductor holder	St/tZn
Dimension	50 x 60 mm
Fixing	[4x] Ø5.2 mm
Material of roof conductor holder	St/tZn
Conductor holder support Rd	6-10 mm
PU	50 pc(s)

Round fixing plate St/tZn, large

Plate with threaded bolt M8, e.g. for DEHNSnap or DEHNhold for use e.g. at roofing felt, concrete, steel and brickwork.



Part No.	297 015
Material of roof conductor holder	St/tZn
Dimension	approx. Ø100 mm
Fixing	[4x] Ø4 / [4x] Ø10 mm
PU	25 pc(s)

Round fixing plate plastic, small

Plate with threaded bolt M8, e.g. for DEHNSnap or DEHNhold for use e.g. at roofing felt, concrete, steel and brickwork.



Part No.	297 025
Material of roof conductor holder	plastic
Colour	grey ●
Dimension	Ø40 mm
Fixing	[4x] Ø4 mm
PU	100 pc(s)

Roof Bushings

Down conductor bushing and sealing of roofs.

For flat roofs

The max. processing temperature of +110 °C has to be minded on installation. In case of connection heights exceeding 100 mm, roof bushing and conductor are to be wrapped with a self-adhesive universal sealing tape (alu-fix tape).

Part No.	552 030
Material	plastic
Colour	black ●
Bushing Rd	8 / 10 / 16 mm
Bushing Fl	20 x 2.5 / 30 x 3.5 mm
Diameter Ø	250 mm
PU	25 pc(s)



For tiled and corrugated plate roofing

Bore Ø16 mm.

Part No.	552 010
Bore	Ø16 mm
Material	plastic
Colour	black ●
Bushing Rd	8-10 mm
Diameter Ø	34 mm
PU	25 pc(s)



Expansion Pieces

For temperature-related length compensation of longer conductors (loose conductor leading in the holders required).

Round design

For connection e.g. by MV clamp (Part No. 390 051).

Part No.	374 011
Material	Al
Dimension	Ø8 mm
Length	approx. 395 mm
Standard	EN 62561-2
PU	25 pc(s)



Flat design

For connection e.g. with KS connector (Part No. 301 000).

Note: At crossing points two expansion pieces may be connected with one screw M10 x 20 mm and nut.

Part No.	374 020
Material	Al
Dimension	30 x 2 mm
Length	170 mm
Fixing	[2x] Ø11 mm
Central bore	Ø11 mm
Standard	EN 62561-1
PU	50 pc(s)

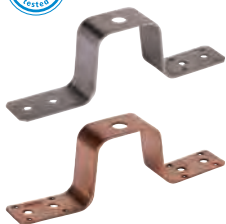


Bridging Brackets

For connection and bonding of metal claddings, for riveting or screwing.

Application note:

According to DIN EN 62305-3 Suppl. 1, four rivets Ø5 mm shall be used to connect material of ≥ 0.5 mm thickness, or two StSt tapping screws Ø6.3 mm (on both sides) for material of ≥ 2 mm thickness.



Short design with central bore

Part No.	377 006	377 027
Material	Al	Cu
Dimension	30 x 2 mm	28 x 2 mm
Length	170 mm	170 mm
Fixing	[8x] Ø5.2 / [4x] Ø6.5 mm	[8x] Ø5.2 / [4x] Ø6.5 mm
Central bore	Ø11 mm	Ø11 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

Short design without central bore

Part No.	377 016
Material	Al
Dimension	30 x 2 mm
Length	170 mm
Fixing	[8x] Ø5.2 / [4x] Ø6.5 mm
Standard	EN 62561-1
PU	50 pc(s)

Long design with central bore

Part No.	377 026
Material	Al
Dimension	30 x 2 mm
Length	220 mm
Fixing	[8x] Ø5.2 / [4x] Ø6.5 mm
Central bore	Ø11 mm
Standard	EN 62561-1
PU	50 pc(s)

Bridging brackets with central bore may be combined with KS connectors (e.g. Part No. 301 019).

Bridging Brails

For connecting metal claddings (riveting or screwing) or as expansion compensation piece for round wires; connection e.g. by KS connector Part No. 301 019.

Application note:

According to DIN EN 62305-3 Suppl. 1, four rivets Ø5 mm shall be used to connect material of ≥ 0.5 mm thickness, or two StSt tapping screws Ø6.3 mm (on both sides) for material of ≥ 2 mm thickness.

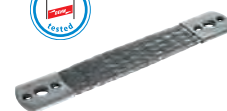
Short design

Part No.	377 015	377 007
Material	Al	Cu
Length	180 mm	180 mm
Cross-section	50 mm ²	50 mm ²
Fixing	[8x] Ø5.2 / [2x] Ø10.5 mm	[8x] Ø5.2 / [2x] Ø10.5 mm
Fixing possibility	blind rivets / screws	blind rivets / screws
Standard	EN 62561-1	EN 62561-1
PU	10 pc(s)	10 pc(s)



Short design for fixing with drilling screws

Part No.	377 045
Material	Al
Length	180 mm
Cross-section	50 mm ²
Fixing	[4x] Ø6.5 / [2x] Ø10.5 mm
Fixing possibility	drilling screws / screws
Standard	EN 62561-1
PU	100 pc(s)



Long design with central bore

Note: At crossing points two bridging braids can be connected with a screw M10 x 20 mm and nut.

Part No.	377 115	377 107
Material	Al	Cu
Length	300 mm	300 mm
Cross-section	50 mm ²	50 mm ²
Fixing	[8x] Ø5.2 / [3x] Ø10.5 mm	[8x] Ø5.2 / [3x] Ø10.5 mm
Central bore Ø	10.5 mm	10.5 mm
Fixing possibility	blind rivets / screws	blind rivets / screws
Standard	EN 62561-1	EN 62561-1
PU	10 pc(s)	10 pc(s)



Bridging Cables

For connecting / bridging of metal claddings or as expansion compensation piece for round wires; connection e.g. with KS connector Part No. 301 019.

Application note:

According to DIN EN 62305-3 Suppl. 1, two rivets Ø6 mm shall be used to connect material of ≥ 0.5 mm thickness, or two StSt tapping screws Ø6.3 mm (on both sides) for material of ≥ 2 mm thickness.

Part No.	377 210	377 310	377 410	377 510
Length	200 mm	300 mm	400 mm	500 mm
Material of cable lug	Al	Al	Al	Al
Material of cable	Cu	Cu	Cu	Cu
Cross-section	16 mm ²	16 mm ²	16 mm ²	16 mm ²
Fixing	[4x] Ø6.5 / [2x] Ø10.5 mm	[4x] Ø6.5 / [2x] Ø10.5 mm	[4x] Ø6.5 / [2x] Ø10.5 mm	[4x] Ø6.5 / [2x] Ø10.5 mm
Insulation	rubber EM5 black	rubber EM5 black	rubber EM5 black	rubber EM5 black
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	10 pc(s)	100 pc(s)	10 pc(s)	10 pc(s)



Self-tapping Screw

Self-tapping with hexagon head and collar for connecting bridging brackets, braids or cables e.g. to the metal capped parapet (for materials of ≥ 2 mm thickness).

Part No.	528 619
Material	StSt
Dimension	6.3 x 19 mm
Head	A/F 10
Standard	DIN 7504
PU	1 pc(s)



Blind Rivet

With StSt pin for the connection of bridging brackets, bridging braids or bridging cables, according to DIN EN 62305-3 Suppl. 1.



Part No.	528 610
Material	Al / StSt
Head	Ø5 mm
Length	10 mm
Standard	similar to EN15979 (DIN 7337)
PU	500 pc(s)

Bridging Cable with Saddle Clamps

- For connecting or bridging of metal claddings (e.g. metal cappings of roof parapet segments) without boring
- With one cleat each e.g. for connection to the air-termination system and for erection of air-termination rods (Rd 8-10 mm)
- For use at parapet capping seams angled 0°-45° and up to max. 18 mm long

Thus pollution by bore chippings can be avoided.



Part No.	365 419
Clamping range of seam	0.7-10 mm
Material of saddle clamps	StSt
Length	200 mm
Material of cable	Cu
Cross-section	16 mm ²
Standard	EN 62561-1
PU	5 pc(s)

Connection Kit for Safety Rope System



System for connecting the safety rope systems on roofs with the air-termination system; with premounted connection lug for the safety rope and clamping frame.

Rope diameter 6 mm



Part No.	365 509
Clamping range of connection lug	Ø6 mm
Rope structure	7 x 7 / 7 x 19 mm
Material of connection lug	StSt
Clamping frame support Rd	6-10 mm
Length	1000 mm
Material of rope	Cu
Cross-section	16 mm ²
Temperature range	-40 °C ... +80 °C
Insulation	rubber EM5 black
Standard	EN 62561-1
PU	1 pc(s)

Rope diameter 8 mm



Part No.	365 519
Clamping range of connection lug	Ø8 mm
Rope structure	7 x 7 / 7 x 19 mm
Material of connection lug	StSt
Clamping frame support Rd	6-10 mm
Length	1000 mm
Material of rope	Cu
Cross-section	16 mm ²
Temperature range	-40 °C ... +80 °C
Insulation	rubber EM5 black
Standard	EN 62561-1
PU	1 pc(s)

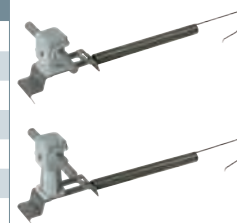
Roof Conductor Holders with Tension Spring for Ridge and Hip Tiles

For fixing air-termination conductors on the ridge e.g. of tiled roofs.

SPANNSnap light

For fixing by StSt tension spring, with DEHNSnap conductor holder, loose conductor leading, laterally adjustable.

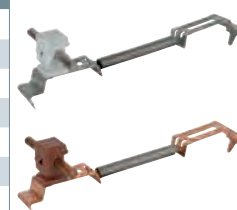
Part No.	204 469	204 449
Material of roof conductor holder	StSt	StSt
Clamping range of ridge tile width	180-280 mm	180-280 mm
Height of conductor holder	16 mm	36 mm
Material of conductor holder	plastic	plastic
Colour of conductor holder	grey ●	grey ●
Conductor holder support Rd	8 mm	8 mm
PU	25 pc(s)	25 pc(s)



SPANNSnap

For fixing by StSt tension spring, with DEHNSnap conductor holder, loose conductor leading, laterally adjustable.

Part No.	204 269	204 267	204 249	204 247
Material of roof conductor holder	StSt	Cu	StSt	Cu
Clamping range of ridge tile width	180-280 mm	180-280 mm	180-280 mm	180-280 mm
Height of conductor holder	16 mm	16 mm	36 mm	36 mm
Material of conductor holder	plastic	plastic	plastic	plastic
Colour of conductor holder	grey ●	brown ●	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



3 Pitched Roof

SPANNgrip light

For fixing by StSt tension spring, with DEHNgrip conductor holder, loose conductor leading, laterally adjustable.

Part No.	206 439	206 449
Material of roof conductor holder	StSt	StSt
Clamping range of ridge tile width	180-280 mm	180-280 mm
Height of conductor holder	20 mm	32 mm
Material of conductor holder	StSt	StSt
Conductor holder support Rd	8 mm	8 mm
Standard	EN 62561-4	EN 62561-4
PU	25 pc(s)	25 pc(s)



SPANNgrip

For fixing by StSt tension spring, with DEHNgrip conductor holder, loose conductor leading, laterally adjustable.

Part No.	206 239	206 237	206 249	206 247
Material of roof conductor holder	StSt	Cu	StSt	Cu
Clamping range of ridge tile width	180-280 mm	180-280 mm	180-280 mm	180-280 mm
Height of conductor holder	20 mm	20 mm	32 mm	32 mm
Material of conductor holder	StSt	Cu	StSt	Cu
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
Standard	EN 62561-4	EN 62561-4	EN 62561-4	EN 62561-4
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



Roof Conductor Holders Adjustable to Ridge and Hip Tiles

For fixing air-termination conductors on the ridge e.g. of tiled roofs.

Continuously adjustable with conductor holder DEHNSnap

Loose conductor leading, laterally adjustable (top middle to the bottom).



General technical data:			
Clamping range	180-280 mm		
Material of conductor holder	plastic		
Conductor holder support Rd	8 mm		
Length of supporting claw	23 mm		
Part No.	204 109	204 911	204 107
Material of roof conductor holder	StSt	StSt	Cu
Height of conductor holder	16 mm	16 mm	16 mm
Colour of conductor holder	grey ●	brown ●	brown ●
PU	25 pc(s)	25 pc(s)	25 pc(s)
Part No.	204 129	204 913	204 127
Material of roof conductor holder	StSt	StSt	Cu
Height of conductor holder	36 mm	36 mm	36 mm
Colour of conductor holder	grey ●	brown ●	brown ●
PU	25 pc(s)	25 pc(s)	25 pc(s)

Continuously adjustable with conductor holder DEHNgrip

Loose conductor leading, laterally adjustable (top middle to the bottom).



General technical data:			
Clamping range	180-280 mm		
Conductor holder support Rd	8 mm		
Standard	EN 62561-4		
Part No.	206 109	206 809	206 807
Material of roof conductor holder	StSt	StSt	Cu
Height of conductor holder	20 mm	20 mm	20 mm
Material of conductor holder	StSt	StSt	Cu
Length of supporting claw	23 mm	15 mm	15 mm
PU	25 pc(s)	25 pc(s)	25 pc(s)
Part No.	206 817	206 819	
Material of roof conductor holder	Cu	StSt	
Height of conductor holder	32 mm	32 mm	
Material of conductor holder	Cu	StSt	
Length of supporting claw	15 mm	15 mm	
PU	25 pc(s)	25 pc(s)	

Stepwise adjustable with conductor holder DEHNQUICK

Fixed conductor leading.



General technical data:			
Conductor holder support Rd	6-10 mm		
Length of supporting claw	24 mm		
Part No.	202 020	202 021	202 900
Material of roof conductor holder	St/tZn	St/tZn	StSt
Clamping range	120-240 mm	200-280 mm	120-240 mm
Material of conductor holder	St/tZn	St/tZn	StSt
PU	25 pc(s)	25 pc(s)	25 pc(s)
Part No.	202 027	202 227	
Material of roof conductor holder	Cu	Cu	
Clamping range	120-240 mm	200-280 mm	
Material of conductor holder	Cu	Cu	
PU	25 pc(s)	25 pc(s)	

Roof Conductor Holders for Ridge and Hip Tiles

For fixing air-termination conductors on the ridge.

FIRSTsnap

For attaching to the ridge clamps of dry ridges, with conductor holder DEHNsnap, loose conductor leading.

Part No.	204 029	204 039
Material of roof conductor holder	StSt	StSt
Height of conductor holder	16 mm	16 mm
Material of conductor holder	plastic	plastic
Colour of conductor holder	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm
PU	50 pc(s)	50 pc(s)



Two-screw cleat with spacer and elastic sealing

For tiled, slated and corrugated sheet roofs, with weather-resistant spacer and elastic sealing, fixed conductor leading.

Part No.	216 000
Material of roof conductor holder	plastic
Bore	Ø12 mm
Material of conductor holder	St/tZn
Conductor holder support Rd	7-10 mm
Conductor holder support Fl	20 mm
PU	25 pc(s)



Roof Conductor Holders with Angled Flexible Base Brace for Roof Surfaces

With thin, flexible StSt base brace (0.3 mm), hookable and adjustable to interlocking roof tiles.

FLEXIsnap

With flexible base brace for hooking on interlocking tiles, loose conductor leading.

Part No.	204 935	204 936	204 937	204 938
Material of roof conductor holder	StSt	StSt	StSt	StSt
Length of brace	170 mm	170 mm	170 mm	170 mm
Height of conductor holder	16 mm	16 mm	36 mm	36 mm
Material of conductor holder	plastic	plastic	plastic	plastic
Colour of conductor holder	grey ●	brown ●	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



FLEXIgrip

With flexible base brace for hooking at interlocking tiles, loose conductor leading.

Part No.	204 949	204 957
Material of roof conductor holder	StSt	StSt
Length of brace	170 mm	170 mm
Height of conductor holder	32 mm	32 mm
Material of conductor holder	StSt	Cu
Conductor holder support Rd	8 mm	8 mm
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



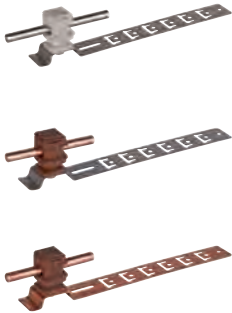
Roof Conductor Holders with Embossed Brace for Roof Surfaces

For fixing of air-termination conductors and down conductors.

UNIsnap height 16 mm

With preformed bending points for hooking on the roof tiles or battens, with DEHNSnap conductor holder, loose conductor leading.

General technical data:	
Height of conductor holder	16 mm
Material of conductor holder	plastic
Conductor holder support Rd	8 mm



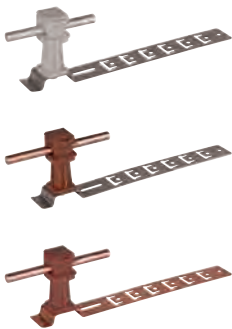
Part No.	204 149	204 921	204 147
Material of roof conductor holder	StSt	StSt	Cu
Length of brace	205 mm	205 mm	205 mm
Colour of conductor holder	grey ●	brown ●	brown ●
PU	50 pc(s)	50 pc(s)	50 pc(s)

Part No.	204 159	204 157	204 169
Material of roof conductor holder	StSt	Cu	StSt
Length of brace	335 mm	335 mm	475 mm
Colour of conductor holder	grey ●	brown ●	grey ●
PU	50 pc(s)	50 pc(s)	50 pc(s)

UNIsnap height 36 mm

With preformed bending points for hooking on the roof tiles or battens, with conductor holder DEHNSnap, loose conductor leading.

General technical data:	
Height of conductor holder	36 mm
Material of conductor holder	plastic
Conductor holder support Rd	8 mm



Part No.	204 179	204 924	204 177	204 189
Material of roof conductor holder	StSt	StSt	Cu	StSt
Length of brace	205 mm	205 mm	205 mm	335 mm
Colour of conductor holder	grey ●	brown ●	brown ●	grey ●
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

Part No.	204 925	204 187	204 199	204 197
Material of roof conductor holder	StSt	Cu	StSt	Cu
Length of brace	335 mm	335 mm	475 mm	475 mm
Colour of conductor holder	brown ●	brown ●	grey ●	brown ●
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

UNIsnap with clamping part

With preformed bending points for hooking on the roof tiles or battens and additional clamping part e.g. for slated roofs, with DEHNSnap conductor holder, loose conductor leading.



Part No.	204 089
Material of roof conductor holder	StSt
Length of brace	205 mm
Height of conductor holder	16 mm
Material of conductor holder	plastic
Colour of conductor holder	grey ●
Conductor holder support Rd	8 mm
PU	50 pc(s)

DEHNSnap with Alu base brace

Easily adjustable to interlocking tiles, DEHNSnap conductor holder, loose conductor leading.

Part No.	204 170	204 171
Material of roof conductor holder	Al	Al
Length of brace	205 mm	205 mm
Height of conductor holder	36 mm	36 mm
Material of conductor holder	plastic	plastic
Colour of conductor holder	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm
PU	50 pc(s)	50 pc(s)



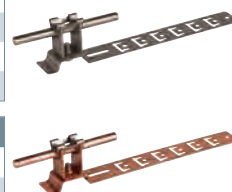
UNIgrip height 20 mm

With preformed bending points for hooking on the roof tiles or battens, with DEHNgrip conductor holder, loose conductor leading.

General technical data:	
Height of conductor holder	20 mm
Conductor holder support Rd	8 mm
Standard	EN 62561-4

Part No.	206 209	206 207	206 219
Material of roof conductor holder	StSt	Cu	StSt
Length of brace	205 mm	205 mm	335 mm
Material of conductor holder	StSt	Cu	StSt
PU	50 pc(s)	50 pc(s)	50 pc(s)

Part No.	206 217	206 229	206 227
Material of roof conductor holder	Cu	StSt	Cu
Length of brace	335 mm	475 mm	475 mm
Material of conductor holder	Cu	StSt	Cu
PU	50 pc(s)	50 pc(s)	50 pc(s)



UNIgrip height 32 mm

With preformed bending points for hooking on the roof tiles or battens, with conductor holder DEHNgrip, loose conductor leading.

Part No.	206 309	206 319	206 329
Material of roof conductor holder	StSt	StSt	StSt
Length of brace	205 mm	335 mm	475 mm
Height of conductor holder	32 mm	32 mm	32 mm
Material of conductor holder	StSt	StSt	StSt
Conductor holder support Rd	8 mm	8 mm	8 mm
Standard	EN 62561-4	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)	50 pc(s)



UNIgrip with clamping part height 20 mm

With preformed bending points for bending and hooking and additional clamping part, e.g. for slate roofs, with conductor holder DEHNgrip, loose conductor leading.

Part No.	206 289
Material of roof conductor holder	StSt
Length of brace	205 mm
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Standard	EN 62561-4
PU	50 pc(s)



DEHNgrip with Alu base brace

Easily fittable to interlocking tiles, with DEHNgrip conductor holder, loose conductor leading.

Part No.	206 170	206 171
Material of roof conductor holder	Al	Al
Length of brace	205 mm	205 mm
Height of conductor holder	20 mm	32 mm
Material of conductor holder	StSt	StSt
Conductor holder support Rd	8 mm	8 mm
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



Roof Conductor Holders with Brace for Roof Surfaces

For insertion on tiled, slated and roofing felt roofs.

Straight

Straight, with conductor holder DEHNQUICK, for conductors Rd 6-10 mm, fixed conductor leading.



Part No.	202 040	202 902	202 037	202 008 [1]
Material of roof conductor holder	St/tZn	StSt	Cu	St/tZn
Height of brace	55 mm	55 mm	55 mm	70 mm
Length of brace	260 / 2 mm	260 / 1 mm	260 / 2 mm	420 / 2 mm
Material of conductor holder	St/tZn	StSt	Cu	St/tZn
Conductor holder support Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

Cranked

With conductor holder DEHNQUICK, fixed conductor leading.



Part No.	202 010	202 901	202 017
Material of roof conductor holder	St/tZn	StSt	Cu
Height of brace	55 mm	55 mm	55 mm
Length of brace	260 / 2 mm	260 / 1 mm	260 / 2 mm
Material of conductor holder	St/tZn	StSt	Cu
Conductor holder support Rd	6-10 mm	6-10 mm	6-10 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)

Roof Conductor Holders with Angled Brace for Roof Surfaces

For hooking on the roof tiles.

With conductor holder DEHNSnap

Loose conductor leading.



Part No.	204 359
Material of roof conductor holder	StSt
Length of brace	169 mm
Height of conductor holder	16 mm
Material of conductor holder	plastic
Colour of conductor holder	grey ●
Conductor holder support Rd	8 mm
PU	50 pc(s)

With conductor holder DEHNgrip

Loose conductor leading.



Part No.	206 359
Material of roof conductor holder	StSt
Length of brace	169 mm
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Standard	EN 62561-4
PU	50 pc(s)

With conductor holder DEHNQUICK

For hooking on the roof tiles or battens, fixed lengthwise or crosswise onductor leading.



Part No.	202 050	202 080
Material of roof conductor holder	St/tZn	St/tZn
Length of brace	115 mm	410 mm
Material of conductor holder	St/tZn	St/tZn
Conductor holder support Rd	6-10 mm	6-10 mm
PU	25 pc(s)	50 pc(s)

Roof Conductor Holders with Clamping Device for Roof Surfaces

For fixing air-termination conductors and down conductors.

PLATTENsnap

For fixing at overlapping constructions, with DEHNsnap conductor holder, loose conductor leading.

Part No.	204 069	204 079
Material of roof conductor holder	StSt	StSt
Clamping range	4-6 mm	4-6 mm
Height of conductor holder	16 mm	16 mm
Material of conductor holder	plastic	plastic
Colour of conductor holder	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm
PU	50 pc(s)	50 pc(s)



ZIEGELsnap

For fixing between flat tiles (pantiles) and plates, with DEHNsnap conductor holder, loose conductor leading.

Part No.	204 049	204 059
Material of roof conductor holder	StSt	StSt
Clamping range	4-16 mm	4-16 mm
Height of conductor holder	16 mm	16 mm
Material of conductor holder	plastic	plastic
Colour of conductor holder	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm
PU	50 pc(s)	50 pc(s)



ZIEGELgrip

For fixing between flat tiles (pantiles) and plates, with conductor holder DEHNgrip, loose conductor leading.

Part No.	206 049
Material of roof conductor holder	StSt
Clamping range	4-16 mm
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Standard	EN 62561-4
PU	50 pc(s)



DEHNgrip for bitumen shingles

As well as for roof and wall plates, loose conductor leading.

Part No.	206 389	206 399
Material of roof conductor holder	StSt	StSt
Clamping range	2-8 mm	8-18 mm
Height of conductor holder	20 mm	20 mm
Material of conductor holder	StSt	StSt
Conductor holder support Rd	8 mm	8 mm
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



Roof Conductor Holders with Preformed Brace for Roof Surfaces

For hooking at the roof tile groove.

For hooking at the lower groove, with DEHNgrip conductor holder

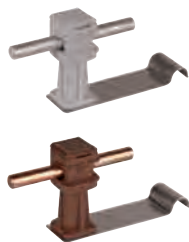
Loose conductor leading.



Part No.	206 349
Material of roof conductor holder	StSt
Length of brace	103 mm
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Standard	EN 62561-4
PU	50 pc(s)

For hooking at the lower groove, with DEHNSnap conductor holder

For hooking at the lower groove of the pantile, with DEHNSnap conductor holder, loose conductor leading, brace length 90 mm.



Part No.	204 229	204 239
Material of roof conductor holder	StSt	StSt
Length of brace	90 mm	90 mm
Height of conductor holder	36 mm	36 mm
Material of conductor holder	plastic	plastic
Colour of conductor holder	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm
PU	50 pc(s)	50 pc(s)

For hooking at the upper groove, with DEHNgrip conductor holder

For hooking at the groove of tiles, with DEHNgrip conductor holder, loose conductor leading, brace length 87 mm.



Part No.	206 369
Material of roof conductor holder	StSt
Length of brace	87 mm
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Standard	EN 62561-4
PU	50 pc(s)

Components for Buildings with Thatched Roof

Lightning protection system components for thatched roofs. Air-termination conductors on thatched roofs have to be installed as elevated traverses e.g. on isolating supports. Certain distances have to be kept also to the eaves.

Intended span width for ridge conductors is approx. 15 m and for down conductors approx. 10 m without additional supports. Span stakes have to be fastened at the roof construction (rafters and crosspieces) by anchor bolts and flat washers.

Today often a high-voltage-resistant insulated (HVI) lightning protection system is the preferred external protection system to be installed on buildings with thatched roof (see page 163/164).



Wooden stake

With rain shelter, suitable for clamping cap (Part No. 146 309).

Part No.	145 241
Material	oak (impregnated)
Dimension (l x w x h)	90 x 90 x 2400 mm
PU	1 pc(s)



Clamping cap

For fixing at wooden stakes (Part No. 145 241).

With air-termination rod (length 300 mm, Ø10 mm in StSt).

Part No.	146 309
Material	StSt
Support Rd	7-10 mm
PU	1 pc(s)



Roof conductor support

With conductor holder.

Part No.	240 000
Material	oak (impregnated)
Dimension (l x w x h)	134 x 300 x 598 mm
Support Rd	6-10 mm
PU	1 pc(s)



Eaves supports St/tZn / StSt

For guying the conductors/cables.

Distance between wall and conductors is adjustable.

Part No.	239 000	239 001	239 009	239 019
Material	St/tZn	St/tZn	StSt	StSt
Adjustable range	1.05-1.20 m	1.40-1.55 m	1.25-1.55 m	1.45-1.75 m
Support Rd	7-10 mm	7-10 mm	7-10 mm	7-10 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



Guy clamp

For tightening / guying the conductors / cables at the wall.

Part No.	241 009
Material	StSt
Dimension (l x w x d)	150 x 40 x 4 mm
Support Rd	8 mm
PU	20 pc(s)





DEHN protects.®

Roof Conductor Holders for Metal Roofs

For fixing additional air-termination systems on metal roofs. Using two roof conductor holders (clamps / clamping frames) which are tested for the corresponding roof profile provides a lightning current carrying capability of 100 kA (10/350 µs).

For roofing with round standing seam, with clamping frame

Part No.	223 010	223 040
Material of roof conductor holder	StSt	Al
Clamping range	Ø20-25 mm	Ø20-25 mm
Material of conductor holder	StSt	Al
Conductor holder support Rd	6-10 mm	6-10 mm
Conductor leading	fixed	fixed
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



For roofing with round standing seam, with DEHNgrip

Loose conductor leading.

Part No.	223 011	223 041
Material of roof conductor holder	StSt	Al
Clamping range	Ø20-25 mm	Ø20-25 mm
Height of conductor holder	20 mm	20 mm
Material of conductor holder	StSt	StSt
Conductor holder support Rd	8 mm	8 mm
Conductor leading	loose	loose
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



For roofing with clamping seam (e.g. RIB ROOF Speed 500 by Zambelli)

Part No.	223 070
Material of roof conductor holder	Al
Clamping range	approx. 18 / 22 mm
Material of conductor holder	Al
Conductor holder support Rd	6-10 mm
Conductor leading	fixed
Standard	EN 62561-1
PU	50 pc(s)



For roofing with standing seam, with clamping frame

Part No.	365 059
Material of roof conductor holder	StSt
Clamping range	0.7-8 mm
Material of conductor holder	StSt
Conductor holder support Rd	6-10 mm
Conductor leading	fixed
Standard	EN 62561-1
PU	50 pc(s)



For roofing with standing seam, with DEHNgrip

Part No.	223 031
Material of roof conductor holder	StSt
Clamping range	0.7-8 mm
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Conductor leading	loose
Standard	EN 62561-4
PU	50 pc(s)



For roofs with trapezoidal sheeting, with clamping frame

For hooking in the fixing screws of the roof.



Part No.	223 020
Material of roof conductor holder	StSt
Material of conductor holder	StSt
Conductor holder support Rd	6-10 mm
Conductor leading	fixed
Standard	EN 62561-1
PU	50 pc(s)

For roofs with trapezoidal sheeting, with DEHNgrip

For hooking in the fixing screws of the roof.



Part No.	223 021
Material of roof conductor holder	StSt
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Conductor leading	loose
Standard	EN 62561-4
PU	50 pc(s)

Roof Conductor Holders with Adhesive Pad



For the installation of air-termination systems e.g. on trapezoidal sheet metal roofing. The conductor holder may be used at plane (unstructured) surfaces such as metal roofs / metal surfaces. The conductor holders are adhesively fixed on the roof (remove the protective film from the pad).

With conductor holder DEHNSnap



Part No.	297 110
Material of roof conductor holder	plastic
Colour of roof conductor holder	grey ●
Material of conductor holder	plastic
Conductor holder support Rd	8 mm
Height of conductor holder	36 mm
Colour of conductor holder	grey ●
Conductor leading	loose
Dimension	Ø67 mm
PU	50 pc(s)

With conductor holder DEHNgrip



Part No.	297 120
Material of roof conductor holder	plastic
Colour of roof conductor holder	grey ●
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Height of conductor holder	32 mm
Conductor leading	loose
Dimension	Ø67 mm
Standard	EN 62561-4
PU	50 pc(s)

Accessory for Roof Conductor Holders with Adhesive Pad



Special Cleanser

For cleaning the gluing spot prior to attaching the roof conductor holder with adhesive pad. Sufficient for approx. 1000 spots. Mind the instructions for use on the bottle.

Rating according to Regulation (EC) No. (EG) 1272/2008 [CLP]

Flam. Liq. 2 / H225 flammable liquids liquid and vapour easily flammable
 Eye Irrit. 2 / H319 serious eye damage/irritation causes serious eye irritation
 STOT SE 3 / H336 specific target organ toxicity (one-time exposition) may cause drowsiness and dizziness

Dangerous goods regulations allow for transportation only in Germany and Austria. Alternatively use ISOPROPYL ALCOHOL 99,1 to 99,9% (CAS - NO. 67-63-0).

Part No.	297 199
Cleanness	99.1-99.9 %
PU	1 liter

Roof Conductor Holders for Corrugated Sheet Roofing

For the installation of conductors on the ridge and on the roof surface. Corrugations 177 mm (profile 5) and 130 mm (profile 8).

For corrugated sheet roofing profile 5 with DEHNQUICK

For installation on the roof surface.

Part No.	202 005
Material of roof conductor holder	St/tZn
Material of conductor holder	St/tZn
Conductor holder support Rd	6-10 mm
Conductor leading	fixed
PU	50 pc(s)



For corrugated sheet roofing profile 5 with DEHNgrip

For installation on the roof surface.

Part No.	206 105
Material of roof conductor holder	St/tZn
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Conductor leading	loose
Standard	EN 62561-4
PU	50 pc(s)



For corrugated sheet roofing profile 5 and profile 8 with DEHNQUICK

For installing ridge conductors and conductors on the roof surface, angled design.

Part No.	202 015
Material of roof conductor holder	St/tZn
Material of conductor holder	St/tZn
Conductor holder support Rd	6-10 mm
Conductor leading	fixed
PU	50 pc(s)



For corrugated sheet roofing profile 5 and profile 8 with DEHNQUICK

For installing ridge conductors and conductors on the roof surface, angled design.

Part No.	202 906
Material of roof conductor holder	StSt
Material of conductor holder	StSt
Conductor holder support Rd	6-10 mm
Conductor leading	fixed
PU	50 pc(s)



For corrugated sheet roofing profile 5 and profile 8 with DEHNgrip

For installing ridge conductors and conductors on the roof surface, straight design.

Part No.	206 339
Material of roof conductor holder	StSt
Height of conductor holder	20 mm
Material of conductor holder	StSt
Conductor holder support Rd	8 mm
Conductor leading	loose
Standard	EN 62561-4
PU	50 pc(s)



For corrugated sheet roofing profile 5 and profile 8 with DEHNSnap

For installing ridge conductors and conductors on the roof surface, straight design.

Part No.	204 906	204 916
Material of roof conductor holder	StSt	StSt
Height of conductor holder	16 mm	16 mm
Material of conductor holder	plastic	plastic
Colour of conductor holder	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm
Conductor leading	loose	loose
PU	50 pc(s)	50 pc(s)





DEHN protects.®

Conductor Holders DEHNgrip®

Screwless StSt holder system with loose conductor leading.

Height 20 mm

Part No.	207 019	207 009	207 017	207 007
Thread of conductor holder	M6	—	M6	—
Bore of conductor holder	—	Ø7.8 mm	—	Ø7.8 mm
Material of conductor holder	StSt	StSt	Cu	Cu
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
Standard	EN 62561-4	EN 62561-4	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



Height 32 mm

Part No.	207 039	207 029	207 037	207 027
Thread of conductor holder	M6	—	M6	—
Bore of conductor holder	—	Ø7.8 mm	—	Ø7.8 mm
Material of conductor holder	StSt	StSt	Cu	Cu
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
Standard	EN 62561-4	EN 62561-4	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



Height 20 mm pre-assembled with screw, plastic base and dowel

Part No.	207 109	207 107
Bore of conductor holder	Ø7.8 mm	Ø7.8 mm
Material of conductor holder	StSt	Cu
Conductor holder support Rd	8 mm	8 mm
Screw	⌘ 5 x 50 mm	⌘ 5 x 50 mm
Plastic dowel	Ø8 x 40 mm	Ø8 x 40 mm
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



Conductor Holders DEHNSnap®

Plastic holder system with loose conductor leading.

Height 16 mm with female thread

Part No.	204 001	204 007	204 002	204 017
Thread of conductor holder	M6	M6	M8	M8
Material of conductor holder	plastic	plastic	plastic	plastic
Colour of conductor holder	grey ●	brown ●	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
PU	100 pc(s)	50 pc(s)	50 pc(s)	100 pc(s)



Height 36 mm with female thread

Part No.	204 003	204 027	204 004	204 037
Thread of conductor holder	M6	M6	M8	M8
Material of conductor holder	plastic	plastic	plastic	plastic
Colour of conductor holder	grey ●	brown ●	grey ●	brown ●
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
PU	100 pc(s)	100 pc(s)	50 pc(s)	50 pc(s)



Down Conductor – Conductor Holders

Height 16 mm with screw



Part No.	204 006
Thread of conductor holder	M8
Material of conductor holder	plastic
Colour of conductor holder	grey ●
Conductor holder support Rd	8 mm
Screw	⌘ 5 x 50 mm
PU	50 pc(s)

Height 16 mm pre-assembled with screw, cover plate and dowel



Part No.	204 120
Thread of conductor holder	M8
Material of conductor holder	plastic
Colour of conductor holder	grey ●
Conductor holder support Rd	8 mm
Screw	⌘ 5 x 50 mm
Plastic dowel	∅8 x 40 mm
PU	50 pc(s)

Conductor Holders DEHNfix®

Two-in-one system (fixing of holder and conductor) with conductor holder DEHNQUICK, fixed conductor leading, UV stabilised.



Height 30 mm

Part No.	250 000	250 001	250 007
Material of cleat	St/tZn	StSt	Cu
Material of base part	plastic	plastic	plastic
Conductor holder support Rd	6-10 mm	6-10 mm	6-10 mm
Colour of conductor holder	grey ●	grey ●	brown ●
Knock-in dowel	75 / 30 mm	75 / 30 mm	75 / 30 mm
Bore ∅ for knock-in dowel	8 mm	8 mm	8 mm
Bore depth	45 mm	45 mm	45 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)

Note: Only suitable for massive stones or concrete.

Conductor Holders DEHNhold

Conductor holder with slotted cleat for fixing of round conductors, fixed conductor leading. For use with different materials e.g. Al, StSt, St/tZn and Cu.

With female thread



Part No.	274 110	274 117
Material of conductor holder	StSt	StSt / gal Cu
Conductor holder support Rd	8-10 mm	8-10 mm
Conductor holder support Fl	20 mm	20 mm
Height of conductor holder	20 mm	20 mm
Thread of conductor holder	M8	M8
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)

With female thread, pre-assembled with plastic base



Part No.	274 150
Material of conductor holder	StSt
Conductor holder support Rd	8-10 mm
Conductor holder support Fl	20 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Standard	EN 62561-4
PU	50 pc(s)

Down Conductor – Conductor Holders

With female thread, pre-assembled with screw, plastic base and dowel

Part No.	274 160	274 167
Material of conductor holder	StSt	StSt / gal Cu
Conductor holder support Rd	8-10 mm	8-10 mm
Conductor holder support Fl	20 mm	20 mm
Height of conductor holder	20 mm	20 mm
Thread of conductor holder	M8	M8
Plastic base	grey ●	brown ●
Screw	⌘ 5 x 50 mm	⌘ 5 x 50 mm
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



With female thread, e.g. for round wire with plastic sheath

Part No.	274 113
Material of conductor holder	StSt
Conductor holder support Rd	13 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
PU	50 pc(s)



Conductor Holder with Cleat – Flat Design

Two-screw cleat with screws M6, for round and flat conductors.
With plastic (grey) cover disc.

Pre-assembled with wood screw, plastic (grey) cover disc and dowel

Part No.	286 819
Conductor holder support Rd	7-10 mm
Conductor holder support Fl	30 mm
Height of conductor holder	10 mm
Material of conductor holder	StSt
Screw	⌘ 5 x 50 mm
Plastic dowel	Ø8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)



Conductor Holders with Cleat and Flange

Complete unit, fixed conductor leading.

With female thread M8

Part No.	275 110
Conductor holder support Rd	7-10 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Standard	EN 62561-4
PU	50 pc(s)



With female thread, pre-assembled with screw and dowel

Part No.	275 160
Conductor holder support Rd	7-10 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Screw	⌘ 5 x 50 mm
Plastic dowel	Ø8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)



With female thread, e.g. for round wire with plastic sheath



Part No.	275 113		
Conductor holder support Rd	11-13 mm		
Thread of conductor holder	M8		
Height of conductor holder	20 mm		
Material of cleat	St/tZn		
Material of base part	ZDC		
PU	50 pc(s)		

Cover Discs and Plastic Bases

Intermediate element for screwable / snap-on conductor holders and rod holders.

Plastic bases

For snapping onto the conductor holders DEHNgrip and DEHNhold.



Part No.	276 016	276 017
Height	10 mm	10 mm
Diameter Ø	35 mm	35 mm
Material	plastic	plastic
Colour	grey ●	brown ●
Type	UV stabilised	UV stabilised
PU	100 pc(s)	100 pc(s)

Cover discs, plastic



Part No.	276 006	276 007
Height	5 mm	5 mm
Diameter Ø	37 mm	37 mm
Material	plastic	plastic
Colour	grey ●	brown ●
Type	UV stabilised	UV stabilised
PU	100 pc(s)	100 pc(s)

Cover disc, StSt



Part No.	276 009
Height	5 mm
Diameter Ø	37 mm
Material	StSt
PU	100 pc(s)

Conductor Holders with Cleat and Pin

Two-screw cleat with screws M6, for round and flat conductors.



With square pin

Part No.	260 708	260 108	260 158	260 187
Conductor holder support Rd	7-10 mm	7-10 mm	7-10 mm	7-10 mm
Conductor holder support Fl	20 mm	20 mm	20 mm	20 mm
Material of cleat	St/tZn	St/tZn	St/tZn	Cu
Material of base part	St/tZn	St/tZn	St/tZn	Cu
Fixing	square pin 70 mm	square pin 100 mm	square pin 150 mm	square pin 100 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

With loose round pin



Part No.	262 070	262 100
Conductor holder support Rd	7-10 mm	7-10 mm
Conductor holder support Fl	30 mm	30 mm
Material of cleat	St/tZn	St/tZn
Material of base part	St/tZn	St/tZn
Fixing	round pin 70 mm	round pin 100 mm
PU	50 pc(s)	50 pc(s)

Down Conductor – Conductor Holders

Conductor Holders for External Thermal Insulation Composite Systems

Two-screw cleat with screws M6, fixed conductor leading.

Part No.	273 740	273 741	273 742
Thickness of insulating material	approx. 60 mm	approx. 110 mm	approx. 130 mm
Bore depth	approx. 150 mm	approx. 190 mm	approx. 250 mm
Conductor holder support Rd	7-10 mm	7-10 mm	7-10 mm
Material of base part	ZDC	ZDC	ZDC
Material of cleat	St/tZn	St/tZn	St/tZn
Height of conductor holder	20 mm	20 mm	20 mm
Screw Dowel	TX40 (TX40) 7 x 140 mm	TX40 (TX40) 7 x 180 mm	TX40 (TX40) 7 x 240 mm
Standard	EN 62561-4	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)	50 pc(s)



Conductor Holder with Claw

Conductor holder for wall mounting with clamping screw M6. Fixed conductor leading.

Part No.	273 019
Bore Ø	6.5 mm
Material of conductor holder	StSt
Conductor holder support Rd	6-10 mm
Height of conductor holder	22 mm
Standard	EN 62561-4
PU	50 pc(s)



Conductor Holder Cleats

E.g. for flush mounting.

DEHNQUICK®

Single-screw cleat with flexible clamping range and fixed conductor leading.

Part No.	202 000	202 001	202 169
Material of conductor holder	St/tZn	StSt	StSt
Conductor holder support Rd	6-10 mm	6-10 mm	6-10 mm
Bore Ø	8.5 mm	8.5 mm	6.5 mm
PU	50 pc(s)	50 pc(s)	100 pc(s)



Clamping frame

Single-screw cleat with flexible clamping range and fixed conductor leading.

Part No.	390 110	390 119
Material of conductor holder	St/tZn	StSt
Conductor holder support Rd	6-10 mm	6-10 mm
Bore Ø	9 mm	9 mm
PU	100 pc(s)	100 pc(s)



Conductor Holder for Flush Mounting

With clamping plate for nailing.

Part No.	260 118
Conductor holder support Rd	6-10 mm
Material of conductor holder	St/tZn
Conductor leading	fixed / loose
Fixing	square pin 70 mm
PU	50 pc(s)



Conductor Holders for Downpipes



For installing down conductors at downpipes with fixed conductor leading. All types are also suitable for plastic downpipes.

Type PPS

With worm drive and bead.



Part No.	200 079	200 077	200 089	200 087
Clamping range Ø pipe	80-100 mm	80-100 mm	100-120 mm	100-120 mm
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
Material of conductor holder	StSt	StSt / gal Cu	StSt	StSt / gal Cu
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

Type PS

Screwless, with embossments for tongs.



Part No.	200 069	200 067	200 059	200 057
Clamping range Ø pipe	80-120 mm, in steps of 5 mm	80-120 mm, in steps of 5 mm	100 mm	100 mm
Conductor holder support Rd	8 mm	8 mm	8 mm	8 mm
Material of conductor holder	StSt	Cu	StSt	Cu
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)

Type PV

Adjustable, with clamping screw M8.



Part No.	200 029	200 039	200 027
Clamping range Ø pipe	50-120 mm	50-150 mm	50 -120 mm
Conductor holder support Rd	6-8 mm	6-8 mm	6-8 mm
Material of conductor holder	StSt	StSt	Cu/bronze
PU	10 pc(s)	10 pc(s)	10 pc(s)

Downpipe Clamps

Pipe clamps for lightning equipotential bonding connection of downpipes according to IEC/EN 62305-3. Connection possibilities for Rd e.g. with KS connector Part No. 301 000 or with clamping frame Part No. 390 150 (according to material).

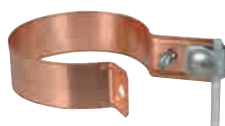
For fixed pipe diameters



Part No.	420 100	420 120	420 107	420 127
Material	St/tZn	St/tZn	Cu	Cu
Clamping range pipe Ø	100 mm	120 mm	100 mm	120 mm
Bore Ø	11 mm	11 mm	11 mm	11 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

Type bimetallic

For connecting conductors St with downpipes Cu, with clamping frame St/tZn and intermediate plate (Cupal).



Part No.	420 207
Material	Cu / St/tZn
Clamping range pipe Ø	100 mm
Clamping range Rd	6-10 mm
Standard	EN 62561-1
PU	50 pc(s)

Type RV adjustable

With additional anti-rotation locking of the fastening screw and markings, preset bending points as well as punched cutting aids.

General technical data:	
Bore Ø	10.5 mm
Standard	EN 62561-1



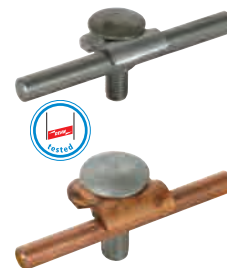
Part No.	423 010	423 011	423 017	423 019
Material	St/tZn	Al	Cu	StSt
Clamping range pipe Ø	60-100 mm	60-100 mm	60-100 mm	60-100 mm
Length	337 mm	337 mm	337 mm	337 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

Part No.	423 020	423 021	423 027	423 029
Material	St/tZn	Al	Cu	StSt
Clamping range pipe Ø	60-150 mm	60-150 mm	60-150 mm	60-150 mm
Length	494 mm	494 mm	494 mm	494 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

Clamping Frame Variants

For example as connection with end piece for constructions or downpipe clamps.
Clamping frame with square hole 11 mm and truss head screw.

Part No.	390 150	390 157	390 159
Material of clamp	St/tZn	Cu	StSt
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm
Screw	⬆ M10 x 35 mm	⬆ M10 x 35 mm	⬆ M10 x 35 mm
Material of screw / nut	St/tZn	StSt	StSt
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	100 pc(s)	100 pc(s)	100 pc(s)



KS Connectors

Clamping screw connector (KlemmSchrauben-Verbinder) for lightning current carrying capable connection of round conductors e.g. to flat profiles, downpipe clamps or other parts of the lightning protection system.

One-piece, St/tZn

With screw and nut M10.

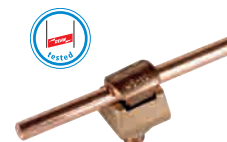
Part No.	301 000	301 010
Material of clamping screw	St/tZn	St/tZn
Material of clamp	ZDC	ZDC
Clamping range Rd	7-10 mm	7-10 mm
Type	—	+ spring washer
Standard	EN 62561-1	EN 62561-1
PU	100 pc(s)	100 pc(s)



One-piece, Cu

With screw and nut M10.

Part No.	301 007	301 017
Material of clamping screw	Cu	Cu
Material of clamp	RCB	RCB
Clamping range Rd	6-10 mm	6-10 mm
Connection (single-wire / multi-wire)	25-70 mm ²	25-70 mm ²
Type	—	+ spring washer
Standard	EN 62561-1	EN 62561-1
PU	100 pc(s)	100 pc(s)



One-piece, StSt

With screw and nut M10.

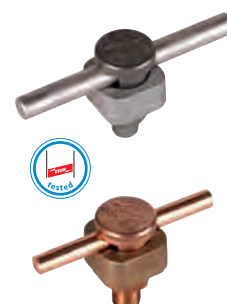
Part No.	301 009	301 089 ^{NEW}	301 019	301 099 ^{NEW}
Material of clamping screw	StSt	StSt (V4A)	StSt	StSt (V4A)
Material of clamp	StSt	StSt (V4A)	StSt	StSt (V4A)
Material No.	—	1.4571 / 1.4404 / 1.4401	—	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	—	316Ti / 316L / 316	—	316Ti / 316L / 316
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
Connection (single-wire / multi-wire)	25-70 mm ²	25-70 mm ²	25-70 mm ²	25-70 mm ²
Type	—	—	+ spring washer	+ spring washer
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	100 pc(s)	100 pc(s)	100 pc(s)	100 pc(s)



Heavy design

With screw and nut M12.

Part No.	300 002	300 017
Material of clamping screw	St/tZn	Cu
Material of clamp	MCI	RCB
Clamping range Rd	8-12.5 mm	8-12.5 mm
Connection (single-wire / multi-wire)	50-95 mm ²	50-95 mm ²
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)





Two-piece, distance 30 mm

With screw and nut M10.

Part No.	302 010
Material of clamping screw	St/tZn
Material of clamp	ZDC
Clamping range Rd	7-10 mm
Standard	EN 62561-1
PU	50 pc(s)



Two-piece, distance 40 mm

With screw and nut M10.

Part No.	301 229
Material of clamping screw	StSt
Material of clamp	StSt
Clamping range Rd	6-10 mm
Type	+ spring washer
Standard	EN 62561-1
PU	1 pc(s)

Plastic Conductor Holders for Downpipes

For insulated fixing of earth entries at metal downpipes.
Holder with clamping part for fixing the tensioning strap (dimension 14 x 0.3 mm).

For round conductors

Fixed conductor leading, made of weather-resistant plastic, UV stabilised and halogen-free.



Part No.	275 711
Material of conductor holder	PA
Material of clamping part	StSt
Conductor holder support Rd	6-11 mm
PU	50 pc(s)

For flat strips or round conductors

Fixed conductor leading, made of weather-resistant plastic, UV stabilised and halogen-free.



Part No.	275 730
Material of conductor holder	PA
Material of clamping part	StSt
Conductor holder support Rd	6-11 mm
Conductor holder support Fl	30 mm
PU	50 pc(s)

For earth entry rods

Fixed conductor leading, made of weather-resistant plastic, UV stabilised and halogen-free.



Part No.	275 716
Material of conductor holder	PA
Material of clamping part	StSt
Conductor holder support Rd	16 mm
PU	50 pc(s)

Separate grip head

For combination with endless tensioning strap (Part No.540 931).



Part No.	540 930
Material of grip head / strap	StSt
Screw	⚙ (SW13) M8 x 16 mm
PU	25 pc(s)

Endless tensioning strap

For cutting to length with sheet shears.



Part No.	540 931
Material of grip head / strap	StSt
Dimension of strap (w x d)	14 x 0.3 mm
Length	50 m
PU	1 pc(s)

Staples

For fixing conductors e.g. on wooden masts etc.

Part No.	538 010
Material of conductor holder	St/tZn
Conductor holder support Rd	6-10 mm
Conductor leading	fixed / loose
PU	500 pc(s)



Flat Strip Holders DEHNhold

For fixing flat conductors with slotted cleat, fixed conductor leading.
For use with different materials e.g. Al, StSt, St/tZn and Cu.

With female thread

Part No.	274 030
Material of conductor holder	StSt
Conductor holder support Fl	30 x 3.5 mm
Conductor holder support Rd	6-10 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Standard	EN 62561-4
PU	50 pc(s)



Premounted with screw, plastic base and dowel

Part No.	274 230
Material of conductor holder	StSt
Conductor holder support Fl	30 x 3.5 mm
Conductor holder support Rd	6-10 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Screw	⌀ 5 x 50 mm
Plastic dowel	Ø8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)



Flat Strip Holders with Cleat – Flat Design

Two-screw cleat with screws M6.

With slot (6.5 x 16 mm)

Part No.	284 030	284 040
Height of conductor holder	10 mm	10 mm
Conductor holder support Fl	30 x 3.5 mm	40 x 4-5 mm
Material of conductor holder	St/tZn	St/tZn
Material of base part	St/tZn	St/tZn
Width of component	58 mm	70 mm
Standard	EN 62561-4	EN 62561-4
PU	100 pc(s)	100 pc(s)



With slot (6.5 x 16 mm) and pre-assembled wood screw

Part No.	286 030	286 139
Height of conductor holder	10 mm	8.5 mm
Conductor holder support Fl	30 x 3.5 mm	30 x 3.5 mm
Material of conductor holder	St/tZn	StSt
Material of base part	St/tZn	StSt
Screw	⌀ 5 x 50 mm	⌀ 5 x 50 mm
Width of component	58 mm	58 mm
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



Flat Strip Holders with Cleat and Flange

Complete unit for flat strip installation.

With female thread



Part No.	275 030
Conductor holder support Fl	30 x 3.5 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Standard	EN 62561-4
PU	50 pc(s)

With female thread, pre-assembled with screw and dowel

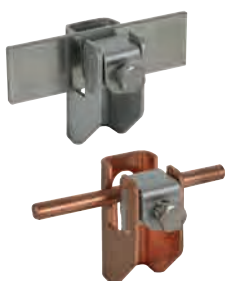


Part No.	275 230
Conductor holder support Fl	30 x 3.5 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Screw	⌀5 x 50 mm
Plastic dowel	Ø8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)

Flat Strip / Round Conductor Holders with Thrust Piece

For wall mounting.

Thrust piece with screw M8 for the installation of flat strip up to 11 mm and round conductor 6-10 mm.



Wall distance 11 mm

Part No.	277 230	277 237	277 239
Material of conductor holder	St/tZn	Cu	StSt
Fixing	Ø13 and 7 x 20 mm	Ø13 and 7 x 20 mm	Ø13 and 7 x 20 mm
Slot width	12 mm	12 mm	12 mm
Material of screw	StSt	StSt	StSt
Standard	EN 62561-4	EN 62561-4	EN 62561-4
PU	25 pc(s)	25 pc(s)	25 pc(s)

Wall distance 15 mm



Part No.	277 240
Material of conductor holder	St/tZn
Fixing	7 x 15 mm
Slot width	12 mm
Material of screw	StSt
Standard	EN 62561-4
PU	25 pc(s)

Staples for Flat Strips

For fixing strips e.g. on wooden masts etc.

Part No.	538 030
Material of conductor holder	St/tZn
Conductor holder support Fl	30 mm
Conductor leading	fixed / loose
PU	300 pc(s)



Dowels for Rigid Foam Plates

For fixing conductor holders, flat strip and rod holders to external thermal insulation composite systems.
With star drive (TX40).
Mounting with wood screws Ø4.5 mm.



This dowel is only suitable to fasten conductor holders, if no additional traction is applied on the down conductor.

Short design

Part No.	200 600
Material	PA
Thickness of insulating material	60 mm
Anchoring depth / length	50 mm
PU	50 pc(s)



Long design

Part No.	200 601
Material	PA
Thickness of insulating material	100 mm
Anchoring depth / length	85 mm
PU	50 pc(s)



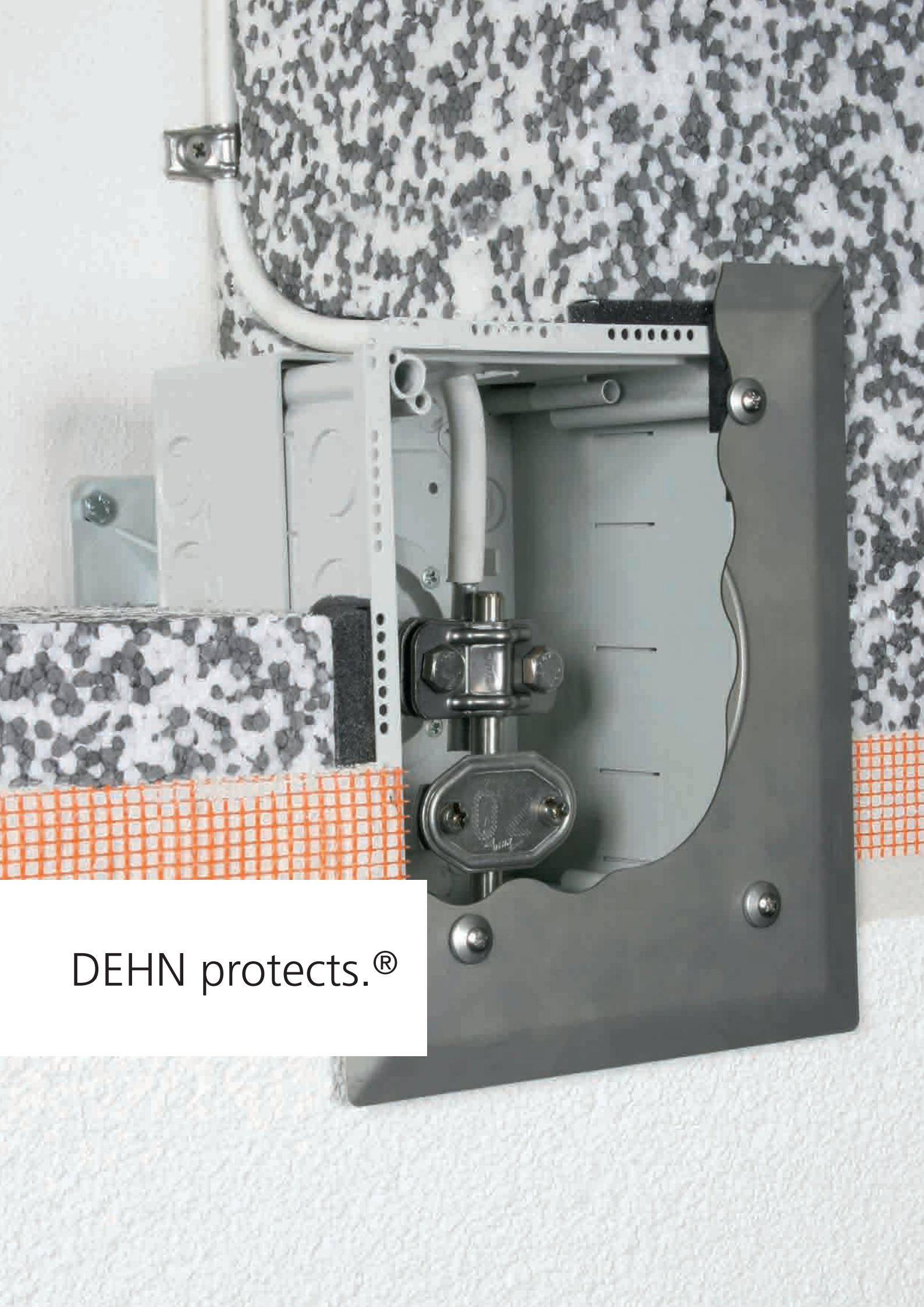
Wood Screws with Threaded Head

Hanger bolt for fixing of conductor, flat strip and rod holders with female thread.

Part No.	528 850	528 870
Material	St/gal Zn	St/gal Zn
Thread	M8	M8
Total length	53 mm	73 mm
Thread length	32 mm	42 mm
PU	1 pc(s)	1 pc(s)



Protection against step and touch voltage see from page 208



DEHN protects.®

Earth Entry Rods – Kit

Complete with disconnecting sleeve and connection clamps (KS screws).

Type St/tZn

With disconnecting sleeve (Part No. 450 000) and KS screws (Part No. 300 000).

Part No.	480 150
Material	St/tZn
Standard	EN 62561-(1+2)
Length	1500 mm
Connection KS screw Rd	7-10 mm
Connection sleeve Rd / Rd	7-10 / 16 mm
PU	1 pc(s)



Type Cu

With disconnecting sleeve (Part No. 450 007) and KS screws (Part No. 300 007).

Part No.	480 157
Material	Cu
Standard	EN 62561-(1+2)
Length	1500 mm
Connection KS screw Rd	6-10 mm
Connection sleeve Rd / Rd	7-10 / 16 mm
PU	1 pc(s)



Earth Entry Rods

For connection of down conductors to the earth-termination system.

Chamfered

General technical data:			
Standard	EN 62561-2		
Diameter Ø	16 mm		
Part No.	483 150	483 200	104 903
Material	St/tZn	St/tZn	StSt (V4A)
Material No.	—	—	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	—	—	316Ti / 316L / 316
Length	1500 mm	2000 mm	1000 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)
Part No.	104 905	104 906	
Material	StSt (V4A)	StSt (V4A)	
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401	
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316	
Length	1500 mm	2000 mm	
PU	10 pc(s)	10 pc(s)	



With forged flat lug

Bore Ø11 mm, bore distance 22 mm.

Part No.	101 150
Material	St/tZn
Standard	EN 62561-2
Diameter Ø	16 mm
Length	1500 mm
Bore distance	22 mm
PU	10 pc(s)



Tapered

Notched conductor Ø10 mm, partly insulated (length approx. 700 mm).

Part No.	480 018	480 019	480 020	480 021
Material	St/tZn	St/tZn	St/tZn	St/tZn
Standard	EN 62561-2	EN 62561-2	EN 62561-2	EN 62561-2
Diameter Ø	16 / 10 mm	16 / 10 mm	16 / 10 mm	16 / 10 mm
Total length	1500 mm	1750 mm	2000 mm	2500 mm
Partial length Ø16 mm	1000 mm	750 mm	1000 mm	1500 mm
Partial length Ø10 mm	500 mm	1000 mm	1000 mm	1000 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)



Connection Lugs Straightened / Angled

For the connection of down conductors with the earth-termination system; made of corrosion-resistant stainless steel StSt (V4A).

Round wires



Part No.	860 110	860 115	860 130
Material	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L	316Ti / 316L
Length	1000 mm	1500 mm	3000 mm
Dimension	Ø10 mm	Ø10 mm	Ø10 mm
Cross-section	78 mm ²	78 mm ²	78 mm ²
Standard	EN 62561-2	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)	5 pc(s)

Flat strips



Part No.	860 210	860 215	860 230
Material	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L	316Ti / 316L
Length	1000 mm	1500 mm	3000 mm
Dimension	30 x 3.5 mm	30 x 3.5 mm	30 x 3.5 mm
Cross-section	105 mm ²	105 mm ²	105 mm ²
Standard	EN 62561-2	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)	5 pc(s)

Flat strips with slotted holes

Slot-to-slot gap 500 mm.



Part No.	860 425	860 430
Material	StSt	StSt (V4A)
Material No.	1.4301	1.4571 / 1.4404
ASTM / AISI:	—	316Ti / 316L
Length	3000 mm	3000 mm
Dimension	30 x 3.5 mm	30 x 3.5 mm
Fixing	[6x] 6.5 x 12 mm	[6x] 6.5 x 12 mm
Bore distance	500 mm	500 mm
Cross-section	105 mm ²	105 mm ²
Standard	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)

Flat strips angled

For direct wall mounting (without distance) with bores for countersunk head screws.



Part No.	860 315	860 330
Material	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L
Length	1500 mm	3000 mm
Dimension	30 x 3.5 mm	30 x 3.5 mm
Connection	isolating clamp or clamping screw connector	isolating clamp or clamping screw connector
Fixing	[3x] Ø6.5 mm	[6x] Ø6.5 mm
Bore distance	500 mm	500 mm
Cross-section	105 mm ²	105 mm ²
Standard	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)

Other dimensions available upon request.

Identification for Terminal Lugs

For attaching to round wires or strips as striking marker (as required according to DIN 18014) during the construction phase.

Part No.	478 099
Material	PVC
Diameter Ø	70 mm
Attach to Fl	30 x 3.5 mm
Attach to Rd	10 mm
Colour	green ● / yellow ●
PU	20 pc(s)

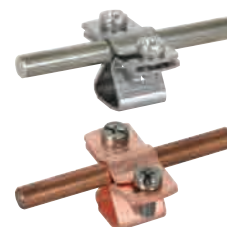


Conductor Holders DEHNhold

Conductor holder with slotted cleat for fixing of round conductors, fixed conductor leading.
For use with different materials e.g. Al, StSt, St/tZn and Cu.

With female thread

Part No.	274 110	274 117
Material of conductor holder	StSt	StSt / gal Cu
Conductor holder support Rd	8-10 mm	8-10 mm
Conductor holder support Fl	20 mm	20 mm
Height of conductor holder	20 mm	20 mm
Thread of conductor holder	M8	M8
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



With female thread, pre-assembled with plastic base

Part No.	274 150
Material of conductor holder	StSt
Conductor holder support Rd	8-10 mm
Conductor holder support Fl	20 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Standard	EN 62561-4
PU	50 pc(s)



With female thread, pre-assembled with screw, plastic base and dowel

Part No.	274 160	274 167
Material of conductor holder	StSt	StSt / gal Cu
Conductor holder support Rd	8-10 mm	8-10 mm
Conductor holder support Fl	20 mm	20 mm
Height of conductor holder	20 mm	20 mm
Thread of conductor holder	M8	M8
Plastic base	grey ●	brown ●
Screw	⌀ 5 x 50 mm	⌀ 5 x 50 mm
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)



With female thread, e.g. for round wire with plastic sheath

Part No.	274 113
Material of conductor holder	StSt
Conductor holder support Rd	13 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
PU	50 pc(s)



Conductor Holder with Cleat – Flat Design

Two-screw cleat with screws M6, for round and flat conductors.
With plastic (grey) cover disc.

Pre-assembled with wood screw, plastic (grey) cover disc and dowel



Part No.	286 819
Conductor holder support Rd	7-10 mm
Conductor holder support Fl	30 mm
Height of conductor holder	10 mm
Material of conductor holder	StSt
Screw	5 x 50 mm
Plastic dowel	∅8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)

Conductor Holders with Cleat and Flange

Complete unit, fixed conductor leading.

With female thread M8



Part No.	275 110
Conductor holder support Rd	7-10 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Standard	EN 62561-4
PU	50 pc(s)

With female thread, pre-assembled with screw and dowel



Part No.	275 160
Conductor holder support Rd	7-10 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Screw	5 x 50 mm
Plastic dowel	∅8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)

With female thread, e.g. for round wire with plastic sheath



Part No.	275 113
Conductor holder support Rd	11-13 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
PU	50 pc(s)

Conductor Holders for External Thermal Insulation Composite Systems

Two-screw cleat with screws M6, fixed conductor leading.

Part No.	273 740	273 741	273 742
Thickness of insulating material	approx. 60 mm	approx. 110 mm	approx. 130 mm
Bore depth	approx. 150 mm	approx. 190 mm	approx. 250 mm
Conductor holder support Rd	7-10 mm	7-10 mm	7-10 mm
Material of base part	ZDC	ZDC	ZDC
Material of cleat	St/tZn	St/tZn	St/tZn
Height of conductor holder	20 mm	20 mm	20 mm
Screw Dowel	TX40 7 x 140 mm	TX40 7 x 180 mm	TX40 7 x 240 mm
Standard	EN 62561-4	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)	50 pc(s)



Rod Holders DEHNhold

For fixing of air-termination rods and earth entry rods, with slotted cleat, fixed conductor leading.
For use with different materials e.g. Al, StSt, St/tZn and Cu.

With female thread

Part No.	274 116
Material of conductor holder	StSt
Conductor holder support Rd	16 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
PU	50 pc(s)



Pre-assembled with screw, plastic base and dowel

With female thread.

Part No.	274 260
Material of conductor holder	StSt
Conductor holder support Rd	16 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Screw	TX40 5 x 50 mm
Plastic dowel	Ø8 x 40 mm
PU	50 pc(s)



Rod Holders with Cleat and Flange

Complete unit for the installation of air-termination rods and earth entry rods, fixed conductor leading.

With female thread



Part No.	275 116
Conductor holder support Rd	16 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
PU	50 pc(s)

Pre-assembled with screw and dowel



Part No.	275 260
Conductor holder support Rd	16 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Screw	⌀ 5 x 50 mm
Plastic dowel	Ø8 x 40 mm
PU	50 pc(s)

Rod Holders with Cleat and Pin

Two-screw cleat with screws M6 for air-termination rods and earth entry rods, fixed conductor leading.



With square pin

Part No.	260 106
Material of cleat	St/tZn
Material of base part	St/tZn
Conductor holder support Rd	16 mm
Fixing	square pin 100 mm
PU	50 pc(s)

Rod Holders for External Thermal Insulation Composite Systems

Two-screw cleat with screws M6, with flange (ZDC) and plastic dowel Ø10 mm.



Part No.	273 731
Thickness of insulating material	approx. 110 mm
Depth of bore	approx. 190 mm
Material of cleat	St/tZn
Material of base part	ZDC
Height of conductor holder	20 mm
Conductor holder support Rd	16 mm
Screw / dowel	⌀ (TX40) 7 x 180 mm
PU	50 pc(s)

Rod Holders DEHNfix®

Two-in-one holder system (fixing of holder and conductor), fixed conductor leading.
Only suitable for massive stones or concrete.

Part No.	252 000
Material of cleat	St/tZn
Material of base part	plastic
Colour of conductor holder	grey ●
Installation height of base part	42 mm
Conductor holder support Rd	16 mm
Knock-in dowel	100 / 60 mm
Bore Ø for knock-in dowel	10 mm
Bore depth	60 mm
PU	50 pc(s)



Rod Holder with Claw

For wall mounting with fixing screw M6, fixed conductor leading.

Part No.	275 019
Bore Ø	6.5 mm
Material of conductor holder	StSt
Height of conductor holder	28 mm
Conductor holder support Rd	13-16 mm
PU	50 pc(s)



Flat Strip Holders DEHNhold

For fixing flat conductors with slotted cleat, fixed conductor leading.
For use with different materials e.g. Al, StSt, St/tZn and Cu.

With female thread

Part No.	274 030
Material of conductor holder	StSt
Conductor holder support Fl	30 x 3.5 mm
Conductor holder support Rd	6-10 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Standard	EN 62561-4
PU	50 pc(s)



Premounted with screw, plastic base and dowel

Part No.	274 230
Material of conductor holder	StSt
Conductor holder support Fl	30 x 3.5 mm
Conductor holder support Rd	6-10 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Screw	⚙ 5 x 50 mm
Plastic dowel	Ø8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)



Flat Strip Holders with Cleat – Flat Design

Two-screw cleat with screws M6.

With slot (6.5 x 16 mm)



Part No.	284 030	284 040
Height of conductor holder	10 mm	10 mm
Conductor holder support Fl	30 x 3.5 mm	40 x 4-5 mm
Material of conductor holder	St/tZn	St/tZn
Material of base part	St/tZn	St/tZn
Width of component	58 mm	70 mm
Standard	EN 62561-4	EN 62561-4
PU	100 pc(s)	100 pc(s)

With slot (6.5 x 16 mm) and pre-assembled wood screw



Part No.	286 030	286 139
Height of conductor holder	10 mm	8.5 mm
Conductor holder support Fl	30 x 3.5 mm	30 x 3.5 mm
Material of conductor holder	St/tZn	StSt
Material of base part	St/tZn	StSt
Screw	⌀ 5 x 50 mm	⌀ 5 x 50 mm
Width of component	58 mm	58 mm
Standard	EN 62561-4	EN 62561-4
PU	50 pc(s)	50 pc(s)

Flat Strip Holders with Cleat and Flange

Complete unit for flat strip installation.

With female thread



Part No.	275 030
Conductor holder support Fl	30 x 3.5 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Standard	EN 62561-4
PU	50 pc(s)

With female thread, pre-assembled with screw and dowel



Part No.	275 230
Conductor holder support Fl	30 x 3.5 mm
Thread of conductor holder	M8
Height of conductor holder	20 mm
Material of cleat	St/tZn
Material of base part	ZDC
Screw	⌀ 5 x 50 mm
Plastic dowel	Ø8 x 40 mm
Standard	EN 62561-4
PU	50 pc(s)

Flat Strip / Round Conductor Holders with Thrust Piece

For wall mounting.

Thrust piece with screw M8 for the installation of flat strip up to 11 mm and round conductor 6-10 mm.

Wall distance 11 mm

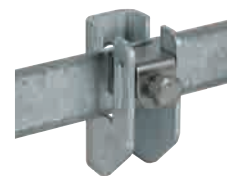


Part No.	277 230	277 237	277 239
Material of conductor holder	St/tZn	Cu	StSt
Fixing	Ø13 and 7 x 20 mm	Ø13 and 7 x 20 mm	Ø13 and 7 x 20 mm
Slot width	12 mm	12 mm	12 mm
Material of screw	StSt	StSt	StSt
Standard	EN 62561-4	EN 62561-4	EN 62561-4
PU	25 pc(s)	25 pc(s)	25 pc(s)

Connection Lugs, Conductor Holders, Test Joint Boxes

Wall distance 15 mm

Part No.	277 240
Material of conductor holder	St/tZn
Fixing	7 x 15 mm
Slot width	12 mm
Material of screw	StSt
Standard	EN 62561-4
PU	25 pc(s)



Staples

For fixing conductors e.g. on wooden masts etc.

Part No.	538 010
Material of conductor holder	St/tZn
Conductor holder support Rd	6-10 mm
Conductor leading	fixed / loose
PU	500 pc(s)



Staples for Flat Strips

For fixing strips e.g. on wooden masts etc.

Part No.	538 030
Material of conductor holder	St/tZn
Conductor holder support Fl	30 mm
Conductor leading	fixed / loose
PU	300 pc(s)



Dowels for Rigid Foam Plates

For fixing conductor holders, flat strip and rod holders to external thermal insulation composite systems.

With star drive (TX40).

Mounting with wood screws Ø4.5 mm.



This dowel is only suitable to fasten conductor holders, if no additional traction is applied on the down conductor.

Short design

Part No.	200 600
Material	PA
Thickness of insulating material	60 mm
Anchoring depth / length	50 mm
PU	50 pc(s)



Long design

Part No.	200 601
Material	PA
Thickness of insulating material	100 mm
Anchoring depth / length	85 mm
PU	50 pc(s)



Wood Screws with Threaded Head

Hanger bolt for fixing of conductor, flat strip and rod holders with female thread.

Part No.	528 850	528 870
Material	St/gal Zn	St/gal Zn
Thread	M8	M8
Total length	53 mm	73 mm
Thread length	32 mm	42 mm
PU	1 pc(s)	1 pc(s)



FIX Test Joint

With insulating piece and disconnection lug.



Part No.	453 100
Material	St/tZn
Clamping range Rd / FI	8-10 / 30-40 mm
Insulating piece	plastic grey ●
Standard	EN 62561-1
PU	10 pc(s)

Type for conductor Rd / Rd 8-10 mm upon request.

UF Test Joint Boxes



For underfloor installation, to disconnect the down conductor from the earth-termination system for measuring purposes.

Type GCI – with integrated, easily accessible test joint

Detachable with a key, including terminal for the down conductor and the earth conductor, open at the bottom (without bottom).



Part No.	549 001
Material	GCI
Colour	black (varnished) ●
Dimension	300 x 220 x 120 mm
Clamping range Rd / FI	7-10 / 30-40 mm
Standard	EN 62561-5
Max. permissible load	40 kg/cm ²
PU	1 pc(s)

Type GCI – without test joint

Without bottom.



Part No.	549 000
Material	GCI
Colour	black (varnished) ●
Dimension	300 x 220 x 120 mm
Standard	EN 62561-5
Max. permissible load	40 kg/cm ²
PU	1 pc(s)

Type Plastic – with integrated, easily accessible test joint

Detachable with a key, with integrated terminal for connecting down conductor and earth conductor, open at the bottom (without bottom).



Part No.	549 050
Material	plastic
Colour	grey ●
Dimension	197 x 197 x 204 mm
Clamping range Rd / FI	7-10 / 30-40 mm
Standard	EN 62561-5
Max. permissible load	15 kg/cm ²
PU	1 pc(s)

Type Plastic – without test joint

Open at the bottom (without bottom).

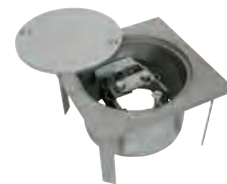


Part No.	549 051
Material	plastic
Colour	grey ●
Dimension	197 x 197 x 204 mm
Standard	EN 62561-5
Max. permissible load	15 kg/cm ²
PU	1 pc(s)

Type StSt – with integrated, easily accessible test joint

Detachable with a key, with integrated terminal for connecting down conductor and earth conductor, open at the bottom (without bottom).

Part No.	549 090
Material	StSt
Dimension	200 x 200 x 105 mm
Clamping range Rd / Fl	7-10 / 30-40 mm
Standard	EN 626561-5
Max. permissible load	40 kg/cm ²
PU	1 pc(s)



Type StSt – without test joint

Open at the bottom (without bottom).

Part No.	549 091
Material	StSt
Dimension	200 x 200 x 105 mm
Standard	EN 626561-5
Max. permissible load	40 kg/cm ²
PU	1 pc(s)



UP Test Joint Boxes

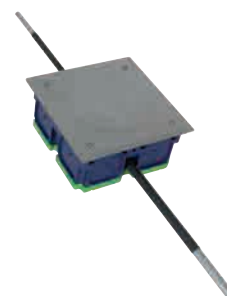
For concrete construction with integrated test joint and marking for concrete construction.



With rigid connection lugs

Rd 8 and Rd 10 mm, approx. 200 mm long (insulated).

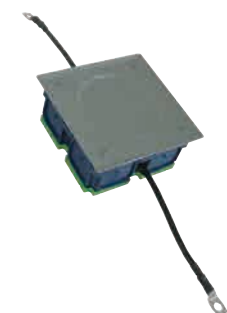
Part No.	476 010
Material of box	plastic
Dimension of box	140 x 140 x 68 mm
Material of cover	StSt
Dimension of cover	160 x 160 mm
Standard	EN 62561-1
PU	1 pc(s)



With flexible connection cables

Cu (16 mm²) cables and Cu/gal Sn cable lugs (bore 10.5 mm).

Part No.	476 016
Material of box	plastic
Dimension of box	140 x 140 x 68 mm
Material of cover	StSt
Dimension of cover	160 x 160 mm
Standard	EN 62561
PU	1 pc(s)





Test Joint Box for External Thermal Insulation Composite Systems

Especially designed for installation in external thermal insulation composite systems (full thermal insulation). Properly installed, the constructive design (with adhesive surface for attaching a swellable waterstop tape) with specially edged StSt cover with seal, ensures resistance to driving rain.

Test joint box with spacer

For insulation material thicknesses between 140 mm and 320 mm.



Part No.	476 055
Material of box	PC / ABS
Dimension of box	185 x 145 mm
Material of cover	StSt
Material of spacer	PP
Dimension of spacer	120 x 120 x 200 mm
Installation depth	90-320 mm
PU	1 pc(s)

Test joint box

For external thermal insulation material thicknesses between 90 mm and 140 mm.



Part No.	476 050
Material of box	PC / ABS
Dimension of box	185 x 145 mm
Material of cover	StSt
Installation depth	90-140 mm
PU	1 pc(s)

Spacer

For combination with the test joint box.



Part No.	476 053
Material of spacer	PP
Dimension of spacer	120 x 120 x 200 mm
PU	1 pc(s)

Inspection Doors

For flush-mounted test junctions.



Type StSt with square spanner

For screw-mounting (bores Ø8-10 mm) with detachable door.

Part No.	476 020
Material	StSt
Mounting dimensions	200 x 140 mm
Dimension	290 x 230 mm
PU	1 pc(s)



Type St/tZn with snap lock

Light design for immuring / plastering, with claws (length 60 mm, distance 100 mm).

Part No.	476 100
Material	St/tZn
Mounting dimensions	205 x 155 mm
Dimension	230 x 180 mm
PU	10 pc(s)



Type St/tZn with square spanner

For immuring / plastering, with claws (length 60 mm, distance 100 mm).

Part No.	476 001
Material	St/tZn
Mounting dimensions	205 x 155 mm
Dimension	230 x 180 mm
PU	10 pc(s)

Variable Number Plates

Test joints, down conductors as well as connection lugs can be marked with the variable number plate. On site the individual pre-embossed numbers can be inserted on the plate quickly and without additional tool. Thus a uniform marking is provided.

Assortment case Sortimo

Assortment case with the following content:

- 100 pcs. number insert each of „0“, „1“, „2“, „3“, „4“, „5“, „6“, „7“, „8“, „9“
- 100 pcs. number insert unmarked
- 100 pcs. number plate with slots
- 300 pcs. combo-head screw StSt M6 x 16 mm
- 50 pcs. carrier plate StSt for VDB test badge
- 50 pcs. cleat Al Rd 7-10 mm
- 50 pcs. cleat Al Rd 16 mm

Part No.	490 999 <small>NEW</small>
Material	Plastic
Dimension	450 x 360 x 120 mm
PU	1 pc(s)



Variable number plate for round / flat conductors

Consisting of number plate with slot (Part No. 490 100), cleat (Part No. 480 291) and two combo-head screws (Part No. 490 020).

Part No.	490 110 <small>NEW</small>
Material of plate	Al
Material of cleat	Al
Clamping range Rd / Fl	7-10 / 30 mm
Material of screw	StSt
Screw	☒ M6 x 16 mm
PU	50 pc(s)



Variable number plate for lead-in earth rods

Consisting of number plate with slot (Part No. 490 100), cleat (Part No. 490 022) and two combo-head screws (Part No. 490 020).

Part No.	490 116 <small>NEW</small>
Material of plate	Al
Material of cleat	Al
Clamping range Rd	16 mm
Material of screw	StSt
Screw	☒ M6 x 16 mm
PU	50 pc(s)



Number plate with slots

Number plate for attaching the insert clips without /with embossed number (e.g. Part No. 490 001).

Part No.	490 100 <small>NEW</small>
Material	Al
PU	100 pc(s)



Insert clip with embossed number

Insert clip with embossed number for attaching on the number plate with slots (Part No. 490 100, 490 110, 490 116).

NEW



General technical data:				
Material	StSt			
Part No.	490 000 ^{NEW}	490 001 ^{NEW}	490 002 ^{NEW}	490 003 ^{NEW}
Number	0	1	2	3
PU	100 pc(s)	100 pc(s)	100 pc(s)	100 pc(s)
Part No.	490 004 ^{NEW}	490 005 ^{NEW}	490 006 ^{NEW}	
Number	4	5	6	
PU	100 pc(s)	100 pc(s)	100 pc(s)	
Part No.	490 007 ^{NEW}	490 008 ^{NEW}	490 009 ^{NEW}	
Number	7	8	9	
PU	100 pc(s)	100 pc(s)	100 pc(s)	

NEW



Insert clip without embossing

Insert clip without embossing for attaching on the number plate with slots (Part No. 490 100, 490 110, 490 116).

Part No.	490 900 ^{NEW}
Material	StSt
PU	100 pc(s)



Carrier plate for VDB test badge

For fixing the test badge on the down conductor or earth entry rod.

Part No.	490 021
Material	StSt
Dimension	84 x 58 x 1 mm
PU	50 pc(s)



Combo-head screw

Part No.	490 020
Material	StSt
Screw	⊕ M6 x 16 mm
PU	100 pc(s)

Cleat for number plate



Part No.	480 291	490 022
Material	Al	Al
Clamping range Rd / Fl	7-10 / 30 mm	—
Clamping range Rd	—	16 mm
PU	100 pc(s)	100 pc(s)

Accessory for Variable Number Plates

NEW



Assortment case Sortimo, empty

Assortment case with insert boxes in different sizes for sorting the content, and with fast click system for safe transport.

Part No.	490 099
Werkstoff	Plastic
Abmessung (l x b x h)	450 x 360 x 120 mm
PU	1 pc(s)

Number Plates

For marking the test joints.

With embossed number for round / flat conductors

The embossed number is defined by the Part No.

Example: Number 5 Part No. 481 005

Part No.	481 0xx
Material	Al
Clamping range Rd / Fl	7-10 / 30 mm
PU	1 pc(s)



With embossed number for earth entry rods

The embossed number is defined by the Part No.

Example: Number 5 => Part No. 482 005

Part No.	482 0xx
Material	Al
Clamping range Rd	16 mm
PU	1 pc(s)



Without number for round / flat conductors

For on-site labelling with punch-type numbers 0-9, size 10 mm.

Part No.	480 003
Material	Al
Clamping range Rd / Fl	7-10 / 30 mm
PU	50 pc(s)



Without number for earth entry rods

For on-site labelling with punch-type numbers 0-9, size 10 mm.

Part No.	480 004
Material	Al
Clamping range Rd	16 mm
PU	50 pc(s)



Carrier Plate for VDB Test Badge

For fixing the test badge at the down conductor or earth entry.

For round / flat conductors

Part No.	480 113
Material	StSt
Clamping range Rd / Fl	7-10 / 30 mm
Dimension	84 x 58 x 1 mm
PU	50 pc(s)

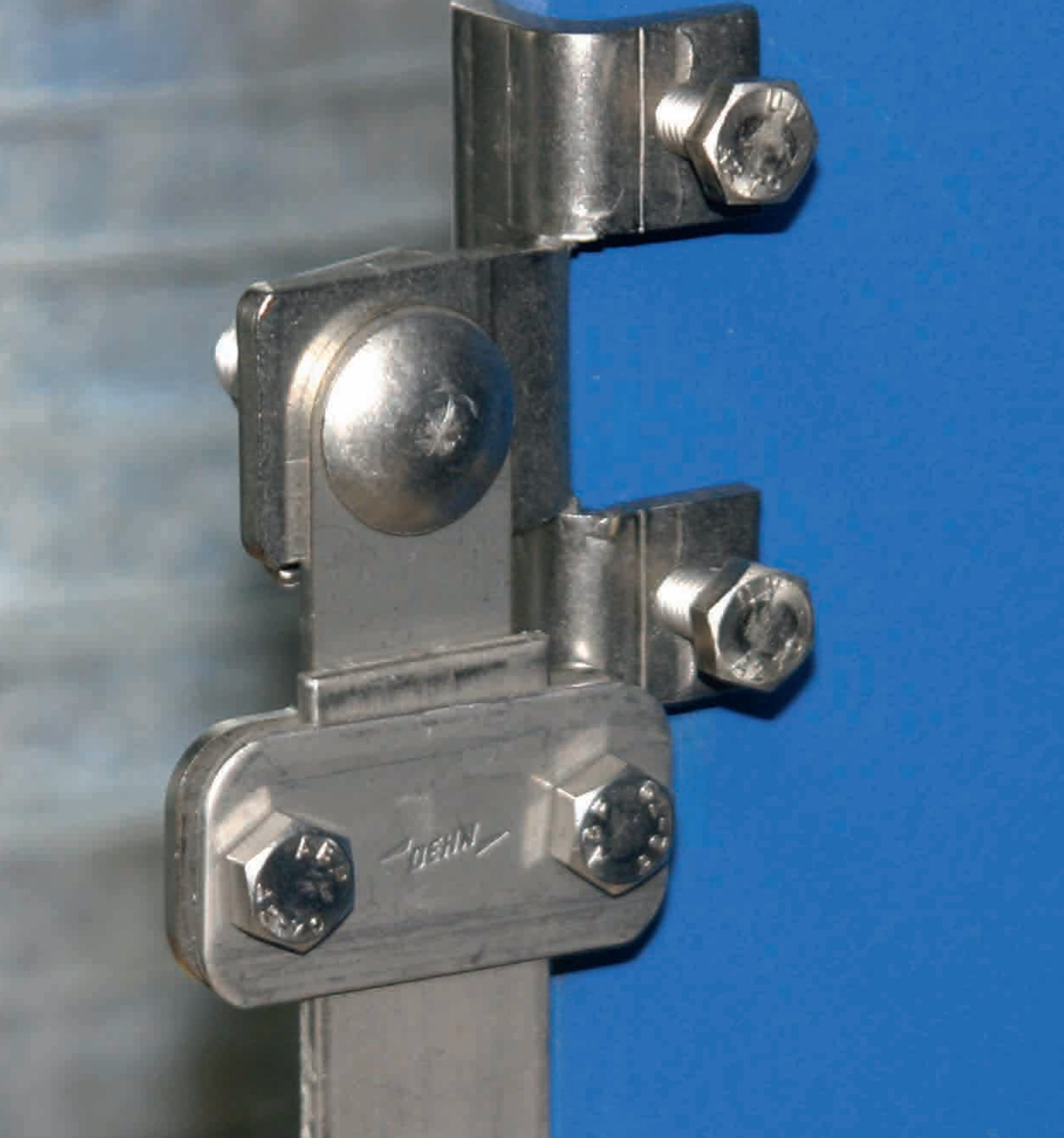


Two-screw Cleat

With thread M6, for combination with the „Attention! Equipotential bonding“ sign Part No. 480 599 or number plates.

Part No.	480 291
Material	Al
Clamping range Rd / Fl	7-10 / 30 mm
PU	100 pc(s)





DEHN protects.®

MV Clamps

Multipurpose connecting clamp (MehrzweckVerbindungs-Klemme) for universal use as cross clamp, T clamp and parallel clamp; two-part design.

With hexagon screw

Thread in the base part.

General technical data:				
Standard	EN 62561-1			
Part No.	390 050	390 051	390 059	390 057
Material of clamp	St/tZn	Al	StSt	Cu
Clamping range Rd	8-10 mm	8-10 mm	8-10 mm	8 mm
Material of screw / nut	St/tZn	StSt	StSt	StSt
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	5.5 kA	—	—	—
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)
Part No.	391 050	391 059	390 079	
Material of clamp	St/tZn	StSt	StSt (V4A)	
Material No.	—	—	1.4571 / 1.4404 / 1.4401	
ASTM / AISI:	—	—	316Ti / 316L / 316	
Clamping range Rd	10 mm	10 mm	8-10 mm	
Material of screw / nut	St/tZn	StSt	StSt (V4A)	
Material No.	—	—	1.4571 / 1.4404 / 1.4401	
ASTM / AISI:	—	—	316Ti / 316L / 316	
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	—	—	4.7 kA	
PU	50 pc(s)	50 pc(s)	50 pc(s)	

Note: Part No. 390 079 made of StSt(V4A) also suits for underground application.



With hexagon screw and spring washer

Thread in the base part.

General technical data:			
Standard	EN 62561-1		
Part No.	390 550	390 551	390 559
Material of clamp	St/tZn	Al	StSt
Clamping range Rd	8-10 mm	8-10 mm	8-10 mm
Material of screw / nut	St/tZn	StSt	StSt
PU	50 pc(s)	50 pc(s)	50 pc(s)
Part No.	390 557	391 550	391 559
Material of clamp	Cu	St/tZn	StSt
Clamping range Rd	8 mm	10 mm	10 mm
Material of screw / nut	StSt	St/tZn	StSt
PU	50 pc(s)	50 pc(s)	50 pc(s)



With truss head screw

and anti-rotation locking (square hole in the upper part).

General technical data:			
Standard	EN 62561-1		
Part No.	390 060	390 061	390 067
Material of clamp	St/tZn	Al	Cu
Clamping range Rd	8-10 mm	8-10 mm	8 mm
Material of screw / nut	St/tZn	St/tZn	StSt
PU	50 pc(s)	50 pc(s)	50 pc(s)
Part No.	391 060	391 069	390 063
Material of clamp	St/tZn	StSt	St/tZn
Clamping range Rd	10 mm	10 mm	8-10 mm
Material of screw / nut	St/tZn	StSt	StSt
PU	50 pc(s)	50 pc(s)	50 pc(s)



With hexagon screw and spring washer for air-termination rods

Thread in the base part



Part No.	392 050	392 059
Material of clamp	St/tZn	StSt
Clamping range Rd	8-10 / 16 mm	8-10 / 16 mm
Material of screw / nut	St/tZn	StSt
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

With truss head screw for air-termination rods

and anti-rotation locking (square hole in the upper part).



Part No.	392 060	392 069
Material of clamp	St/tZn	StSt
Clamping range Rd	8-10 / 16 mm	8-10 / 16 mm
Material of screw / nut	St/tZn	StSt
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

Bimetallic MV clamp

For connecting conductors of different materials, with intermediate plate (Cupal) and thread in the base part.



Part No.	390 657
Material of clamp	Cu / Al
Clamping range Rd Cu	8 mm
Clamping range Rd Al	8-10 mm
Material of screw / nut	StSt
Standard	EN 62561-1
PU	50 pc(s)

MMV Clamps

Mini multipurpose connecting clamp (Mini-MehrzweckVerbindungs-Klemme) for universal use as cross clamp, T clamp and parallel clamp, with anti-rotation locking.



MMV Clamp

Part No.	390 250	390 257	390 259
Material of clamp	St/tZn	Cu	StSt
Clamping range Rd	6-8 mm	6-8 mm	6-8 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)

Bimetallic MMV Clamp

For connecting conductors of different materials, with intermediate plate (Cupal).



Part No.	390 267
Material of clamp	Cu / St/tZn
Clamping range Rd Cu	6-8 mm
Clamping range Rd St/tZn	6-8 mm
Standard	EN 62561-1
PU	50 pc(s)

MAXI MV Clamps

MAXI multipurpose connecting clamp (MAXI-MehrzweckVerbindungs-Klemme) for universal use as cross clamp, T clamp and parallel clamp, for connecting earth rods or reinforcements; three-part, with thread in the base part.

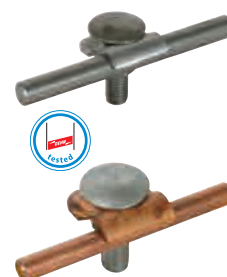


Part No.	308 041	308 040
Material of clamp	St/tZn	St/bare
Clamping range Rd	8-16 / 15-25 mm	8-16 / 15-25 mm
Material thickness	3.0 / 2.0 mm	3.0 / 2.0 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.2 kA	10.2 kA
Approval	—	UL467B
Stock No.	5999-12-362-1557	—
PU	20 pc(s)	20 pc(s)

Clamping Frame Variants

For example as connection with end piece for constructions or downpipe clamps.
Clamping frame with square hole 11 mm and truss head screw.

Part No.	390 150	390 157	390 159
Material of clamp	St/tZn	Cu	StSt
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm
Screw	⬆ M10 x 35 mm	⬆ M10 x 35 mm	⬆ M10 x 35 mm
Material of screw / nut	St/tZn	StSt	StSt
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	100 pc(s)	100 pc(s)	100 pc(s)



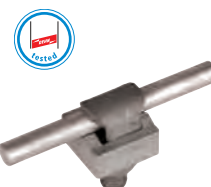
KS Connectors

Clamping screw connector (KlemmSchrauben-Verbinder) for lightning current carrying capable connection of round conductors e.g. to flat profiles, downpipe clamps or other parts of the lightning protection system.

One-piece, St/tZn

With screw and nut M10.

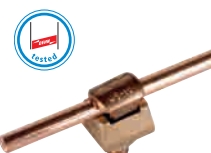
Part No.	301 000	301 010
Material of clamping screw	St/tZn	St/tZn
Material of clamp	ZDC	ZDC
Clamping range Rd	7-10 mm	7-10 mm
Type	—	+ spring washer
Standard	EN 62561-1	EN 62561-1
PU	100 pc(s)	100 pc(s)



One-piece, Cu

With screw and nut M10.

Part No.	301 007	301 017
Material of clamping screw	Cu	Cu
Material of clamp	RCB	RCB
Clamping range Rd	6-10 mm	6-10 mm
Connection (single-wire / multi-wire)	25-70 mm ²	25-70 mm ²
Type	—	+ spring washer
Standard	EN 62561-1	EN 62561-1
PU	100 pc(s)	100 pc(s)



One-piece, StSt

With screw and nut M10.

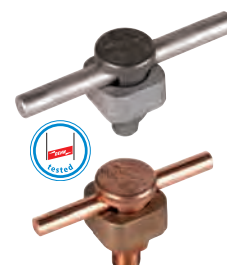
Part No.	301 009	301 089 ^{NEW}	301 019	301 099 ^{NEW}
Material of clamping screw	StSt	StSt (V4A)	StSt	StSt (V4A)
Material of clamp	StSt	StSt (V4A)	StSt	StSt (V4A)
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
Connection (single-wire / multi-wire)	25-70 mm ²	25-70 mm ²	25-70 mm ²	25-70 mm ²
Type	—	—	+ spring washer	+ spring washer
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	100 pc(s)	100 pc(s)	100 pc(s)	100 pc(s)



Heavy design

With screw and nut M12.

Part No.	300 002	300 017
Material of clamping screw	St/tZn	Cu
Material of clamp	MCI	RCB
Clamping range Rd	8-12.5 mm	8-12.5 mm
Connection (single-wire / multi-wire)	50-95 mm ²	50-95 mm ²
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)



Two-piece, distance 30 mm

With screw and nut M10.



Part No.	302 010
Material of clamping screw	St/tZn
Material of clamp	ZDC
Clamping range Rd	7-10 mm
Standard	EN 62561-1
PU	50 pc(s)

Two-piece, distance 40 mm

With screw and nut M10.



Part No.	301 229
Material of clamping screw	StSt
Material of clamp	StSt
Clamping range Rd	6-10 mm
Type	+ spring washer
Standard	EN 62561-1
PU	1 pc(s)

Connectors

For connecting round conductors in T and longitudinal arrangements.

EST Connector

One-screw T connector.



Part No.	310 008
Material of clamp	ZDC
Clamping range Rd	8 mm
Standard	EN 62561-1
PU	50 pc(s)

ES Connectors

One-screw connectors for longitudinal arrangements.



Part No.	309 008	309 087
Material of clamp	ZDC	RCB
Clamping range Rd	8 mm	8 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

ES Disconnecting Clamp

Single-screw disconnecting clamp (Ein-Schrauben-Trennklemme) for connecting down conductors with earth entries.



Part No.	463 010
Material	ZDC
Clamping range Rd / Rd	8 / 10 mm
Standard	EN 62561-1
PU	50 pc(s)

Universal Connector

For connecting round conductors in cross, T, and parallel arrangements and for double conductor connection.



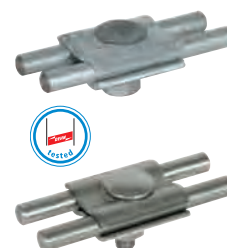
Part No.	315 119
Material of clamp	StSt
Clamping range Rd	8-10 mm
Standard	EN 62561-1
PU	50 pc(s)

Parallel Connectors

For connecting two conductors in parallel arrangement.

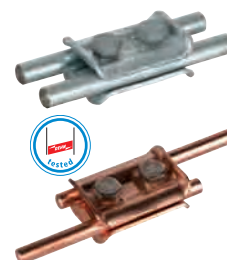
For equal diameters with one screw

Part No.	306 020	306 029
Material of clamp	St/tZn	StSt (V4A)
Material No.	—	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	—	316Ti / 316L / 316
Clamping range Rd / Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	4.0 kA	2.9 kA
PU	50 pc(s)	50 pc(s)



For equal diameters with two screws

Part No.	307 000	307 007
Material of clamp	St/tZn	Cu
Clamping range Rd / Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
Military Name	VG 96953 T06 D0002	—
Stock No.	5999-12-158-2303	—
PU	50 pc(s)	50 pc(s)



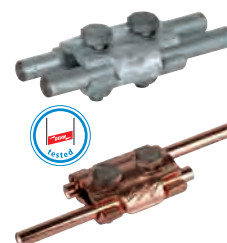
For different diameters with one screw

Part No.	306 121 ^{NEW}	306 122 ^{NEW}
Material of clamp	St/bare	St/tZn
Clamping range Rd / Rd	6-22 / 6-22 mm	6-22 / 6-22 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.1 kA	6.1 kA
PU	50 pc(s)	50 pc(s)



For different diameters 4-10 mm with two screws

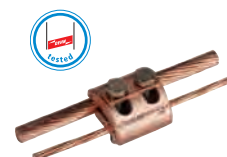
Part No.	305 000	305 007
Material of clamp	St/tZn	Cu
Clamping range Rd / Rd	4-10 mm	4-10 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	—	13.6 kA
PU	50 pc(s)	50 pc(s)



For equal and different cable diameters, small

With thread in the base part and lock nut M8.
Specified short-circuit current applies to 70 mm² Cu cable.

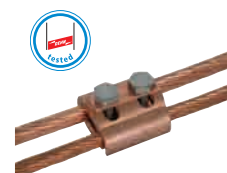
Part No.	306 100
Material of clamp	Cu
Clamping range Rd / Rd	5-12.5 mm
Clamping range (stranded or cable)	16-95 mm ²
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	13.6 kA
PU	25 pc(s)



For equal and different cable diameters, large

With thread in the base part and lock nut M10.
Specified short-circuit current applies to 70 mm² Cu cable.

Part No.	306 101
Material of clamp	Cu
Clamping range Rd / Rd	5-16 mm
Clamping range (stranded or cable)	16-150 mm ²
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	13.6 kA
PU	25 pc(s)



Connecting Sleeves

For longitudinal connection of two round conductors with four screws.

ZDC 8



Part No.	385 203
Material of clamp	ZDC
Clamping range Rd	8 mm
Screw	☒ M6 x 10 mm
Standard	EN 62561-1
PU	50 pc(s)

ZDC 7-10



Part No.	385 202
Material of clamp	ZDC
Clamping range Rd	7-10 mm
Screw	☒ M6 x 12 mm
Standard	EN 62561-1
PU	50 pc(s)

Al 8



Part No.	385 213
Material of clamp	Al
Clamping range Rd	8 mm
Screw	☒ M6 x 8 mm
Standard	EN 62561-1
PU	50 pc(s)

Cu 8

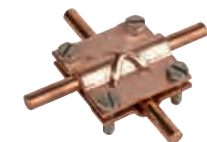


Part No.	385 207
Material of clamp	Cu
Clamping range Rd	8 mm
Screw	☒ M6 x 8 mm
Standard	EN 62561-1
PU	50 pc(s)

Cross Units for Aboveground Connections

For cross and T connection of conductors.

Without intermediate plate



Part No.	314 300	314 307
Material of clamp	St/tZn	Cu
Clamping range Rd / Rd	8-10 / 8-10 mm	8-10 / 8-10 mm
Clamping range Rd / FI	8-10 / 30 mm	8-10 / 30 mm
Clamping range FI / FI	30 / 30 mm	30 / 30 mm
Dimension	50 x 50 x 2.5 mm	50 x 50 x 2.5 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

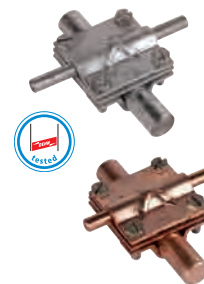
With intermediate plate



Part No.	314 310
Material of clamp	St/tZn
Clamping range Rd / Rd	8-10 / 8-10 mm
Clamping range Rd / FI	8-10 / 30 mm
Clamping range FI / FI	30 / 30 mm
Dimension	50 x 50 x 2.5 mm
Standard	EN 62561-1
PU	50 pc(s)

With intermediate plate, e.g. for air-termination rods

Part No.	316 163	316 167
Material of clamp	St/tZn	Cu
Clamping range Rd / Rd	16 / 8-10 mm	16 / 8-10 mm
Clamping range Rd / Fl	16 / 30 mm	16 / 30 mm
Dimension	50 x 50 x 2.5 mm	50 x 50 x 2.5 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)

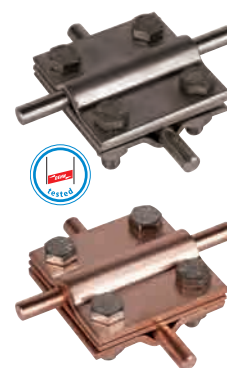


Cross Units for Aboveground and Underground Connections

For cross and T connection.

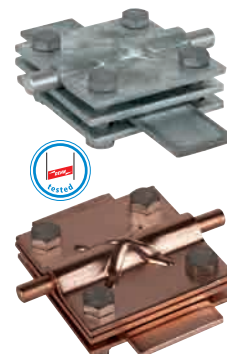
With intermediate plate, for round and flat conductors

Part No.	319 201	319 207	319 209
Material of clamp	St/tZn	Cu	StSt (V4A)
Clamping range Rd / Rd	8-10 / 8-10 mm	8-10 / 8-10 mm	8-10 / 8-10 mm
Clamping range Rd / Fl	8-10 / 30 mm	8-10 / 30 mm	8-10 / 30 mm
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm	30 / 30 mm
Clamping range (stranded / cable)	—	50-70 mm ²	50-70 mm ²
ASTM / AISI:	—	316Ti / 316L / 316	316Ti / 316L / 316
Dimension	60 x 60 x 3 mm	60 x 60 x 3 mm	60 x 60 x 3 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14 kA	29 kA	7 kA
PU	25 pc(s)	25 pc(s)	25 pc(s)



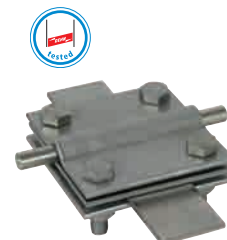
With intermediate plate, for round and flat conductors up to 40 mm

Part No.	321 045	321 047
Material of clamp	St/tZn	Cu
Clamping range Rd / Fl	8-10 / 30-40 mm	8-10 / 30-40 mm
Clamping range Fl / Fl	30-40 / 30-40 mm	30-40 / 30-40 mm
Clamping range (stranded / cable)	—	50-70 mm ²
ASTM / AISI:	—	316Ti / 316L / 316
Dimension	70 x 70 x 3 mm	70 x 70 x 3 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	12.6 kA	35.1 kA
PU	25 pc(s)	25 pc(s)



With intermediate plate, for two round and flat conductors up to 40 mm

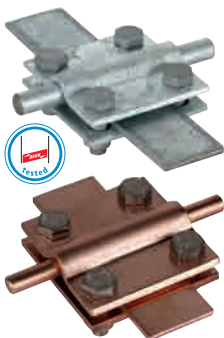
Part No.	319 229
Material of clamp	StSt (V4A)
Clamping range Rd / Rd	7-10 / 7-10 mm
Clamping range Rd / Fl	7-10 / 30-40 mm
Clamping range Fl / Fl	30-40 / 30-40 mm
Clamping range (stranded / cable)	35-70 mm ²
ASTM / AISI:	316Ti / 316L / 316
Dimension	70 x 70 x 3 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	5.0 kA
PU	25 pc(s)



With intermediate plate, for earth entries / air-termination rods

Part No.	319 202	319 219
Material of clamp	St/tZn	StSt (V4A)
Clamping range Rd / Rd	16 / 8-10 mm	16 / 8-10 mm
Clamping range Rd / Fl	16 / 30 mm	16 / 30 mm
Clamping range (stranded / cable)	—	50-70 / 120 mm ²
ASTM / AISI:	—	316Ti / 316L / 316
Dimension	60 x 60 x 3 mm	60 x 60 x 3 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)





Without intermediate plate, for round and flat conductors

Part No.	318 201	318 207	318 209
Material of clamp	St/tZn	Cu	StSt (V4A)
Clamping range Rd / Fl	8-10 / 30 mm	8-10 / 30 mm	8-10 / 30 mm
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm	30 / 30 mm
Clamping range (stranded / cable)	—	50-70 mm ²	50-70 mm ²
ASTM / AISI:	—	316Ti / 316L / 316	316Ti / 316L / 316
Dimension	60 x 60 x 3 mm	60 x 60 x 3 mm	60 x 60 x 3 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14 kA	29 kA	7.4 kA
PU	25 pc(s)	25 pc(s)	25 pc(s)

Without intermediate plate, for two round and flat conductors

Part No.	318 251	318 219
Material of clamp	St/tZn	StSt (V4A)
Clamping range Rd / Rd	8-10 / 8-10 mm	8-10 / 8-10 mm
Clamping range Rd / Fl	8-10 / 30 mm	8-10 / 30 mm
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm
Clamping range (stranded / cable)	—	50-70 mm ²
ASTM / AISI:	—	316Ti / 316L / 316
Dimension	60 x 60 x 3 mm	60 x 60 x 3 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14 kA	7.4 kA
PU	25 pc(s)	25 pc(s)

Without intermediate plate, for two flat conductors

Part No.	318 033	318 233
Material of clamp	St/tZn	StSt (V4A)
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm
ASTM / AISI:	—	316Ti / 316L / 316
Dimension	60 x 60 x 3 mm	60 x 60 x 3 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	8.4 kA	7.0 kA
PU	25 pc(s)	25 pc(s)

Without intermediate plate, for two flat conductors up to 40 mm

Part No.	320 044
Material of clamp	St/tZn
Clamping range Fl / Fl	30-40 / 30-40 mm
Dimension	70 x 70 x 3 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	12.6 kA
PU	25 pc(s)

Without intermediate plate, for earth entries / air-termination rods

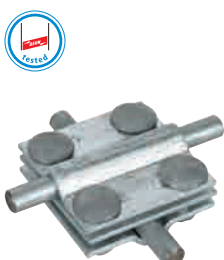
Part No.	318 252
Material of clamp	St/tZn
Clamping range Rd / Rd	8-10 / 16 mm
Clamping range Rd / Fl	16 / 30 mm
Dimension	60 x 60 x 3 mm
Standard	EN 62561-1
PU	25 pc(s)

Cross Units with Truss Head Screws for Aboveground and Underground Connections

For conductors in cross and T arrangement. Anti-rotation type for mounting with a tool.

With intermediate plate for round and flat conductors

Part No.	318 203	318 229
Material of clamp	St/tZn	StSt (V4A)
ASTM / AISI:	—	316Ti / 316L / 316
Clamping range Rd / Rd	8-10 / 8-10 mm	8-10 / 8-10 mm
Clamping range Rd / Fl	8-10 / 30 mm	8-10 / 30 mm
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm
Clamping range (stranded / cable)	—	50-70 mm ²
ASTM / AISI:	—	316Ti / 316L / 316
Dimension	60 x 60 x 3 mm	60 x 60 x 3 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14 kA	7 kA
PU	25 pc(s)	25 pc(s)



Without intermediate plate for round and flat conductors

Part No.	318 205	318 239
Material of clamp	St/tZn	StSt (V4A)
ASTM / AISI:	—	316Ti / 316L / 316
Clamping range Rd / Fl	8-10 / 30 mm	8-10 / 30 mm
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm
Clamping range (stranded / cable)	—	50-70 mm ²
ASTM / AISI:	—	316Ti / 316L / 316
Dimension	60 x 60 x 3 mm	60 x 60 x 3 mm
Standard	EN 6561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14 kA	7,4 kA
PU	25 pc(s)	25 pc(s)



SV Clamps for Aboveground and Underground Connections

Diagonal connecting clamps (Schräg-Verbinder-Klemmen) for cross and T connections, screws with anti-rotation lock.

For flat and round conductors

Part No.	308 220	308 229	308 320	308 329
Material of clamp	St/tZn	StSt (V4A)	St/tZn	StSt (V4A)
Clamping range Rd / Rd	7-10 / 7-10 mm	7-10 / 7-10 mm	7-10 / 7-10 mm	7-10 / 7-10 mm
Clamping range Rd / Fl	7-10 / 30 mm	7-10 / 30 mm	7-10 / 30-40 mm	7-10 / 30-40 mm
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm	30-40 / 30-40 mm	30-40 / 30-40 mm
ASTM / AISI:	—	316Ti / 316L / 316	—	316Ti / 316L / 316
Dimension (l x t)	94 x 4 mm	94 x 3 mm	108 x 4 mm	108 x 3 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	7.3 kA	3.2 kA	14.0 kA	14.0 kA
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



For one flat and one round conductor

Part No.	308 249
Material of clamp	StSt (V4A)
Clamping range Rd / Fl	7-10 / 30 mm
ASTM / AISI:	316Ti / 316L / 316
Dimension (l x t)	94 x 3 mm
Standard	EN 62561-1
PU	25 pc(s)



For flat conductors

Part No.	308 230	308 239
Material of clamp	St/tZn	StSt (V4A)
Clamping range Fl / Fl	30 / 30 mm	30 / 30 mm
ASTM / AISI:	—	316Ti / 316L / 316
Dimension (l x t)	94 x 4 mm	94 x 3 mm
Standard	EN 62561-1	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	8.2 kA	3.9 kA
PU	25 pc(s)	25 pc(s)



For flat conductors, round conductors and earth entry rods

Part No.	308 330
Material of clamp	St/tZn
Clamping range Rd / Rd	7-10 / 16 mm
Clamping range Rd / Fl	16 / 30-40 mm
Dimension (l x t)	108 x 4 mm
Standard	EN 62561-1
PU	25 pc(s)



SVP Clamps for Aboveground and Underground Connections

Diagonal and parallel connecting clamps (Schräg-Verbinder-Parallel-Klemmen) for cross and parallel connections, with slotted upper part (no need to detach the screws).

Without intermediate plate



Part No.	308 060
Material of clamp	St/tZn
Clamping range Rd / Rd	8-10 / 8-10 mm
Clamping range Rd / FI	8-10 / 30 mm
Clamping range FI / FI	30 / 30 mm
Standard	EN 62561-1
PU	50 pc(s)

With intermediate plate (slotted)

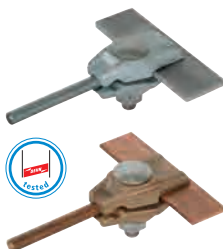


Part No.	308 070
Material of clamp	St/tZn
Clamping range Rd / Rd	8-10 / 8-10 mm
Clamping range Rd / FI	8-10 / 30 mm
Clamping range FI / FI	30 / 30 mm
Standard	EN 62561-1
PU	50 pc(s)

Connection Clamps

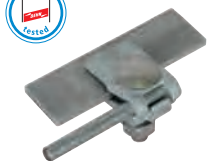
For connection to steel constructions and steel sheets.

Longitudinal or cross connection



Part No.	371 009	371 007
Clamping range	0.4-12 mm	0.4-12 mm
Material of clamp	MCI/tZn	RCB
Clamping range Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
PU	20 pc(s)	20 pc(s)

Longitudinal connection



Part No.	371 008
Clamping range	0.4-12 mm
Material of clamp	MCI/tZn
Clamping range Rd	4-10 mm
Standard	EN 62561-1
PU	50 pc(s)

Longitudinal or cross connection with KS screw



Part No.	370 014
Clamping range	1-12 mm
Material of clamp	MCI/tZn
Clamping range Rd	7-10 mm
Standard	EN 62561-1
PU	25 pc(s)

Longitudinal or cross connection with KS screw



Part No.	370 018
Clamping range	8-18 mm
Material of clamp	MCI/tZn
Clamping range Rd	7-10 mm
Standard	EN 62561-1
PU	25 pc(s)

Connection Clamps for Steel Girders

Heavy design, for connection to steel constructions.

Vertical design, with clamping frame

Lengthwise or crosswise connection with clamping frame.

Part No.	372 110	372 119	372 140	372 149
Clamping range	3-18 mm	3-18 mm	18-35 mm	18-35 mm
Material of clamp	St/tZn	StSt	St/tZn	StSt
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



Horizontal design, with clamping frame

Lengthwise or crosswise connection with clamping frame.

Part No.	372 210	372 219	372 240	372 249
Clamping range	3-18 mm	3-18 mm	18-35 mm	18-35 mm
Material of clamp	St/tZn	StSt	St/tZn	StSt
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



Vertical design, with KS connector

Lengthwise or crosswise connection with KS connector.

Part No.	372 120	372 129	372 150	372 159
Clamping range	3-18 mm	3-18 mm	18-35 mm	18-35 mm
Material of clamp	St/tZn	StSt	St/tZn	StSt
Clamping range Rd	7-10 mm	6-10 mm	7-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



Horizontal design, with KS connector

Lengthwise or crosswise connection with KS connector.

Part No.	372 220	372 229	372 250	372 259
Clamping range	3-18 mm	3-18 mm	18-35 mm	18-35 mm
Material of clamp	St/tZn	StSt	St/tZn	StSt
Clamping range Rd	7-10 mm	6-10 mm	7-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)



Connection Clamps with Thrust Piece

For connection to steel constructions and steel sheets with single-screw technique.

Small design

Lengthwise or crosswise connection.

Part No.	372 018	372 019
Clamping range	5-18 mm	5-18 mm
Material of clamp	St/tZn	StSt
Clamping range Rd	6-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)



Large design

Lengthwise or crosswise connection.

Part No.	372 035
Clamping range	18-35 mm
Material of clamp	St/tZn
Clamping range Rd	6-10 mm
Standard	EN 62561-1
PU	25 pc(s)

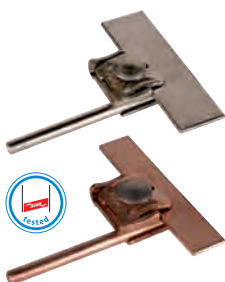


Saddle Clamps

For connecting conductors with seams of the same or of different materials.

With clamping frame

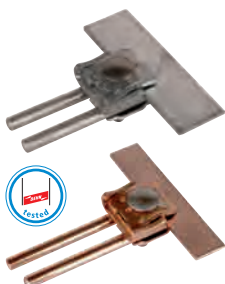
Lengthwise or crosswise conductor leading.



Part No.	365 030	365 031	365 037	365 039
Clamping range of flange	0.7-8 mm	0.7-8 mm	0.7-8 mm	0.7-8 mm
Material of clamp	St/tZn	Al	Cu	StSt
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

With double cleat

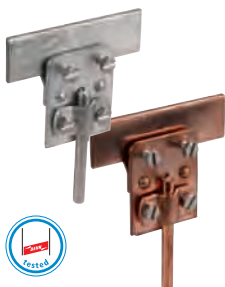
Lengthwise or crosswise conductor leading.



Part No.	365 010	365 017	365 019
Clamping range of flange	0.7-8 mm	0.7-8 mm	0.7-8 mm
Material of clamp	St/tZn	Cu	StSt
Clamping range Rd	8-10 mm	8-10 mm	8-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)

With two-screw cleat

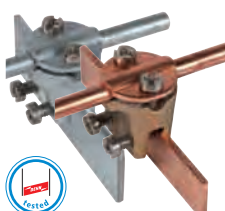
Lengthwise or crosswise conductor leading.



Part No.	251 002	251 027
Clamping range of flange	0.7-5 mm	0.7-5 mm
Material of clamp	St/tZn	Cu
Clamping range Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

With two-screw cleat, e.g. for standing seams

Lengthwise or crosswise conductor leading.

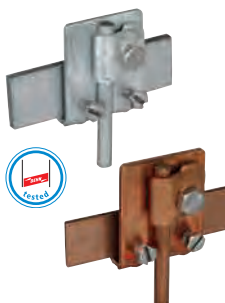


Part No.	365 000	365 007
Clamping range of flange	0.7-6 mm	0.7-6 mm
Material of clamp	ZDC	RCB
Clamping range Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

With clamping frame, for hooking to seams

being close to a roof or wall surface.

Lengthwise or crosswise conductor leading.

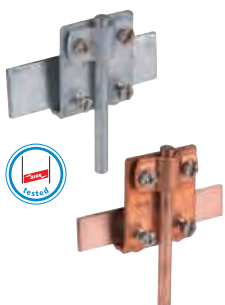


Part No.	365 020	365 027
Clamping range of flange	0.7-10 mm	0.7-10 mm
Material of clamp	St/tZn	Cu
Clamping range Rd	6-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

With two-screw cleat, for hooking to seams

being close to a roof or wall surface.

Lengthwise or crosswise conductor leading.

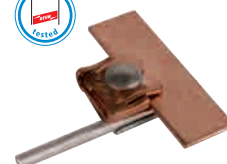


Part No.	365 040	365 047
Clamping range of flange	0.7-10 mm	0.7-10 mm
Material of clamp	St/tZn	Cu
Clamping range Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

Clamps, Connectors

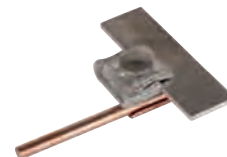
Bimetallic, for Cu seams, with intermediate plate (Cupal)

Part No.	365 117
Clamping range of flange	0.7-8 mm
Material of clamp	St/tZn / Cu
Clamping range Rd	6-10 mm
Standard	EN 62561-1
PU	50 pc(s)



Bimetallic, for St/tZn seams, with intermediate plate (Cupal)

Part No.	365 127
Clamping range of flange	0.7-8 mm
Material of clamp	Cu / St/tZn
Clamping range Rd	6-10 mm
PU	50 pc(s)



Saddle Clamps with Enlarged Contact Surface

For connecting conductors with seams; enlarged contact surface.

Angled design

Lengthwise or crosswise connection.

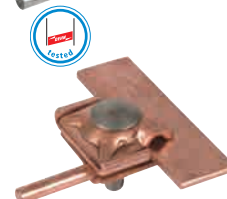
Part No.	365 050	365 051	365 057	365 059
Clamping range of seam	0.7-8 mm	0.7-8 mm	0.7-8 mm	0.7-8 mm
Material of clamp	St/tZn	Al	Cu	StSt
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



Straight design

Lengthwise or crosswise connection.

Part No.	365 220	365 221	365 227	365 229
Clamping range of seam	0.7-10 mm	0.7-10 mm	0.7-10 mm	0.7-10 mm
Material of clamp	St/tZn	Al	Cu	StSt
Clamping range Rd	8-10 mm	8-10 mm	8-10 mm	8-10 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



Gutter Clamps with Single-screw Technique

For connecting conductors with gutters.

With clamping frame

Part No.	339 100	339 101
Clamping range of bead	16-22 mm	16-22 mm
Material of clamp	St/tZn	Al
Clamping range Rd	8-10 mm	8-10 mm
Width	40 mm	40 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)



With double cleat

Part No.	339 110	339 111
Clamping range of bead	16-22 mm	16-22 mm
Material of clamp	St/tZn	Al
Clamping range Rd	8-10 mm	8-10 mm
Width	40 mm	40 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)

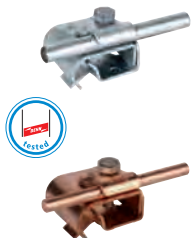


Gutter Clamps

For connecting conductors with gutters.

With clamping frame

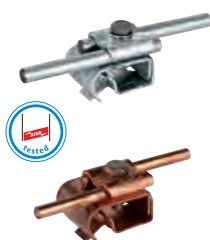
Longitudinal or crosswise conductor leading.



Part No.	339 060	339 061	339 067	339 069
Clamping range of bead	16-22 mm	16-22 mm	16-22 mm	16-22 mm
Material of clamp	St/tZn	Al	Cu	StSt
Clamping range Rd	6-10 mm	6-10 mm	6-10 mm	6-10 mm
Material of cleat	St/tZn	Al	Cu	StSt
Width / material thickness	40 mm	40 / 3 mm	40 / 2 mm	40 / 2 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)

With double cleat

Longitudinal or crosswise conductor leading.



Part No.	339 050	339 051	339 057	339 059
Clamping range of bead	16-22 mm	16-22 mm	16-22 mm	16-22 mm
Material of clamp	St/tZn	Al	Cu	StSt
Clamping range Rd	8-10 mm	8-10 mm	8-10 mm	8-10 mm
Material of cleat	St/tZn	StSt	Cu	StSt
Width / material thickness	40 / 2 mm	40 / 3 mm	40 / 2 mm	40 / 2 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)

Bimetallic, for gutters Cu, with clamping frame (St/tZn) and intermediate plate (Cupal)



Part No.	339 167
Clamping range of bead	16-22 mm
Material of clamp	Cu / St/tZn
Clamping range Rd	6-10 mm
Standard	EN 62561-1
PU	25 pc(s)

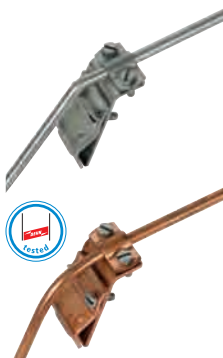
Bimetallic, for gutters Cu, with double cleat (St/tZn) and intermediate plate (Cupal)



Part No.	339 157
Clamping range of bead	16-22 mm
Material of clamp	Cu / St/tZn
Clamping range Rd	8-10 mm
Standard	EN 62561-1
PU	25 pc(s)

With two-screw cleat, width 40 mm

Longitudinal conductor leading.



Part No.	338 000	338 001	338 007	338 009
Clamping range of bead	13-25 mm	13-25 mm	13-25 mm	13-25 mm
Material of clamp	St/tZn	Al	Cu	StSt
Clamping range Rd	7-10 mm	7-10 mm	7-10 mm	7-10 mm
Material of cleat	St/tZn	Al	Cu	StSt
Width / material thickness	40 / 3 mm	40 / 3 mm	40 / 3 mm	40 / 2,5 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)

With two-screw cleat, width 60 mm

Longitudinal conductor leading.



Part No.	339 010
Clamping range of bead	13-25 mm
Material of clamp	St/tZn
Clamping range Rd	7-10 mm
Material of cleat	St/tZn
Width / material thickness	60 / 2.5 mm
Standard	EN 62561-1
PU	25 pc(s)

Snow Guard Clamps

For connecting conductors to snow guards, longitudinal connection with two-screw cleat.

For conductors Rd 7-10 mm.

Part No.	343 000	343 007
Clamping range	3-13 mm	3-13 mm
Material of clamp	St/tZn	Cu
Width	90 mm	90 mm
Clamping range Rd	7-10 mm	7-10 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)



Connection Lugs

For connecting metal claddings by blind rivets or screws.

With square hole

Dimension 11 x 11 mm (e.g. for KS connector M10), lengthwise or crosswise connection.

Part No.	377 005	377 017	377 009
Material of bracket	Al	Cu	StSt
Fixing	[4x] Ø5.2 / [2x] Ø6.5 mm	[4x] Ø5.2 / [2x] Ø6.5 mm	[4x] Ø5.2 / [2x] Ø6.5 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)



With clamping frame

Lengthwise or crosswise connection.

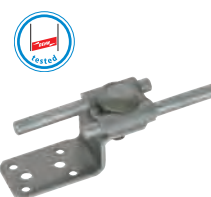
Part No.	377 100
Material of bracket	Al
Fixing	[4x] Ø5.2 / [2x] Ø6.5 mm
Material of clamping frame	St/tZn
Clamping range Rd	6-10 mm
Standard	EN 62561-1
PU	50 pc(s)



With double cleat

Lengthwise or crosswise connection.

Part No.	377 200
Material of bracket	Al
Fixing	[4x] Ø5.2 / [2x] Ø6.5 mm
Material of double cleat	Al
Clamping range Rd	8-10 mm
Standard	EN 62561-1
PU	50 pc(s)



Clamping Shoes

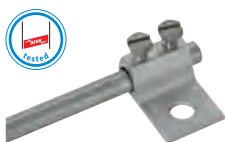
For connecting conductors with construction parts.

With bore



Part No.	345 008	345 010
Clamping range Rd	8 mm	10 mm
Material	St/tZn	St/tZn
Fixing bore Ø	11 mm	11 mm
PU	100 pc(s)	100 pc(s)

With screws



Part No.	347 205
Clamping range Rd	7-10 mm
Material	Al
Fixing bore Ø	10.5 mm
Standard	EN 62561-1
PU	100 pc(s)

Clamping Piece

For connecting flat material with construction parts or, for example, with connection clamps for steel girders (without bore in the flat strip).



Part No.	380 129
Clamping range Fl	up to 30 x 4 mm
Material	StSt
Fixing	square hole 11 x 11 mm
Standard	EN 62561-1
PU	50 pc(s)

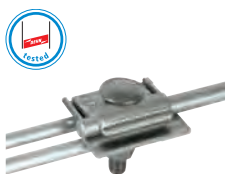
FS Clamps (Air-termination Rod Clamps)

For connecting air-termination rods with one or two conductors.

Connection of two conductors improves the distribution of lightning current and reduces the separation distance.

For air-termination rod 10 mm

With truss head screw, thrust washer, nut and double cleat.



Part No.	380 110
Material of clamp	Al
Clamping range of air-termination rod	8-10 mm
Clamping range Rd	2x 8-10 mm
Material of thrust washer	St/tZn
Standard	EN 62561-1
PU	50 pc(s)

For air-termination rod 16 mm

With truss head screw, thrust washer, nut and double cleat.



Part No.	380 116
Material of clamp	Al
Clamping range of air-termination rod	16 mm
Clamping range Rd	2x 8-10 mm
Material of thrust washer	St/tZn
Standard	EN 62561-1
PU	50 pc(s)

Rod Clamps

For connecting air-termination rods with conductors, for lengthwise connection of all conductor materials.
Crosswise connection (crosswise arrangement) only St/tZn and StSt.

Part No.	380 020	380 029
Material of clamp	St/tZn	StSt
Clamping range Rd / Rd	8-10 / 16 mm	8-10 / 16 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



Connecting Sleeve for Air-termination Rods

With embossings (stop boss) for connecting longer air-termination rods (transport length).
The air-termination rod needs to be additionally fixed above the sleeve when using the connecting sleeve.

Part No.	385 216
Material	Al
Clamping range Rd / Rd	16 / 16 mm
Screw	M8 x 12 mm
Material of screw	StSt
Diameter Ø outside	28 mm
Standard	EN 62561-1
PU	10 pc(s)



MV Clamps for Air-termination Rods

Multi-purpose connecting clamp for universal use as a cross clamp, T clamp and parallel clamp; two-piece.

With hexagon screw, spring washer and thread in the base part

Part No.	392 050	392 059
Material of clamp	St/tZn	StSt
Clamping range Rd	8-10 / 16 mm	8-10 / 16 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



With truss head screw and anti-rotation lock

Part No.	392 060	392 069
Material of clamp	St/tZn	StSt
Clamping range Rd	8-10 / 16 mm	8-10 / 16 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



Cupal Sleeves

For corrosion-resistant connection between steel or aluminium and copper.

For pushing onto cut conductors

Note: Rd 8 mm = 50 mm²

General technical data:

Material thickness	1.0 mm
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Part No.	562 250	562 035	562 050
Material outside	Al	Al	Al
Material inside	Cu	Cu	Cu
Cross section	25 mm ²	35 mm ²	50 mm ²
Length	29 mm	32 mm	40 mm
Diameter Ø inside	6.3 mm	7.5 mm	8.2 mm
Diameter Ø outside	8.3 mm	9.5 mm	10.0 mm
PU	100 pc(s)	100 pc(s)	100 pc(s)

Part No.	562 135	562 150
Material outside	Cu	Cu
Material inside	Al	Al
Cross section	35 mm ²	50 mm ²
Length	32 mm	40 mm
Diameter Ø inside	7.5 mm	8.2 mm
Diameter Ø outside	9.5 mm	10.0 mm
PU	100 pc(s)	100 pc(s)

For attaching to uncut conductors

Note: Rd 8 mm = 50 mm²



Part No.	562 001	562 101
Material outside	Al	Cu
Material inside	Cu	Al
Cross section	50 mm ²	50 mm ²
Length	60 mm	60 mm
Diameter Ø inside	8.5 mm	8.5 mm
Diameter Ø outside	9.5 mm	9.5 mm
Material thickness	0.5 mm	0.5 mm
PU	100 pc(s)	100 pc(s)

Cupal Sheets

Metal strips for corrosion-resistant connection between steel or aluminium and copper.



Part No.	562 440	562 460
Material	Al / Cu	Al / Cu
Dimension	500 x 40 x 0.5 mm	500 x 60 x 0.5 mm
PU	1 pc(s)	1 pc(s)

UNI Disconnecting Clamps

For connecting down conductors with earth entries or for connecting conductors of different materials.

With intermediate plate for two round conductors



Part No.	459 129	459 127
Material	StSt	Cu
Clamping range Rd / Rd	8-10 / 8-10 mm	8-10 / 8-10 mm
Distance of screws	40 mm	40 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

Bimetallic, for two round conductors Cu and St/tZn or StSt (V4A)

Part No.	460 517
Material	Cu / St/tZn
Clamping range Rd / Rd	8-10 / 8-10 mm
Distance of screws	40 mm
Standard	EN 62561-1
PU	50 pc(s)



With intermediate plate for round and flat conductor

Part No.	459 139
Material	StSt
Clamping range Rd / Fl	8-10 / 30 mm
Distance of screws	40 mm
Standard	EN 62561-1
PU	50 pc(s)



Bimetallic, for round conductor Cu and flat conductor St/tZn or StSt (V4A)

Part No.	460 557
Material	Cu / St/tZn
Clamping range Rd / Fl	8-10 / 30 mm
Distance of screws	40 mm
Standard	EN 62561-1
PU	50 pc(s)



With intermediate plate for earth entry rods

Part No.	459 119
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
Distance of screws	40 mm
Standard	EN 62561-1
PU	50 pc(s)



Bimetallic, for round conductor Cu and earth entry rod St/tZn or StSt (V4A)

Part No.	460 507
Material	Cu / St/tZn
Clamping range Rd / Rd	8-10 / 16 mm
Distance of screws	40 mm
Standard	EN 62561-1
PU	50 pc(s)



With intermediate plate for two round conductors, small design

Part No.	459 003
Material	St/tZn
Clamping range Rd / Rd	7-10 / 7-10 mm
Distance of screws	30 mm
Standard	EN 62561-1
PU	50 pc(s)



With intermediate plate for earth entry rods, small design

Part No.	459 000
Material	St/tZn
Clamping range Rd / Rd	7-10 / 16 mm
Distance of screws	30 mm
Standard	EN 62561-1
PU	50 pc(s)



With intermediate plate for earth entry rods and flat conductors



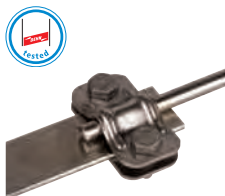
Part No.	459 159	
Material	StSt	
Clamping range Rd / Fl	16 / 30 mm	
Distance of screws	40 mm	
Standard	EN 62561-1	
PU	50 pc(s)	

Without intermediate plate for two round conductors



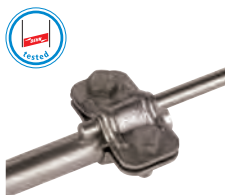
Part No.	459 029	459 020
Material	StSt	St/tZn
Clamping range Rd / Rd	8-10 / 8-10 mm	8-10 / 8-10 mm
Distance of screws	40 mm	40 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

Without intermediate plate for round and flat conductor



Part No.	459 039	459 030
Material	StSt	St/tZn
Clamping range Rd / Fl	8-10 / 30 mm	8-10 / 30 mm
Distance of screws	40 mm	40 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

Without intermediate plate for earth entry rods



Part No.	459 019	459 010
Material	StSt	St/tZn
Clamping range Rd / Rd	8-10 / 16 mm	8-10 / 16 mm
Distance of screws	40 mm	40 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

Disconnecting Clamp – Austrian Standard

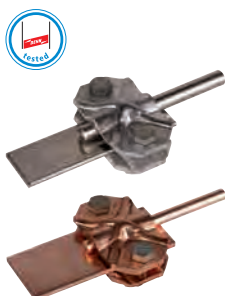
With connecting screw, for round conductors.



Part No.	460 213	
Material	ZDC	
Clamping range Rd / Rd	7-10 / 7-10 mm	
Standard	EN 62561-1	
PU	50 pc(s)	

Connecting / Disconnecting Clamps

Two-part or three-part connection system with thread in the base part.



Two-part, for round and flat conductors

Part No.	454 100	454 107
Material	St/tZn	Cu
Clamping range Rd / Fl	7-10 / 30-40 mm	7-10 / 30-40 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)

Clamps, Connectors

Three-part, (with intermediate plate) for round and flat conductors

Part No.	454 000
Material	St/tZn
Clamping range Rd / Fl	5-10 / 30-40 mm
Standard	EN 62561-1
PU	25 pc(s)



Two-part, for two flat conductors

Part No.	455 000
Material	MCl/tZn
Clamping range Fl / Fl	30 / 30 mm
Standard	EN 62561-1
PU	25 pc(s)



Disconnecting Sleeves

For connecting down conductors with the earth entries.

Open design for earth entry rods

Part No.	450 000	450 007
Material	ZDC	RCB
Clamping range Rd / Rd	7-10 / 16 mm	7-10 / 16 mm
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



Open design for earth entry rods

Part No.	450 001
Material	Al
Clamping range Rd / Rd	8-10 / 16 mm
Standard	EN 62561-1
PU	50 pc(s)



Closed design for earth entry rods

Part No.	450 011
Material	ZDC
Clamping range Rd / Rd	7-10 / 16 mm
Standard	EN 62561-1
PU	50 pc(s)



Open design for wires

Part No.	450 101
Material	Al
Clamping range Rd / Rd	8-10 / 8 mm
Standard	EN 62561-1
PU	50 pc(s)



Bimetallic Disconnecting Clamp with Shield

Bimetallic type for connecting conductors made of different materials.

Part No.	460 147
Material	Cu / St/tZn
Clamping range Rd / Fl	6-10 / 30-40 mm
Shield	plastic grey ●
Standard	EN 62561-1
PU	10 pc(s)





Connecting Components 200 kA (10/350 μs)

For use in protection class I and II of the lightning protection system (class of LPS I, II).
Clamps are tested with a 200 kA (10/350 μs) lightning impulse current, based on EN 62561-1.



UNI disconnecting clamp for two round conductors

Part No.	459 200
Material	StSt
Clamping range Rd / Rd	10 / 10 mm
Clamping range Rd / Fl	10 / 30 mm
Lightning current carrying capability (10/350 μs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



UNI disconnecting clamp for earth entry rods

Part No.	459 219
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
Lightning current carrying capability (10/350 μs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



Clamping piece

Part No.	380 209
Material	StSt
Clamping range Fl	30 x 4 mm
Lightning current carrying capability (10/350 μs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



KS connector

Part No.	301 209
Material	StSt
Clamping range Rd	10 mm
Lightning current carrying capability (10/350 μs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



MV clamp for round conductors

Part No.	390 209
Material	StSt
Clamping range Rd / Rd	8-10 mm
Lightning current carrying capability (10/350 μs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



MV clamp for air-termination rods

Part No.	392 209
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
Lightning current carrying capability (10/350 μs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)

Air-termination Rods

The following table applies for conventional air-termination rods (Al, St/tZn, Cu and StSt) to be installed with concrete bases.

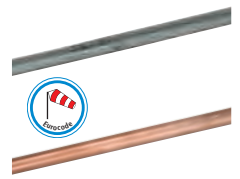
Height	Concrete Bases 1x 8.5 kg Part No. 102 075	Concrete Bases 1x 17 kg Part No. 102 010	Concrete Bases 2x 17 kg Part No. 102 010
			
1.0 m (Ø10 mm)	135 km/h	—	—
1.5 m (Ø16/10 mm)	—	150 km/h	185 km/h
2.0 m (Ø16/10 mm)	—	105 km/h	155 km/h
2.5 m (Ø16/10 mm)	—	—	120 km/h

For protecting roof-mounted structures, chimneys, etc., also for erection with concrete base. Depending on the gust wind speed additional fasteners e.g. DEHNiso spacers are necessary.

Diameter 10 mm, chamfered

Especially for wedge mounting with concrete base 8.5 kg (Part No. 102 075) or for fixing with conductor holders.

Part No.	101 000	101 009	101 007
Total length	1000 mm	1000 mm	1000 mm
Material	Al	StSt	Cu
Diameter Ø	10 mm	10 mm	10 mm
Standard	EN 62561-2	EN 62561-2	EN 62561-2
PU	20 pc(s)	20 pc(s)	20 pc(s)



Diameter 16 mm, chamfered

General technical data:				
Diameter Ø	16 mm			
Standard	EN 62561-2			
Part No.	104 150	104 200	104 250	104 300
Total length	1500 mm	2000 mm	2500 mm	3000 mm
Material	AlMgSi	AlMgSi	AlMgSi	AlMgSi
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)
Part No.	483 100	483 125	483 150	483 200
Total length	1000 mm	1250 mm	1500 mm	2000 mm
Material	St/tZn	St/tZn	St/tZn	St/tZn
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)



With tapering, chamfered

Length of tapering 1000 mm each.

General technical data:				
Material	AlMgSi			
Diameter Ø	16 / 10 mm			
Type	chamfered			
Standard	EN 62561-2			
Part No.	103 210	103 220	103 230	103 240
Total length	1500 mm	2000 mm	2500 mm	3000 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)
Part No.	103 250	103 260	103 280	
Total length	3500 mm	4000 mm	5000 mm	
PU	10 pc(s)	10 pc(s)	10 pc(s)	



With tapering, thread M16

Length of tapering 1000 mm each.

General technical data:			
Material	AlMgSi		
Diameter Ø	16 / 10 mm		
Type	M16		
Standard	EN 62561-2		
Part No.	103 211	103 221	103 231
Total length	1500 mm	2000 mm	2500 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)
Part No.	103 241	103 251	103 261
Total length	3000 mm	3500 mm	4000 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)



Tubular air-termination rods with tapering 16 / 10 mm

Light design; length of tapering 1000 mm each.

General technical data:				
Diameter Ø	16 / 10 mm			
Standard	EN 62561-2			
Part No.	103 410	103 420	103 430	103 440
Total length	1500 mm	2000 mm	2500 mm	3000 mm
Material	AlMgSi	AlMgSi	AlMgSi	AlMgSi
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)
Part No.	103 450	103 460	103 480	103 417
Total length	3500 mm	4000 mm	5000 mm	1500 mm
Material	AlMgSi	AlMgSi	AlMgSi	Cu
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)
Part No.	103 419	103 429	103 439	103 449
Total length	1500 mm	2000 mm	2500 mm	3000 mm
Material	StSt	StSt	StSt	StSt
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)



With forged lug

And clamping screw for connecting Rd 7-10 mm.

Part No.	100 100	100 150
Total length	1000 mm	1500 mm
Material	St/tZn	St/tZn
Diameter Ø	16 mm	16 mm
Terminal clamping range	7-10 mm	7-10 mm
Standard	EN 62561-(1+2)	EN 62561-(1+2)
PU	10 pc(s)	10 pc(s)



Diameter 16 mm, for cutting to length on site

Part No.	104 600
Total length	6000 mm
Material	AlMgSi
Diameter Ø	16 mm
Standard	EN 62561-2
PU	1 pc(s)



Rod Holders DEHNhold

For fixing of air-termination rods and earth entry rods, with slotted cleat, fixed conductor leading.
For use with different materials e.g. Al, StSt, St/tZn and Cu.

With female thread

Part No.	274 116
Material of conductor holder	StSt
Conductor holder support Rd	16 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
PU	50 pc(s)



Pre-assembled with screw, plastic base and dowel

With female thread.

Part No.	274 260
Material of conductor holder	StSt
Conductor holder support Rd	16 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Screw	5 x 50 mm
Plastic dowel	Ø8 x 40 mm
PU	50 pc(s)



Different clamps see from page 73

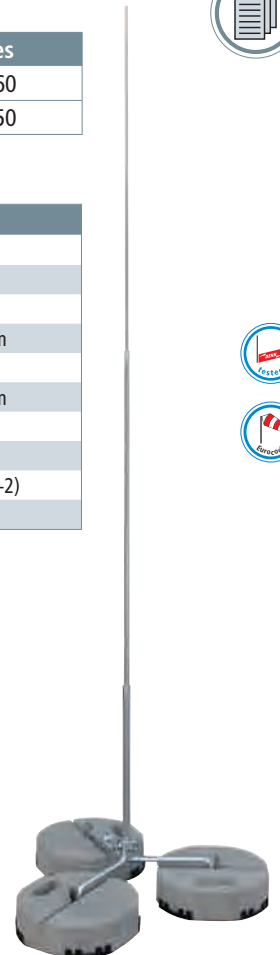
Self-supporting Air-termination Rods 2.5 to 3.5 m

With tripod to protect roof-mounted structures, adjustable to the roof inclination up to max. 10°.

Concrete base (Part No. 102 075 or 102 010) and support plate (Part No. 102 060 or 102 050) have to be ordered separately.

Concrete Bases	Support Plates
8.5 kg, Part No. 102 075	Part No. 102 060
17 kg, Part No. 102 010	Part No. 102 050

Part No.	105 525	105 530	105 535
Height	2500 mm	3000 mm	3500 mm
Radius	320 mm	320 mm	320 mm
Max. gust wind speed at 3 bases 8.5 kg each	146 km/h	117 km/h	94 km/h
Space required for tripod at 3 bases 8.5 kg each (l x w)	730 x 800 mm	730 x 800 mm	730 x 800 mm
Max. gust wind speed at 3 bases 17 kg each	188 km/h	174 km/h	143 km/h
Space required for tripod at 3 bases 17 kg each (l x w)	850 x 930 mm	850 x 930 mm	850 x 930 mm
Material of air-termination rod	Al	Al	Al / NIRO
Material of tripod	St/tZn	St/tZn	St/tZn
Standard	EN 62561-(1+2)	EN 62561-(1+2)	EN 62561-(1+2)
PU	1 pc(s)	1 pc(s)	1 pc(s)



Self-supporting Air-termination Rods 4 to 9 m



With hinged tripod to protect larger roof-mounted structures, adjustable to the roof inclination up to max. 10°. Stackable concrete base (Part No. 102 010) and support plate (Part No. 102 050) have to be ordered separately.

Height up to 5.5 m

Part No.	105 400	105 450	105 500	105 550
Height	4000 mm	4500 mm	5000 mm	5500 mm
Radius	560 mm	560 mm	560 mm	560 mm
Max. gust wind speed at 3 bases 17 kg each	140 km/h	124 km/h	103 km/h	94 km/h
Max. gust wind speed at 6 bases 17 kg each	186 km/h	167 km/h	137 km/h	127 km/h
Max. gust wind speed at 9 bases 17 kg each	—	188 km/h	165 km/h	154 km/h
Space required for tripod	1210 x 1340 mm	1210 x 1340 mm	1210 x 1340 mm	1210 x 1340 mm
Material of tripod	St/tZn	St/tZn	St/tZn	St/tZn
Material of air-termination rod	Al	Al	Al	Al
Standard	EN 62561-(1+2)	EN 62561-(1+2)	EN 62561-(1+2)	EN 62561-(1+2)
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

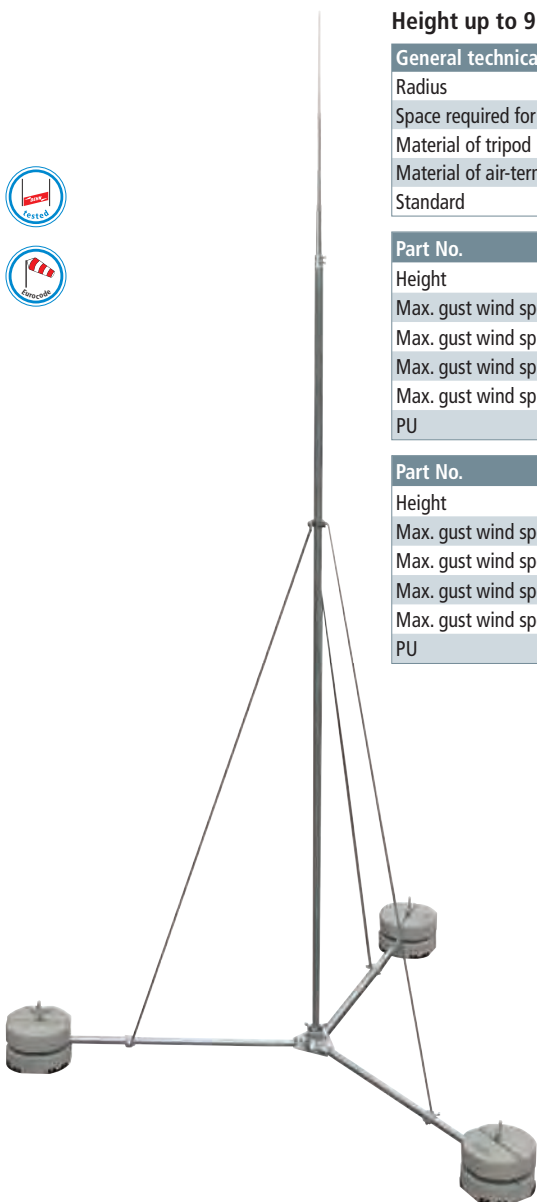


Height up to 9 m with adjustable StSt braces Ø10 mm

General technical data:	
Radius	1435 mm
Space required for tripod	2530 x 2850 mm
Material of tripod	St/tZn
Material of air-termination rod	Al
Standard	EN 62561-(1+2)

Part No.	105 600	105 650	105 700	105 750
Height	6000 mm	6500 mm	7000 mm	7500 mm
Max. gust wind speed at 3 bases 17 kg each	115 km/h	109 km/h	97 km/h	93 km/h
Max. gust wind speed at 6 bases 17 kg each	146 km/h	140 km/h	126 km/h	120 km/h
Max. gust wind speed at 9 bases 17 kg each	175 km/h	167 km/h	149 km/h	144 km/h
Max. gust wind speed at 12 bases 17 kg each	188 km/h	189 km/h	168 km/h	163 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	105 800	105 850	105 900
Height	8000 mm	8500 mm	9000 mm
Max. gust wind speed at 3 bases 17 kg each	—	—	—
Max. gust wind speed at 6 bases 17 kg each	111 km/h	106 km/h	106 km/h
Max. gust wind speed at 9 bases 17 kg each	131 km/h	126 km/h	125 km/h
Max. gust wind speed at 12 bases 17 kg each	147 km/h	143 km/h	142 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)



Self-supporting Air-termination Rods 10 and 11 m



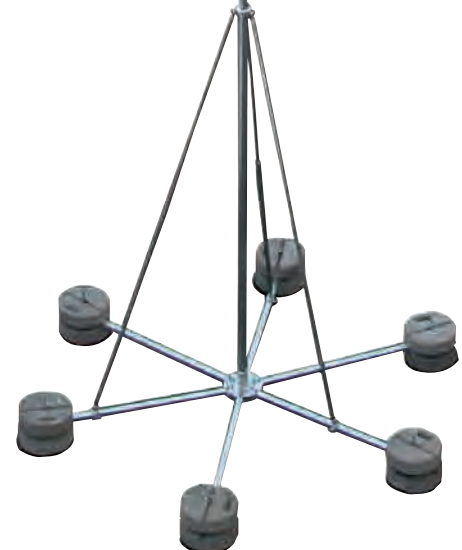
With hinged six-legged stand for protecting larger roof-mounted structures or erection on compacted ground without foundation works, adjustable to an inclination up to max. 10°
The stackable concrete base (Part No. 102 010) and the support plate (Part No. 102 050) have to be ordered separately.

Free height 10 m

Part No.	105 910
Height	10000 mm
Radius	1200 mm
Max. gust wind speed at 12 bases 17 kg each	129 km/h
Max. gust wind speed at 18 bases 17 kg each	152 km/h
Space required for six-legged stand	2900 x 2560 mm
Material of six-legged stand	St/tZn
Material of air-termination mast/air-termination rod	Al
Standard	EN 62561-(1+2)
Surface load at 12 bases 17 kg each	268 kg
Surface load at 18 bases 17 kg each	370 kg
PU	1 pc(s)

Free height 11 m

Part No.	105 911
Height	11000 mm
Radius	1200 mm
Max. gust wind speed at 12 bases 17 kg each	121 km/h
Max. gust wind speed at 18 bases 17 kg each	141 km/h
Space required for six-legged stand	2900 x 2560 mm
Material of six-legged stand	St/tZn
Material of air-termination mast/air-termination rod	Al
Standard	EN 62561-(1+2)
Surface load at 12 bases 17 kg each	269 kg
Surface load at 18 bases 17 kg each	371 kg
PU	1 pc(s)





Self-supporting Air-termination Rods 12 to 14 m

With hinged tripod for protecting larger roof-mounted structures or erection on compacted ground without foundation works. Adjustable to an inclination of max. 5°.
The stackable concrete block (Part No. 102 010) and the support plate (Part No. 102 050) have to be ordered separately.



Free height 12 m

Part No.	105 922
Height	12000 mm
Radius	3000 mm
Max. gust wind speed at 18 bases 17 kg each	134 km/h
Max. gust wind speed at 21 bases 17 kg each	159 km/h
Max. gust wind speed at 24 bases 17 kg each	175 km/h
Space required for tripod	4920 x 5640 mm
Material of tripod	St/tZn
Material of air-termination mast/air-termination rod	Al
Standard	EN 62561-(1+2)
Surface load at 18 bases 17 kg each	approx. 420 kg
Surface load at 21 bases 17 kg each	approx. 475 kg
Surface load at 24 bases 17 kg each	approx. 525 kg
PU	1 pc(s)

Free height 13 m

Part No.	105 923
Height	13000 mm
Radius	3000 mm
Max. gust wind speed at 18 bases 17 kg each	130 km/h
Max. gust wind speed at 21 bases 17 kg each	150 km/h
Max. gust wind speed at 24 bases 17 kg each	162 km/h
Space required for tripod	4920 x 5640 mm
Material of tripod	St/tZn
Material of air-termination mast/air-termination rod	Al
Standard	EN 62561-(1+2)
Surface load at 18 bases 17 kg each	approx. 421 kg
Surface load at 21 bases 17 kg each	approx. 476 kg
Surface load at 24 bases 17 kg each	approx. 526 kg
PU	1 pc(s)

Free height 14 m

Part No.	105 924
Height	14000 mm
Radius	3000 mm
Max. gust wind speed at 18 bases 17 kg each	121 km/h
Max. gust wind speed at 21 bases 17 kg each	135 km/h
Max. gust wind speed at 24 bases 17 kg each	139 km/h
Space required for tripod	4920 x 5640 mm
Material of tripod	St/tZn
Material of air-termination mast/air-termination rod	Al
Standard	EN 62561-(1+2)
Surface load at 18 bases 17 kg each	approx. 430 kg
Surface load at 21 bases 17 kg each	approx. 481 kg
Surface load at 24 bases 17 kg each	approx. 532 kg
PU	1 pc(s)



Air-termination Rods D40

For fixing e.g. on walls or other constructions. The maximum free length relates to the distance between the rod tip and the upper support (fixing point). For reasons of stability three supports shall be mounted. The distance between upper support and middle support must not exceed 15 cm. The lower rod holder has to be fixed in a height of ≤ 15 cm.

AI

General technical data:				
Material of air-termination rod	AI			
Standard	EN 62561-(1+2)			
Part No.	105 170	105 175	105 171	105 176
Total length	4000 mm	4500 mm	5000 mm	5500 mm
Max. free length with air-termination rod	3500 mm	4000 mm	4000 mm	4500 mm
Clamping length	500 mm	500 mm	1000 mm	1000 mm
Quantity of fixings	2	2	2	2
Max. gust wind speed	186 km/h	186 km/h	186 km/h	187 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	105 172	105 177	105 173	
Total length	6000 mm	6500 mm	7000 mm	
Max. free length with air-termination rod	4500 mm	5000 mm	5500 mm	
Clamping length	1500 mm	1500 mm	1500 mm	
Quantity of fixings	3	3	3	
Max. gust wind speed	187 km/h	184 km/h	156 km/h	
PU	1 pc(s)	1 pc(s)	1 pc(s)	
Part No.	105 178	105 174	105 179	
Total length	7500 mm	8000 mm	8500 mm	
Max. free length with air-termination rod	5500 mm	5500 mm	5500 mm	
Clamping length	2000 mm	2500 mm	3000 mm	
Quantity of fixings	3	3	3	
Max. gust wind speed	161 km/h	156 km/h	161 km/h	
PU	1 pc(s)	1 pc(s)	1 pc(s)	



StSt

General technical data:				
Material of air-termination rod	StSt			
Standard	EN 62561-(1+2)			
Part No.	105 190	105 195	105 191	105 196
Total length	4000 mm	4500 mm	5000 mm	5500 mm
Max. free length with air-termination rod	3500 mm	4000 mm	4000 mm	4500 mm
Clamping length	500 mm	500 mm	1000 mm	1000 mm
Quantity of fixings	2	2	2	2
Max. gust wind speed	195 km/h	194 km/h	193 km/h	194 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	105 192	105 197	105 193	
Total length	6000 mm	6500 mm	7000 mm	
Max. free length with air-termination rod	4500 mm	5000 mm	5500 mm	
Clamping length	1500 mm	1500 mm	1500 mm	
Quantity of fixings	3	3	3	
Max. gust wind speed	193 km/h	192 km/h	165 km/h	
PU	1 pc(s)	1 pc(s)	1 pc(s)	
Part No.	105 198	105 194	105 199	
Total length	7500 mm	8000 mm	8500 mm	
Max. free length with air-termination rod	5500 mm	5500 mm	5500 mm	
Clamping length	2000 mm	2500 mm	3000 mm	
Quantity of fixings	3	3	3	
Max. gust wind speed	168 km/h	159 km/h	163 km/h	
PU	1 pc(s)	1 pc(s)	1 pc(s)	

Shorter transport lengths (separable pipe) upon request.



Tripods for Air-termination Rods D40 and Supporting Tubes GRP/Al

For erection with concrete bases (weight 17 kg).
Adjustable to the roof inclination up to max. 10°.

Air-termination rods D40 / supporting tubes or the stackable concrete block (Part No. 102 010) and the support plate (Part No. 102 050) have to be ordered separately.

Hinged design St/tZn

For air-termination rods D40 mm or supporting tubes D50 mm length 3200 mm (e.g. Part No. 105 440 or 105 300) without additional fixing at construction elements. Connection with double cleat for 2x Rd 8-10 mm [lightning current carrying capability 100 kA (10/350 µs)].



Part No.	105 200
Material of tripod	St/tZn
Support	Ø40 / 50 mm
Radius	560 mm
Required space for tripod	1200 x 1330 mm
Weight	9.6 kg
Standard	EN 62561-1
PU	1 pc(s)

Hinged design StSt

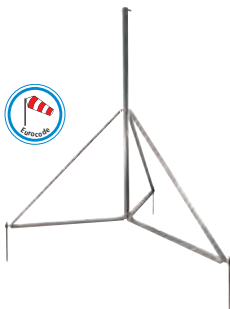
For air-termination rods D40, DEHNiso Combi supporting tubes with air-termination rod or HVI Conductor installed inside / outside on the supporting tube.



Part No.	105 290
Material of tripod	StSt
Support	Ø40 / 50 mm
Radius	590 mm
Required space for tripod	1230 x 1370 mm
Weight	8.4 kg
PU	1 pc(s)

Separable design StSt

For air-termination rods D40, DEHNiso Combi supporting tubes with air-termination rod or HVI Conductor installed inside / outside on the supporting tube.



Part No.	105 291
Material of tripod	StSt
Support	Ø40 / 50 mm
Radius	1155 mm
Required space for tripod	2050 x 2300 mm
Weight	19 kg
PU	1 pc(s)

Concrete Bases

For air-termination rods, for protecting small-sized roof-mounted structures on flat roofs and for installing spacers of the DEHNiso spacer product line, e.g. for isolated ring conductors or for self-supporting air-termination rods in the tripod (only with a weight of 17 kg).

Weight 17 kg, for wedge mounting

Stackable, for air-termination rods Ø16 mm, chamfered, tapered, or for DEHNiso spacer Ø16 mm.



Part No.	102 010
Weight	17 kg
Support	wedge Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge	StSt
PU	54 pc(s)

Weight 17 kg, for wedge mounting, with adapted support plate

Stackable



Part No.	102 340
Weight	17 kg
Support	wedge Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge	StSt
PU	54 pc(s)

Air-termination Rods, Accessories

Weight 17 kg, with threaded adapter

For air-termination rods with thread M16.

Part No.	102 002
Weight	17 kg
Support	thread M16
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of adapter	plastic
PU	54 pc(s)



Weight 17 kg

Concrete base without wedge for the erection of tripods with threaded rods M16 (e.g. Part No. 105 390 + 105 396 ...).

Part No.	102 012
Weight	17 kg
Support	Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
PU	54 pc(s)



Weight 8.5 kg, for wedge mounting

For air-termination rods Ø10 mm, length 1000 mm or DEHNiso spacers Ø16 mm, length up to 675 mm (distance 0.8 m) or conductor holder (Part No. 253 279).

Part No.	102 075
Weight	8.5 kg
Support	wedge mounting Ø10 / 16 mm
Diameter Ø	240 mm
Material	concrete (C45/55)
Material of wedge	StSt
PU	120 pc(s)



Weight 8.5 kg, with threaded adapter

For air-termination rods with thread and additional fixing e.g. with DEHNiso spacers.

Part No.	102 003
Weight	8.5 kg
Support	thread M16
Diameter Ø	240 mm
Material	concrete (C45/55)
Material of adapter	plastic
PU	120 pc(s)



Support Plates

For protecting the roof sheeting under the concrete base.

Large

For concrete bases (Part No. 102 010, 102 002) weight 17 kg.

Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black ●
PU	1 pc(s)



Small

For concrete bases (Part No. 102 075, 102 003) weight 8.5 kg.

Part No.	102 060
Diameter Ø outside	280 mm
Diameter Ø inside	270 mm
Material	EVA
Colour	black ●
PU	1 pc(s)





Supports for Air-termination Rods D40 and DEHNcon-H



Wall mounting bracket for horizontal mounting

Part No.	105 140
Material	StSt
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
Wall distance	80 mm
Clamping range of air-termination rod	40 mm
PU	1 pc(s)



Wall mounting bracket for vertical mounting

Part No.	105 342
Material	StSt
Fixing	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Wall distance	46 mm
Clamping range of air-termination rod	40-50 mm
PU	1 pc(s)



Wall mounting bracket with adjustment range of 150-200 mm

For fixing the supporting tubes or air-termination rods D40 / D50 with double cleat, for connecting 2x Rd 8-10 mm.



Part No.	105 344
Material	StSt
Fixing	[4x] 12 x 26 mm
Wall distance	150-200 mm
Clamping range Rd	8-10 mm
Clamping range of air-termination rod	40-50 mm
Standard	EN 62561-1
PU	1 pc(s)



Wall mounting bracket with adjustment range of 400-700 mm

Part No.	105 343
Material	St/tZn / StSt
Fixing	[4x] 12 x 26 mm
Wall distance	400-700 mm
Clamping range of air-termination rod	40-50 mm
PU	1 pc(s)



Railing clamps

Part No.	105 354
Material	StSt
Clamping range Ø of pipe	48-60 mm (1 1/2-2")
Clamping range of air-termination rod	40-50 mm
PU	5 pc(s)



Fixing clamp with tensioning strap

Using two fixing clamps provides mechanical stability and a lightning current carrying capability of 100 kA (10/350 µs).



Part No.	105 160
Material	StSt
Clamping range Ø of pipe	50-300
Clamping range of air-termination rod	40-50 mm
Standard	EN 62561-1
PU	1 pc(s)

Accessory for Supports for Air-termination Rods D40 and DEHNcon-H



Railing Clamp

With spacer for adjusting e.g. the antenna fastener.

Part No.	105 162
Material	StSt
Clamping range of pipe Ø	45-65 mm (1 1/2-2")
Clamping range of supporting tube	40-50 mm
Length of spacer	95 mm
PU	1 pc(s)

Telescopic Lightning Protection Mast with Screw Foundation

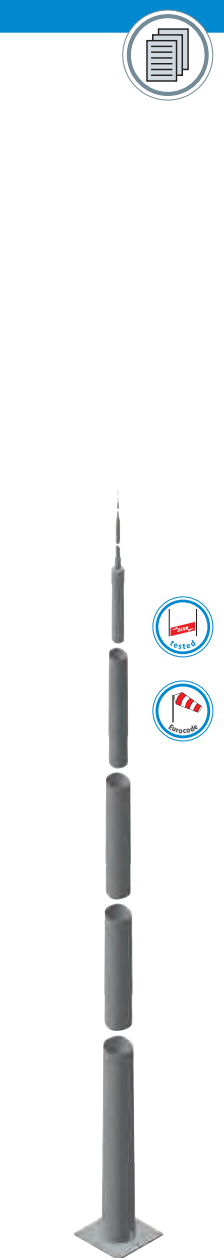
Air-termination mast to protect special facilities such as biogas plants, free field PV systems against direct lightning strike. The masts are erected on a screw foundation. No digging or foundation work. Foundation will be screwed into the natural ground and will be fixed additionally with three earth rods Ø20 mm, length 1500 mm (Part No. 620 151) each, which have to be ordered separately. These calculations are based on a natural ground pressure of 0.02 kN/cm² (e.g. loamy, sandy, gravel soil of medium density).



General technical data:			
Material	St/tZn / Al		
Standard	EN 62561-(1+2)		
Part No.	103 121	103 122	103 123
Height above ground level	6000 mm	7000 mm	8000 mm
Max. gust wind speed	240 km/h	186 km/h	168 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	103 124	103 125	103 126
Height above ground level	9000 mm	10000 mm	11000 mm
Max. gust wind speed	149 km/h	122 km/h	114 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)

Telescopic Lightning Protection Mast for Bucket or Concrete Foundation

Air-termination mast to protect special facilities such as biogas plants, free field PV systems, Ex systems, ammunition dumps etc. against direct lightning strike. The masts are erected on a bucket foundation (pre-fabricated) or an on-site concrete foundation with foundation basket (to be ordered separately). More details on the locking system, the foundation and the erection in the installation instructions.



Advantages of the air-termination mast system:

- Earthworks can be completed in advance
- Erection on (prefabricated) bucket foundation with low on-site effort or
- Erection on on-site concrete foundation with foundation basket (concrete curing time to be observed for scheduling and erection)
- With flange plate for fast mounting
- Easily adjustable with threaded bolts M24
- Detailed mounting instructions
- Verifiable statics (upon request)

Components:

- Air-termination rod St/tZn Ø42 / 20 / 10 mm length 2400 or 5400 mm with thread M20 and lock nut
- Conic mast segments
- Flange plate with connection lug for earth connection, bore Ø12 mm (for round conductor Ø10 mm e.g. with KS connector Part No. 301 019)

Max. transport length 6 m.

General technical data:			
Material	St/tZn		
Standard	EN 62561-(1+2)		
Part No.	103 013	103 016	103 019
Height above ground level	13.35 m	16.35 m	19.35 m
Mast segments	2	2	3
Max. gust wind speed	221 km/h	171 km/h	160 km/h
Dimension of flange plate	400 x 400 mm	400 x 400 mm	400 x 400 mm
Flange plate	4x Ø28 mm for 4x M24 (300 x 300 mm)	4x Ø28 mm for 4x M24 (300 x 300 mm)	4x Ø28 mm for 4x M24 (300 x 300 mm)
Concrete foundation on-site (l x w x h)	1400 x 1400 x 900 mm	1400 x 1400 x 900 mm	1600 x 1600 x 900 mm
Weight	approx. 228 kg	approx. 230 kg	approx. 310 kg
PU	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	103 022	103 025	
Height above ground level	22.35 m	24.85 m	
Mast segments	4	5	
Max. gust wind speed	166 km/h	159 km/h	
Dimension of flange plate	565 x 565 mm	565 x 565 mm	
Flange plate	8x Ø28 mm for 8x M24 (490 x 490 mm)	8x Ø28 mm for 8x M24 (490 x 490 mm)	
Concrete foundation on-site (l x w x h)	1800 x 1800 x 900 mm	2000 x 2000 x 900 mm	
Weight	approx. 450 kg	approx. 550 kg	
PU	1 pc(s)	1 pc(s)	

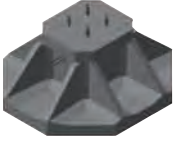


Bucket Foundations for Telescopic Lightning Protection Masts

Prefabricated element for easy erection of the telescopic lightning protection masts.
No concreting work on site.
More details on the telescopic system, foundation and erection in the installation instructions.

Type KöFU I

For masts of 13.35 to 19.35 m of height above ground level.
(Part No. 103 013 / 103 016 / 103 019)
Flange plate 400 x 400 mm.



Part No.	103 030
Material	concrete (C50/60)
Dimension	1800 x 2000 x 850 mm
Weight	approx. 2.5 t
PU	1 pc(s)

Type KöFU II

For masts of 22.35 or 24.85 m of height above ground level.
(Part No. 103 022 or 103 025)
Flange plate 565 x 565 mm.



Part No.	103 031
Material	concrete (C50/60)
Dimension	2400 x 2400 x 1010 mm
Weight	approx. 4.9 t
PU	1 pc(s)



Foundation Basket for On-site Concrete Foundation

For setting in concrete, with threaded bolts, suits for the flange plate of telescopic lightning protection masts.
More details on the telescopic system, foundation and erection in the installation instructions.

Small design

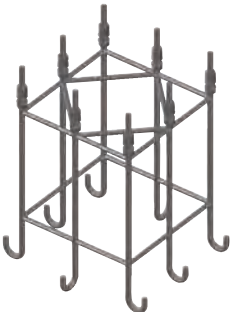
For masts of 13.35 m up to 19.35 m of height above ground level (Part No. 103 013 / 103 016 / 103 019).
Flange plate 400 x 400 mm.



Part No.	103 040
Material	steel
Dimension	472 x 324 x 870 mm
Type of threaded bolt	4x M24 (300 x 300 mm)
PU	1 pc(s)

Large design

For masts of 22.35 m or 24.85 m of height above ground level (Part No. 103 022 or 103 025).
Flange plate 565 x 565 mm.



Part No.	103 041
Material	steel
Dimension	662 x 662 x 870 mm
Type of threaded bolt	8x M24 (490 x 490 mm)
PU	1 pc(s)

Air-termination Rods for Metal Roofs

For protecting roof-mounted structures, domelights, etc.
 Braces with boreholes (Ø11 mm) to be fixed on the roof by means of four appropriate roof conductor holders, for example Part No. 223 010 for round standing seam or Part No. 365 059 for standing seam.

Height 2 m

With threaded bolts M16.

Part No.	123 021
Total length (Ø16 / 10 mm)	2000 mm
Max. gust wind speed	185 km/h
Profile distance	230-520 mm
Fixing	[4x] Ø11 mm
Material of braces	StSt
Material of air-termination rod	Al
Standard	EN 62561-(1+2)
PU	1 pc(s)

Height up to 3.5 m

Adjustable to the roof inclination up to max. 10°.

Part No.	123 425	123 430	123 435
Total length (Ø22 / 16 / 10 mm)	2500 mm	3000 mm	3500 mm
Max. gust wind speed	187 km/h	172 km/h	159 km/h
Profile distance	230-520 mm	230-520 mm	230-520 mm
Fixing	[4x] Ø11 mm	[4x] Ø11 mm	[4x] Ø11 mm
Material of braces	StSt	StSt	StSt
Material of air-termination rod	Al	Al	Al / StSt
Standard	EN 62561-(1+2)	EN 62561-(1+2)	EN 62561-(1+2)
PU	1 pc(s)	1 pc(s)	1 pc(s)

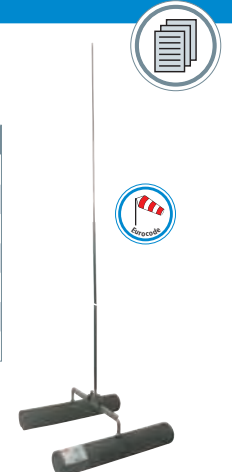


Air-termination Rod for Trapezoidal Sheet Metal Roofing

For protecting roof-mounted structures, domelights etc.
 The variable stand - palisades to be put into the profile valley - of the air-termination rod is adjustable to trapezoidal profiles.

Part No.	123 032
Total length (Ø16 / 10 mm)	2000 mm
Max. gust wind speed	143 km/h
Profile distance	600-770 mm
Material (air-termination rod)	Al
Material (bases)	plastic
Standard	EN 62561-2
PU	1 pc(s)

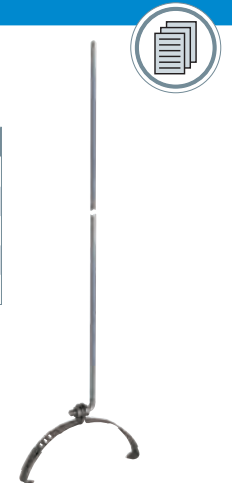
Type with a length of 1500 mm (with Part No. 103 211) upon request.



Air-termination Rod for Ridge and Hip Tiles

For protecting solar thermal modules or photovoltaic generators or other roof-mounted structures on gable roofs.
 Installation with stepwise adjustable clamping bracket adjustable to the diameter of the ridge tiles.

Part No.	123 109
Material of air-termination rod	Al
Length	1000 mm
Clamping range	120-240 mm
Standard	EN 62561-2
PU	1 pc(s)





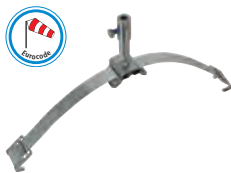
Holders for Air-termination System on Ridge and Hip Tiles

For air-termination rods or spacer bars with conductor holder, for protecting solar thermal modules, photovoltaic generators or other roof-mounted structures on gable roofs. Tensioning strap clamping bracket with one clip permanently attached to the tensioning strap and an adjustable clip, thus the holder can be mounted on various types of ridge tiles.

Air-termination rods or spacer bars have to be ordered separately.

Single design

For air-termination rods (length 1000 mm) or spacer bars GRP Ø10 mm.



Part No.	123 110
Clamping range Rd	10 mm
Tensioning range	120-300 mm
Material of fixing bush	StSt
Max. gust wind speed	150 km/h
PU	1 pc(s)

Double design

For air-termination rods Ø16 / 10 mm, length max. 1.5 m, incl. clamping frame for connection of round conductors Rd 6-10 mm.



Part No.	123 116
Clamping range Rd	16 mm
Tensioning range	120-300 mm
Mounting distance	approx. 280 / 350 / 420 mm
Material of fixing bush	StSt
Max. gust wind speed	199 km/h
PU	1 pc(s)

Accessories for Holders for Air-termination System on Ridge and Hip Tiles

Air-termination Rods

For protecting roof-mounted structures, chimneys.



Part No.	101 000	101 009
Total length	1000 mm	1000 mm
Material	Al	StSt
Standard	EN 62561-2	EN 62561-2
Diameter Ø	10 mm	10 mm
PU	20 pc(s)	20 pc(s)

Tubular Air-termination Rods

For protecting roof-mounted structures.



Part No.	103 410
Total length	1500 mm
Material	AlMgSi
Diameter Ø	16 / 10 mm
Max. gust wind speed	175 km/h
PU	10 pc(s)

Spacer Bar with Conductor Holder

For insertion into the base plate (lock bush) stabilised with concrete block. For elevated conductor leading, loose conductor leading.



Part No.	253 315	253 325
Conductor holder support Rd	8 mm	8 mm
Material of conductor holder	plastic	plastic
Length	280 mm	420 mm
Insulating clearance	220 mm	360 mm
Permanent temperature range	-30 °C ... +80 °C	-30 °C ... +80 °C
PU	24 pc(s)	24 pc(s)

Air-termination Rod Holder for Gable Roofs



For fitting air-termination rods or air-termination rods GRP/Al to protect e.g. photovoltaic generators on gable roofs.

For fitting of:

- Air-termination rods Ø16 / 10 mm
- Air-termination rods GRP/Al, Ø16 / 10 mm
- Air-termination rods Ø10 mm

The necessary roof bushing kit has to be ordered separately.
The air-termination rod holder is designed for an initial torque up to 35 Nm.

Part No.	223 006
Clamping range Rd	10 / 16 mm
Distance of rafters	500-700 mm
Roof inclination	24°-53°
Material of fixing bush	StSt
PU	1 pc(s)



Accessories for Air-termination Rod Holder for Gable Roofs

Tubular Air-termination Rods

For protecting roof-mounted structures.

Part No.	103 410
Total length	1500 mm
Material	AlMgSi
Diameter Ø	16 / 10 mm
Max. gust wind speed	175 km/h
PU	10 pc(s)



Air-termination Rods GRP/Al

For the installation of isolated air-termination systems.

Part No.	106 207	106 210
Total length	1660 mm	2000 mm
Isolating clearance	635 mm	975 mm
Material of air-termination rod / bush	Al	Al
Material of spacer	GRP	GRP
Max. gust wind speed (elevated, Al Ø8 mm, distance 1.100 mm)	132 km/h	105 km/h
PU	10 pc(s)	10 pc(s)



Roof Bushing Kit

- For bushing and sealing of poles and pipes on steep roofs
- Universally usable with different roof tiles / roof stones due to formable aluminium roof tile

Roof bushing kit comprises aluminium roof tile, rubber grommet and sealing tape.

Part No.	105 245	105 246
Material of roof tile	aluminium, with UV stabilised plastic coating	aluminium, with UV stabilised plastic coating
Dimension of roof tile	450 x 500 mm	450 x 500 mm
Diameter Ø of mast hole	10 / 16 / 48 mm	10 / 16 / 48 mm
Roof inclination	24-53°	24-53°
Material of rubber grommet	UV stabilised rubber mixture	UV stabilized rubber mixture
Material of sealing tape	rubber based plastical sealant	rubber based plastical sealant
Type of sealing tape	strongly adhesive, self-welding	strongly adhesive, self-welding
Dimension of sealing tape	600 x 80 mm	600 x 80 mm
Processing temperature	+5 °C ... +40 °C	+5 °C ... +40 °C
Permanent temperature range of sealing tape	-40 °C ... +80 °C	-40 °C ... +80 °C
Colour	black ●	red ●
PU	1 pc(s)	1 pc(s)



Rod Holder for Gable Roofs

Footing for fitting air-termination rods on gable roofs with anti-rotation lock (toothed washer) and lock nut as well as bores for screwing the brace on the roof battens.

At the chimney the air-termination rod has to be fixed additionally e.g. by means of DEHNiso spacer.



Part No.	223 005
Material of brace	St/tZn
Material of bolt	StSt
Length of bolt	475 mm
Conductor holder support Rd	16 mm
PU	1 pc(s)

Pipe Clamp for Air-termination Rods

For fixing as well as lightning-current-carrying-capable contacting of the air-termination rod e.g. at metal subconstructions of photovoltaic (PV) installations (square hollow profile); typically installed at steel skeleton or reinforced concrete structures. For mounting at pipes, the pressure plate (flat plate 2x angled) has to be removed. Each air-termination rod has to be installed with two pipe clamps. The maximum free length of the respective air-termination rod according to the wind load has to be considered for the installation.



Part No.	540 105
Material of head / strip	StSt
Clamping range of square hollow profile	40 x 60 to 70 x 70 mm
Clamping range of pipe	50-300 mm
Connection Rd	16 mm
Dimension of strip	1100 x 25 x 0.3 mm
Standard	EN 62561-1
PU	1 pc(s)

Angled Air-termination Rods

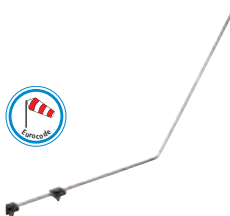
For protecting e.g. free field photovoltaic systems or carports with PV system against direct lightning strike.

A distance of 15-20 cm between the saddle clamps and the free length of 80-85 cm shall be provided.

The air-termination rod is adjustable to the inclination angle of the PV system. The standard design is angled to 55° which corresponds to a PV system inclination of 35°.

Angled rod with two saddle clamps (Part No. 365 031)

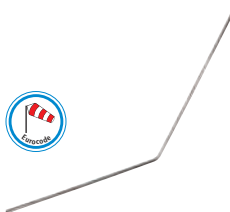
Clamping range of the saddle clamps 0.7-8 mm.



Part No.	101 110
Total length	1000 mm
Material	Al
Diameter Ø	10 mm
Max. gust wind speed	224 km/h
PU	1 pc(s)

Angled rod

For combination e.g. with connection clamps for steel girders.



Part No.	101 010
Total length	1000 mm
Material	Al
Diameter Ø	10 mm
Max. gust wind speed	224 km/h
PU	10 pc(s)

Air-termination Rod Adapter

For vertical positioning of air-termination rods in case of roof inclinations up to 10°.

For use with wedge mounting concrete bases (Part No. 102 010 or 102 340).



Part No.	106 008
Material of support	St/tZn
Clamping range	16 mm
Material of bolt	StSt
PU	1 pc(s)

End Caps for Air-termination Conductors

To be attached as end cap on air-termination conductors.

For steel or aluminium conductors

Part No.	110 000
Material	ZDC
Conductor Rd	7-10 mm
Length	29 mm
Diameter Ø outside	15 mm
PU	50 pc(s)



For copper conductors

Part No.	110 017
Material	Ms/gal Cu
Conductor Rd	8 mm
Length	29 mm
Diameter Ø outside	14 mm
PU	10 pc(s)



Air-termination Stud

For the installation of meshed air-termination systems, for walkable and drivable flat roofs, e.g. parking decks. The air-termination stud and the conductors may either be installed in concrete or in the joints of the deck slabs.

Part No.	108 009
Material of clamp	StSt
Material of stud	StSt
Connection Rd	8-10 mm
Standard	EN 62561-1
Installation depth	min. 70 mm
Levelling range	18 mm
PU	10 pc(s)

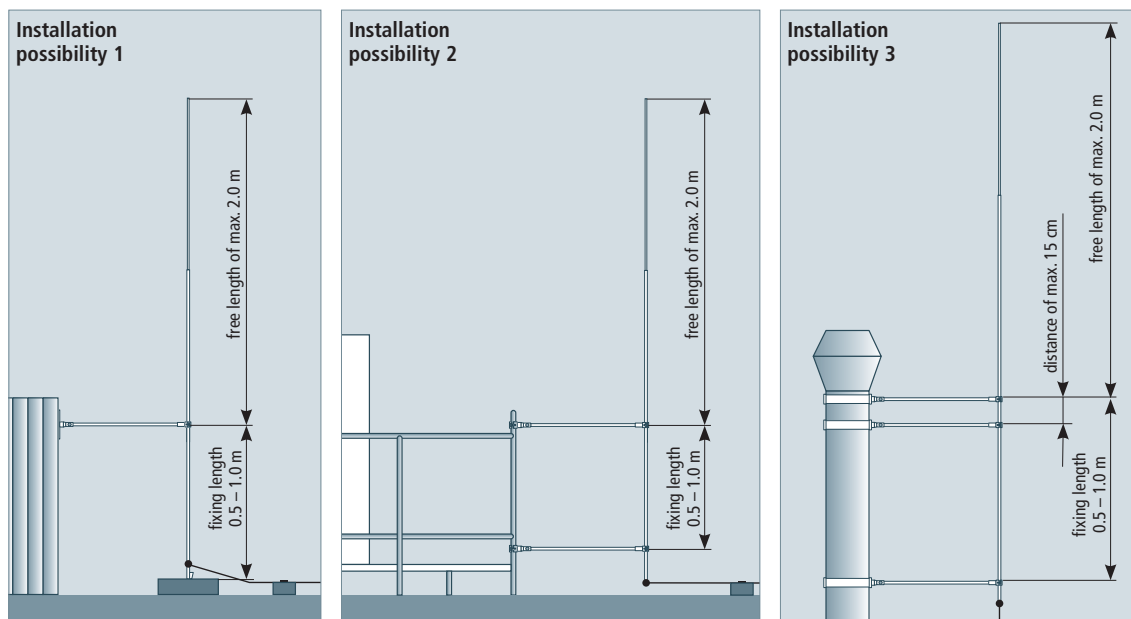




DEHN protects.®

DEHNiso Spacers

If air-termination rods are fixed by means of spacers, the calculations are based on the **installation possibilities** below. The maximum permissible gust wind speeds are specified for the relevant products and have to be considered for selection / installation. A higher mechanical strength can be achieved by means of e.g. an angled support (two spacers arranged in a triangle) (on request).



Holder variants for conductors and air-termination rods for keeping the separation distance according to IEC/EN 62305-3. Spacer bar made of glass-fibre reinforced plastic (GRP), Ø16 mm, UV stabilised, light grey colour.

With rod holder and fixing plate

Fixed conductor leading.

Part No.	106 115	106 120	106 123
Conductor holder support Rd	16 mm	16 mm	16 mm
Material of conductor holder	StSt	StSt	StSt
Length	530 mm	690 mm	1030 mm
Insulating distance	445 mm	605 mm	945 mm
Fixing	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Permanent temperature range	-50 °C ... +100 °C	-50 °C ... +100 °C	-50 °C ... +100 °C
Max. gust wind speed mounting variant 1	130 km/h	125 km/h	120 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)



With conductor holder and fixing plate

Fixed conductor leading.

Part No.	106 090	106 100	106 105
Conductor holder support Rd	7-10 mm	7-10 mm	7-10 mm
Material of conductor holder	StSt	StSt	StSt
Length	530 mm	690 mm	1030 mm
Insulating distance	445 mm	605 mm	945 mm
Fixing	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Permanent temperature range	-50 °C ... +100 °C	-50 °C ... +100 °C	-50 °C ... +100 °C
Max. gust wind speed (holder distance 1000 mm, Al Ø8-10 mm)	224 km/h	184 km/h	137 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)



With rod holder and pipe clamp

Part No.	106 225	106 226	106 228
Conductor holder support Rd	16 mm	16 mm	16 mm
Material of conductor holder	StSt	StSt	StSt
Length	530 mm	690 mm	1030 mm
Insulating distance	445 mm	605 mm	945 mm
Clamping range of pipe	40-60 mm (1 1/4-2")	40-60 mm (1 1/4-2")	40-60 mm (1 1/4-2")
Permanent temperature range	-50 °C ... +100 °C	-50 °C ... +100 °C	-50 °C ... +100 °C
Max. gust wind speed mounting variant 2	130 km/h	121 km/h	103 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)



With rod holder and pipe clamp with tensioning strap



Part No.	106 245	106 246	106 248
Conductor holder support Rd	16 mm	16 mm	16 mm
Material of conductor holder	StSt	StSt	StSt
Length	530 mm	690 mm	1030 mm
Insulating distance	445 mm	605 mm	945 mm
Clamping range of pipe	50-300 mm	50-300 mm	50-300 mm
Permanent temperature range	-50 °C ... +100 °C	-50 °C ... +100 °C	-50 °C ... +100 °C
Max. gust wind speed mounting variant 3	146 km/h	135 km/h	112 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)

With DEHNgrip conductor holder

For installation e.g. in concrete base (Part No. 102 075). Loose conductor leading.



Part No.	106 160
Conductor holder support Rd	8 mm
Material of conductor holder	StSt
Length	675 mm
Insulating distance	590 mm
Permanent temperature range	-50 °C ... +100 °C
Max. gust wind speed (base 8.5 kg, holder distance 1100 mm, Al Ø8 mm)	102 km/h
Max. gust wind speed (base 17 kg, holder distance 1100 mm, Al Ø8 mm)	175 km/h
PU	1 pc(s)

With MMV Clamp

For crossing points, on installation in concrete base (Part No. 102 075), fixed conductor leading.



Part No.	106 150
Conductor holder support Rd	6-10 mm
Material of conductor holder	StSt
Length	675 mm
Insulating distance	590 mm
Permanent temperature range	-50 °C ... +100 °C
Max. gust wind speed (base 8.5 kg, holder distance 1100 mm, Al Ø10 mm)	94 km/h
Max. gust wind speed (base 17 kg, holder distance 1100 mm, Al Ø10 mm)	162 km/h
PU	1 pc(s)

Design with other lengths of spacer bar upon request.

Accessories for DEHNiso Spacers

Spacer Bar

For cutting to length.



Part No.	106 125
Material	GRP
Permanent temperature range	-50 °C ... +100 °C
Colour of spacer bar	light grey (RAL 7035) ●
Diameter Ø	16 mm
Total length	3000 mm
PU	10 pc(s)

Fixing Bush

For variable fixing of conductor and rod holders at a spacer bar (Ø16 mm) with female thread M8.



Part No.	106 126
Material	ZDC
Female thread	M8
Diameter Ø	23 mm
PU	20 pc(s)

Fixing Plate

Base plate for fixing the spacer or the spacer bar (Ø16 mm) e.g. on construction components.

Part No.	106 127
Material of fixing plate	StSt
Material of fixing bush	ZDC
Fixing	[8x] Ø5,1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Dimension	170 x 40 x 3 mm
PU	20 pc(s)



Conductor Holder with Fixing Bush

For fixing the conductor at the GRP bar.

Part No.	106 128
Material of conductor holder	StSt
Conductor holder support Rd	7-10 mm
Conductor leading	fixed
PU	20 pc(s)



Rod Holder with Fixing Bush

For fastening the air-termination rod at the GRP bar.

Part No.	106 129
Material of conductor holder	StSt
Conductor holder support Rd	16 mm
Conductor leading	fixed
PU	20 pc(s)



Spacers with Conductor Holder

For fixing conductors at different supports, fixed conductor leading.

Part No.	106 165	106 170	106 175
Conductor holder support Rd	7-10 mm	7-10 mm	7-10 mm
Material of conductor holder	StSt	StSt	StSt
Length	515 mm	675 mm	1015 mm
Insulating clearance	435 mm	595 mm	935 mm
Max. speed of wind gusts (holder spacing 1.000 mm, Al Ø10 mm)	224 km/h	184 km/h	137 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)



Spacers with Rod Holder

For fastening air-termination rods at different supports, fixed conductor leading.

Part No.	106 178	106 180	106 185
Conductor holder support Rd	16 mm	16 mm	16 mm
Material of conductor holder	StSt	StSt	StSt
Length	515 mm	675 mm	1015 mm
Insulating clearance	435 mm	595 mm	935 mm
Max. gust wind speed mounting variant 1	130 km/h	125 km/h	120 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)



Fixing Bolt

With thread M10, nut, toothed lock washer and screw as spacer bar support.

Part No.	106 301	106 309
Material of bolt	Al	StSt
Clamping range Rd	16 mm	16 mm
PU	20 pc(s)	20 pc(s)



Accessories for DEHNiso Spacers

Fixing Bracket

With fixing bolt (Al) for spacer bar (Ø16 mm).



Part No.	106 311
Material	StSt
Angle	90°
Fixing	[4x] Ø5.1 / [2x] Ø6.5 / [2x] 11 x 20 mm
PU	20 pc(s)

Fixing Bracket

For DEHNiso spacer, with bore Ø11 mm.



Part No.	106 310
Material	StSt
Angle	90°
Fixing	[4x] Ø5.1 / [2x] Ø6.5 / [2x] 11 x 20 mm
Dimension	110 x 60 x 30 mm
PU	20 pc(s)

Fixing Bracket

For DEHNiso spacer, with bore Ø11 mm.



Part No.	106 315
Material	StSt
Angle	45°
Fixing	[4x] Ø5.1 / [2x] Ø6.5 / [2x] 11 x 20 mm
Dimension	104 x 54 x 30 mm
PU	20 pc(s)

Corner Bracket

With fixing bolt (Al) for spacer bar (Ø16 mm).



Part No.	106 316
Material	StSt
Angle	90°
Fixing	[8x] Ø5.1 / [4x] Ø6.5 / [4x] 11x20 mm
Dimension	132 x 155 x 30 mm
PU	20 pc(s)

Pipe Clamp

With fixing bush for spacer (Ø16 mm) for pipes up to Ø60 mm.



Part No.	106 352
Material of clamp	StSt
Clamping range of pipe Ø	40-60 mm (1 1/4-2")
Material of bush	ZDC
PU	10 pc(s)

Pipe Clamp

With fixing bush for spacer (Ø16 mm) for pipes up to Ø90 mm.



Part No.	106 353
Material of clamp	StSt
Clamping range of pipe Ø	70-90 mm (2 1/4-3")
Material of bush	ZDC
PU	10 pc(s)

Railing Clamp

For square hollow profiles with bush for spacer bar (Ø16 mm).

Part No.	106 312
Material	ZDC / StSt
Clamping range of square profile	20 x 20 bis 50 x 50 mm
PU	5 pc(s)



Clip for Fixing Spacers at Pipes

Fixing by tensioning straps up to 30 mm (e.g. tensioning strap 25 x 0.3 mm with grip head Part No. 106 323) with fixing bolt for spacer bar (Ø16 mm).

Part No.	106 321
Material of clip	StSt
Material of bolt	Al
Width of slot (l x w)	32 x 6 mm
Fixing	[2x] Ø11 mm
PU	10 pc(s)



Attachment with Fixing Bush

For fixing spacers (Ø16 mm) at pipes e.g. with pipe clamp Part No. 106 323.

Part No.	106 322
Material	StSt
Width of slot (l x w)	26 x 6 mm
Clamping range Rd	16 mm
PU	10 pc(s)



Pipe Clamp with Tensioning Strap

For fixing (tensioning) of conductor holders (e.g. 275 359) on different pipes.

Part No.	106 323
Material of head / strap	StSt
Clamping range Ø	50-300 mm
Dimension of strap	1100 x 25 x 0.3 mm
Material of screw	StSt
PU	10 pc(s)



Clip

Clip for fastening at pipes by tensioning strap Part No. 540 901 (25 x 0.3 mm) combined with grip head Part No. 106 324, with square hole, suits for screws M8.

Part No.	106 320
Material	StSt
Clamping range of tube Ø	approx. 50-300 mm
PU	20 pc(s)



Separate Grip Head

For combination with endless tensioning strap (Part No. 540 901) in case of larger pipe diameters, e.g. for adapter with fixing bush.

Part No.	106 324
Material of head	StSt
For strap (w x d)	25 x 0.3 mm
Screw	M8 x 20 mm
Material of screw	StSt
PU	20 pc(s)





Tensioning Strap

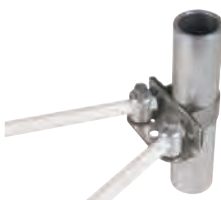
Part No.	540 901
Material	StSt
Strap dimension (w x d)	25 x 0.3 mm
Length	100 m
Military Name	VG 96953 T05 BB001
PU	1 pc(s)



Adapter for Angled Support

For air-termination rods (Ø16 mm) with 2 fixing bolts for spacer bar (Ø16 mm).

Part No.	106 325
Material	StSt
Clamping range Rd	16 / 16 mm
PU	10 pc(s)



Adapter for Angled Support

For supporting tubes DEHNiso Combi (Ø50 mm) with 2 fixing bolts for spacer bar (Ø16 mm).

Part No.	106 326
Material	StSt
Clamping range Rd	50 / 16 mm
PU	10 pc(s)



Fixing Adapters

For saddle and connection clamps.

Part No.	106 340	106 341	106 342
Material of bar	StSt	StSt	StSt
Bar Ø	8 mm	8 mm	8 mm
Angle	0°	90°	130°
Material of bush	ZDC	ZDC	ZDC
PU	20 pc(s)	20 pc(s)	20 pc(s)

MV Clamp

Especially for the fixing of air-termination rods at the spacer bar without fixing bush.



Part No.	393 069
Material	StSt
Conductor holder support Rd	16 / 16 mm
Conductor leading	fixed
PU	50 pc(s)

Connection Clamp with Fixing Bolt

For fixing of spacers (Ø16 mm) e.g. at steel girders.



Part No.	106 319
Clamping range	3-18 mm
Clamping range Rd	16 mm
Material of fixing bolt	Al
Connection with	fixing bolt
PU	25 pc(s)

Air-termination Rods GRP/Al

For implementing isolated air-termination systems e.g. on flat roofs, installed on wedge mounting concrete base.

Material factor $k_m = 0.7$ is used to determine the separation distance (length of spacer bar).
Diameter 16 mm, UV stabilised, light grey colour, permanent temperature range -50 to +100 °C.

Crimped

Part No.	106 207	106 210
Total length	1660 mm	2000 mm
Insulating distance	635 mm	975 mm
Material of air-termination rod / bush	Al	Al
Max. gust wind speed (1x base 17 kg, holder distance 1100 mm, Al Ø10 mm)	112 km/h	—
Max. gust wind speed (2x base 17 kg, holder distance 1100 mm, Al Ø10 mm)	126 km/h	102 km/h
PU	10 pc(s)	10 pc(s)



Variable with thread M10

e.g. for air-termination rod Part No. 101 001, air-termination rod with MV clamp Part No. 105 071 (for crossings) or MV clamp for spanning Part No. 105 079.

Part No.	106 217	106 220
Total length	675 mm	1015 mm
Insulating distance	635 mm	975 mm
Material of air-termination rod / bush	Al	Al
PU	10 pc(s)	10 pc(s)



Accessories for Air-termination Rods GRP/Al

Air-termination Rod with Lock Nut

For screwing in.

Part No.	101 001
Material	StSt
Diameter Ø	10 mm
Length	1000 mm
Thread	M10
Standard	EN 62561-2
PU	1 pc(s)



Air-termination Rod with MV Clamp

For screwing in.

Part No.	105 071
Material of air-termination spike	StSt
Air-termination rod (l x Ø)	1000 x 10 mm
Clamping range Rd	8-10 mm
Standard	EN 62561-(1+2)
PU	1 pc(s)



MV Clamp for Spanning

For screwing in.

Part No.	105 079
Material	StSt
Clamping range Rd	8-10 mm
Standard	EN 62561-1
PU	1 pc(s)



DEHNiso Roof Conductor Holders



Variable range of supports for keeping the separation distance when installing conductors on flat roofs. Spacer bar made of glass-fibre reinforced plastic (GRP) Ø10 mm, UV stabilised, light grey colour. Spacer with concrete block and support plate for conductor Rd 8 mm.

Spacer with concrete block and support plate, loose conductor leading.

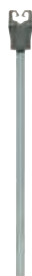


Part No.	253 115	253 125
Material of roof conductor holder	plastic / GRP	plastic / GRP
Length	295 mm	435 mm
Insulating clearance	220 mm	360 mm
Total weight	approx. 4.8 kg	approx. 4.8 kg
Permanent temperature range	-30 °C ... +80 °C	-30 °C ... +80 °C
Max. gust wind speed (holder distance 1200 mm, Al Ø8 mm)	179 km/h	142 km/h
PU	24 pc(s)	24 pc(s)

Accessories for DEHNiso Roof Conductor Holders

Spacer Bars with Conductor Holder

For insertion into the support plate (lock bush) stabilised with concrete block. For elevated conductor leading, loose conductor leading.



Part No.	253 315	253 325
Material of conductor holder	plastic	plastic
Length	280 mm	420 mm
Insulating clearance	220 mm	360 mm
Permanent temperature range	-30 °C ... +80 °C	-30 °C ... +80 °C
PU	24 pc(s)	24 pc(s)

Conductor Holder with Lock Bush

For conductor fixing at the GRP bar.



Part No.	253 302
Material	plastic
Colour	grey ●
Conductor holder support Rd	8 mm
Permanent temperature range	-30 °C ... +80 °C
PU	24 pc(s)

Spacer Bar for DEHNiso Roof Conductor Holders

For cutting to length.



Part No.	253 310
Material	GRP
Colour	light grey (RAL 7035) ●
Diameter Ø	10 mm
Length	3000 mm
Permanent temperature range	-30 °C ... +80 °C
PU	10 pc(s)

Concrete Block

For stabilising the support plate.



Part No.	253 301
Material	concrete (C35/45)
Weight	4.6 kg
Dimension	180 x 180 x 70 mm
PU	24 pc(s)

Support Plate

Support plate with adapter (lock bush) for the spacer bar (Part No. 253 315, 253 325) as well as conductor holder (Part No. 253 289) and for protection of the roofing sheets under the concrete block (Part No. 253 301).



Part No.	253 300
Diameter Ø	300 mm
Diameter Ø of socket	10 mm
Height	60 mm
Material	plastic
Colour	grey ●
PU	24 pc(s)

DEHNiso Combi Sets

Components for separated air-termination systems (isolated).
 For protecting roof-mounted structures, e.g. air-conditioning systems, recooling systems etc.
 For keeping the separation distance to electrically conductive parts according to IEC/EN 62305-3.
 Separation distance (insulating clearance) is determined with material factor $k_m = 0.7$.

One-piece, total height 4200 mm

Consisting of:
 1x air-termination rod StSt, L = 1000 mm (Part No. 105 071)
 1x supporting tube GRP/Al, L = 3200 mm (Part No. 105 300)
 2x wall fixing bracket StSt (Part No. 105 340)
 1x spacer GRP/Al, L = 1030 mm (Part No. 106 331)

Part No.	105 440
Total length	4200 mm
Quantity of fixing brackets	2
Length of supporting tube	3200 mm
Max. free length with air-termination rod	3500 mm
Max. gust wind speed	134 km/h
Material of supporting tube	GRP / Al
PU	1 pc(s)

One-piece, total height 5700 mm

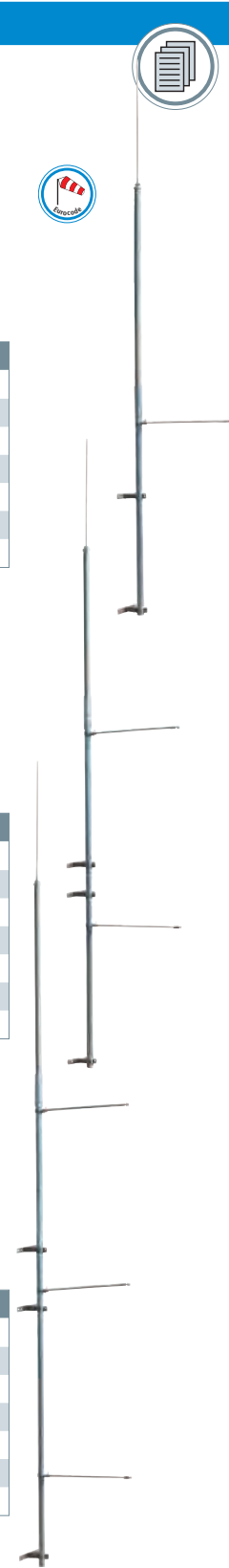
Consisting of:
 1x air-termination rod StSt, L = 1000 mm (Part No. 105 071)
 1x supporting tube GRP/Al, L = 4700 mm (Part No. 105 301)
 3x wall fixing bracket StSt (Part No. 105 340)
 2x spacer GRP/Al, L = 1030 mm (Part No. 106 331)

Part No.	105 455
Total length	5700 mm
Quantity of fixing brackets	3
Length of supporting tube	4700 mm
Max. free length with air-termination rod	4000 mm
Max. gust wind speed	130 km/h
Material of supporting tube	GRP / Al
PU	1 pc(s)

Two-piece, total height 7200 mm

(transport length 3200 mm)
 Consisting of:
 1x air-termination rod StSt, L = 1000 mm (Part No. 105 071)
 1x supporting tube GRP/Al, L = 6200 mm (Part No. 105 302)
 3x wall fixing bracket StSt (Part No. 105 340)
 3x spacer GRP/Al, L = 1030 mm (Part No. 106 331)

Part No.	105 470
Total length	7200 mm
Quantity of fixing brackets	3
Length of supporting tube	6200 mm
Max. free length with air-termination rod	4000 mm
Max. gust wind speed	130 km/h
Material of supporting tube	GRP / Al
PU	1 pc(s)



Accessories for DEHNiso Combi Sets

Air-termination Rod with MV Clamp

For screwing into the supporting tube head and for fixing the air-termination conductors (wires or cables).
 With thread M10.

Part No.	105 071
Material of air-termination rod	StSt
Air-termination rod (l x Ø)	1000 x 10 mm
Clamping range Rd	8-10 mm
Thread	M10
Standard	EN 62561-(1+2)
PU	1 pc(s)





MV Clamp for Spanning

For screwing into the supporting tube head with screw M10 in order to support cable spanning.

Part No.	105 079
Material	StSt
Clamping range Rd	8-10 mm
Standard	EN 62561-1
PU	1 pc(s)

Supporting Tubes GRP / Al

For separated (insulated) installation of air-termination systems with female thread for air-termination rod or MV clamp for elevated spanning. One-piece.

Part No.	105 300	105 301
Material of supporting tube	GRP / Al	GRP / Al
Length of supporting tube	3200 mm	4700 mm
Diameter Ø outside	50 mm	50 mm
Length of insulating clearance	1535 mm	1535 mm
PU	1 pc(s)	1 pc(s)

Supporting Tube GRP / Al

For separated (insulated) installation of air-termination systems with female thread for air-termination rod or MV clamp for elevated spanning. Also suitable for fastening the HVI Conductor. Two-piece.

Part No.	105 302
Material of supporting tube	GRP / Al
Length of supporting tube	6200 mm
Diameter Ø outside	50 mm
Length of insulating clearance	1535 mm
PU	1 pc(s)

Supporting Tube GRP / Al

One-piece, combined with air-termination rod Ø16 / 10 mm, length 2500 mm, Al.

Part No.	105 306
Material of supporting tube	GRP / Al
Total length	5700 mm
Length of supporting tube	3200 mm
Diameter Ø outside	50 mm
Length of insulating clearance	1535 mm
PU	1 pc(s)

Fixing Bracket

For fixing the supporting tubes at the structure to be protected or on the wall.

Part No.	105 340
Material	StSt
Clamping range of supporting tube	50 mm
Wall / corner distance	80 mm
Dimension of fixing	320 mm
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
PU	1 pc(s)

Fixing Bracket

For fixing the supporting tubes at the structure to be protected or on the wall.

Part No.	105 341
Material	StSt
Clamping range of supporting tube	50 mm
Wall / corner distance	80 mm
Dimension of fixing	152 mm
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
PU	1 pc(s)



Fixing Bracket

Wall mounting bracket for vertical mounting.
For fastening of the supporting tubes or air-termination rods D40 / D50.

Part No.	105 342
Material of bracket	StSt
Fixing	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Clamping range of supporting tube	40-50 mm
Wall / corner distance	46 mm
Dimension of fixing	170 mm
PU	1 pc(s)



Fixing Bracket

Wall mounting bracket with adjustment range between 150-200 mm.
For fastening of supporting tubes or air-termination rods D40 / D50 with double cleat for connection of 2x Rd 8-10 mm.

Part No.	105 344
Material of bracket	StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	150-200 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 26 mm
Standard	EN 62561-1
PU	1 pc(s)



Fixing Bracket

Wall mounting bracket with adjustment range between 400-700 mm.
For fastening of the supporting tubes or air-termination rods D40 / D50.

Part No.	105 343
Material of bracket	St/tZn / StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	400-700 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 25 mm
PU	1 pc(s)



Fixing Clamp with Tensioning Strap

For fixing the supporting tubes at construction elements e.g. antenna masts.

Part No.	105 360
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
PU	1 pc(s)



Fixing Clamp with Tensioning Strap

With additional spacer for adjusting the fasteners of sector antennas at the mast.

Part No.	105 361
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length of spacer	30 mm
PU	1 pc(s)



Accessories for DEHNiso Combi Sets

Fixing Clamp with Tensioning Strap

With additional long spacer for adjusting the fasteners of sector antennas at the mast.



Part No.	105 362
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length of spacer	95 mm
PU	1 pc(s)

Railing Clamp

For pipes.



Part No.	105 354
Material	StSt
Clamping range of pipe Ø	48-60 mm (1 1/2-2")
Clamping range of supporting tube	40-50 mm
PU	5 pc(s)

Railing Clamp

With spacer for adjusting e.g. the antenna fastener.



Part No.	105 162
Material	StSt
Clamping range of pipe Ø	45-65 mm (1 1/2-2")
Clamping range of supporting tube	40-50 mm
Length of spacer	95 mm
PU	1 pc(s)

Railing Clamp

For pipes.



Part No.	105 355
Material	StSt
Clamping range of pipe Ø	70-90 mm (2 1/4-3")
Clamping range of supporting tube	40-50 mm
PU	5 pc(s)

Railing Clamps

For square hollow profiles.



Part No.	105 356	105 376
Material	StSt	StSt
Clamping range of square profile	20 x 20 bis 50 x 50 mm	60 x 120 mm
Clamping range of supporting tube	40-50 mm	40-50 mm
PU	5 pc(s)	5 pc(s)

Pipe Clamp

With fixing bush for spacer (Ø16 mm) for pipes up to Ø60 mm.



Part No.	106 352
Material of clamp	StSt
Clamping range of pipe Ø	40-60 mm (1 1/4-2")
Material of bush	ZDC
PU	10 pc(s)

Pipe Clamp

With fixing bush for spacer (Ø16 mm) for pipes up to Ø90 mm.

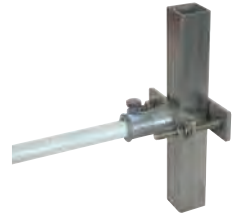


Part No.	106 353
Material of clamp	StSt
Clamping range of pipe Ø	70-90 mm (2 1/4-3")
Material of bush	ZDC
PU	10 pc(s)

Railing Clamp

For square hollow profiles with bush for spacer bar (Ø16 mm).

Part No.	106 312
Material	ZDC / StSt
Clamping range of square profile	20 x 20 bis 50 x 50 mm
PU	5 pc(s)



Spacers for Supporting Tubes

For fixing of conductors at the supporting tube and for keeping the separation distance according to IEC/EN 62305.

Part No.	106 328	106 331
Material of spacer	GRP	GRP
Material of fixing element	StSt	StSt
Total length	690 mm	1030 mm
Insulating clearance	605 mm	945 mm
Permanent temperature range	-50 °C ... +100 °C	-50 °C ... +100 °C
PU	1 pc(s)	1 pc(s)



Tripod for DEHNiso Combi

For self-supporting erection of supporting tubes D50 mm or air-termination rods D40 mm with a length of 3200 mm (e.g. Part No. 105 300 or 105 440), without additional fixing at construction elements.

Adjustable to the roof inclination up to max. 10°.

Connection with double cleat for 2x Rd 8-10 mm [lightning current carrying capability 100 kA (10/350 µs)].

The stackable concrete base (Part No. 102 010) and the support plate (Part No. 102 050) have to be ordered separately.

Hinged for transport.

Part No.	105 200
Material of tripod	St/tZn
Support	40 / 50 mm
Quantity of concrete blocks	6 / 9 blocks 17 kg each
Radius	560 mm
Space required for tripod	1200 x 1330 mm
Standard	EN 62561-1
PU	1 pc(s)



Tripod D50

For erection of tripods D50 mm length 4.7-6.2 m (e.g. Part No. 105 455 or 105 470), without additional fixing at construction elements.

Adjustable to the roof inclination up to max. 10°.

Connection with double cleat for 2x Rd 8-10 mm [lightning current carrying capability 100 kA (10/350 µs)].

The stackable concrete base (Part No. 102 010) and the support plate (Part No. 102 050) have to be ordered separately.

Hinged for transport.

Part No.	105 201
Material of tripod	St/tZn
Support	40 / 50 mm
Quantity of concrete bases	3-12 blocks 17 kg each
Radius	1435 mm
Required space for tripod	2530 x 2850 mm
Standard	EN 62561-1
PU	1 pc(s)



Bracing

Bracing, 3-fold with clamp for tubes D 50 mm for fastening at the tripod (Part No. 105 201). Bracing suitable for supporting tubes with a length of 4700 mm (e.g. Part No. 105 332, 105 316, 105 333, 105 317, 105 322, 105 323, 105 565, 105 575).

Part No.	105 601
Material	StSt
Brace length	2910 mm
Ø clamp	50 mm
PU	1 pc(s)





DEHN protects.®

Fixed Earthing Terminals



For installation into concrete as corrosion-free connection to the earth-termination system for protective equipotential bonding and / or functional equipotential bonding of the down conductor e.g. to the reinforcement of buildings.

For the double thread M10 and M12 mind the following minimum lengths of the screws:

35 mm of M10 (thread length 40 mm)

15 mm of M12 (thread length 20 mm)

Type M

With connection axis (l = 180 mm, Ø10 mm).

Part No.	478 011	478 019
Connection thread	M10 / M12	M10 / M12
Material of plate	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316
Material of axis	St/tZn	StSt
Connection plate Ø	80 mm	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.5 kA	3.9 kA
Standard	EN 62561-1	EN 62561-1
PU	10 pc(s)	10 pc(s)



Type M without connection axis

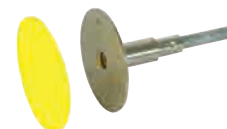
Part No.	478 012
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Connection plate Ø	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.3 kA (with copper cable lug)
Standard	EN 62561-1
PU	10 pc(s)



Type M press-fitted

Connection axis (l = 180 mm, Ø10 mm).

Part No.	478 041	478 049
Connection thread	M10 / M12	M10 / M12
Material of plate	NIRO (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316
Material of axis	St/tZn	StSt
Connection plate Ø	80 mm	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	3.7 kA	3.3 kA
Standard	EN 62561-1	EN 62561-1
PU	10 pc(s)	10 pc(s)



Part No. 478 049 with UL approval.

Type M press-fitted with additional water barrier

Against penetration of water along the axis into the wall (tested with 5 bar compressed air according to EN 62561-5 and 1 bar pressure water).

Part No.	478 051
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Material of axis	St/tZn
Connection plate Ø	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	3.7 kA
Material of water barrier	PVC
Standard	EN 62561-1
PU	1 pc(s)



Type M with MV clamp

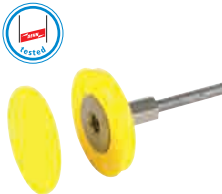
For round conductors 8-10 mm, space saving installation in the formwork.



Part No.	478 112
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Connection plate Ø	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.3 kA
Standard	EN 62561-1
PU	10 pc(s)

Type K

With plastic ring and connection axis (l = 180 mm, Ø10 mm).



Part No.	478 200
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Material of axis	St/tZn
Connection plate Ø	46 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.5 kA
Standard	EN 62561-1
PU	10 pc(s)

Fixed Earthing Terminal M16

With connection thread M16 for higher current loadings (50 Hz), e.g. for connecting the ring equipotential bonding system with the earth-termination systems of power installations with nominal a.c. voltages over 1 kV (transformer earthing).



Part No.	478 027
Connection thread	M16
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Material of cable	Cu/gal Sn
Cross-section of connecting cable	70 mm ²
Length of connecting cable	400 mm
Diameter Ø connecting cable	10.5 mm
Connection plate Ø	80 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	11 kA
PU	1 pc(s)

Earth Electrode and Wall Bushings

With MV clamp made of StSt (V4A) for round conductors 8-10 mm. For water pressure-tight ducting of the earthing conductor / equipotential bonding conductor through walls and brickwork with StSt threaded rod M10.

For subsequent installation through borehole (Ø14 mm) or through the formwork spreader. Test for water pressure-tightness up to 1 bar features an installation depth of 10 m in stagnant water.



Part No.	478 410	478 430	478 450
Length of bushing	100-300 mm	300-500 mm	500-700 mm
Length of threaded rod	308 mm	508 mm	708 mm
Sealings	Neopren	Neopren	Neopren
Sealing disc Ø	80 mm	80 mm	80 mm
Material of disc	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316	316Ti / 316L / 316
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	2.7 kA	2.7 kA	2.7 kA
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)	1 pc(s)

Water Pressure-tight Wall Bushings for White Tank



For installation in the formwork.

For water pressure-tight bushing of walls, e.g. for connecting the ring earth electrode with the equipotential bonding bar or the equipotential bonding conductor in the foundation.

Test for water pressure-tightness up to 1 bar features an installation depth of 10 m in stagnant water.

Tested with 5 bar compressed air in accordance with EN 62561-5.

Part No.	478 530	478 540	478 550
Material of plate	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316	316Ti / 316L / 316
Material of axis	St/tZn	St/tZn	St/tZn
Wall thickness	220-300 mm	300-400 mm	400-500 mm
Terminal thread	M10 / 12	M10 / 12	M10 / 12
Terminal plate Ø	80 mm	80 mm	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	4.1 kA	4.1 kA	4.1 kA
Standard	EN 62561-(1+5)	EN 62561-(1+5)	EN 62561-(1+5)
PU	1 pc(s)	1 pc(s)	1 pc(s)



Sealing Collar for Connection Lug



Sealing collar for bushings of watertight foundation slabs / walls (e.g. white tank).

Water pressure-tight for pushing on round / flat conductors with StSt tensioning straps.

Test for water pressure-tightness up to 1 bar features an installation depth of 10 m in stagnant water, additionally tested with with 5 bar compressed air according to EN 62561-5.

For round conductors

Part No.	478 598
Material	thermoplast elastomer
Diameter Ø	105 mm
Bushing Rd	10 mm
Standard	EN 62561-5
PU	10 pc(s)



For flat conductors

Part No.	478 599
Material	thermoplast elastomer
Diameter Ø	119 mm
Bushing Fl	30 x 3,5 mm
Standard	EN 62561-5
PU	10 pc(s)



Connecting Clamps for Fixed Earthing Terminals and Reinforcement

For connecting the reinforcement with clamping frame. For round conductors or fixed earthing terminals and concurrent fixing in the formwork. Arrangement: (II) = parallel (+) = cross

For small diameters

Part No.	308 035
Material	St/bare
Clamping range Rd / Rd	(+/II) 6-22 / 6-10 mm
Clamping range Rd / Fl	(+) 6-22 / 40 mm
Screw	☛ M10 x 60 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	1.0 kA
PU	25 pc(s)



U-clamp for large diameters

Part No.	308 046
Material	St/bare
Clamping range Rd / Rd	(+/II) 16-48 / 6-10 mm
Clamping range Rd / Fl	(II) 16-48 / 30-40 mm
Screw	stirrup bolt M10 x 48 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.9 kA
PU	25 pc(s)



End Pieces

For screwing to the fixed earthing terminal to connect e.g. an equipotential bonding bar or construction elements such as steel girders etc.

Basic design

Universally usable for connections M10 and M12, e.g. at the fixed earthing terminal.
For connection of Rd e.g. with KS connector (Part No. 301 019), or for connection of Fl with screws and nuts M10 or M12.



Part No.	390 499
Material	StSt
Bore Ø	10.5 / 12.5 mm
PU	50 pc(s)

Design with square holes

Dimension 11x11 mm, for connection of Rd e.g. with KS connector (Part No. 301 019) or for connection of Fl with screws and nuts M10.



Part No.	390 479
Material	StSt
Distance of bores	30 mm
Bore Ø	13 mm
PU	50 pc(s)

Design with bores and KS connector

With bores Ø11 mm.



Part No.	363 010
Material	St/tZn
Distance of bores	22 mm
Bore Ø	11 mm
Clamping range Rd	7-10 mm
Standard	EN 62561-1
PU	50 pc(s)

Design with bores

With bores Ø11 mm.



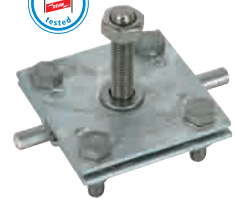
Part No.	363 000
Material	St/tZn
Distance of bores	22 mm
Bore Ø	11 mm
PU	50 pc(s)

Connection Clamps with Threaded Bolt

For connection of round and flat conductors to fixed earthing terminals with thread M10 / M12 (e.g. Part Nos. 478 011, 478 200). Clamps with thread M10 are also suitable for installation on the back side of the fixed earthing terminal (without connection axis) e.g. to connect flat strip.

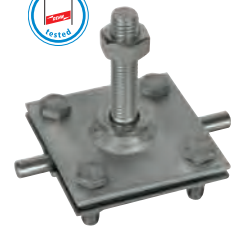
Heavy design M10

Part No.	478 141
Material of clamp	St/tZn
Clamping range Rd / Fl	7-10 / 30-40 mm
Dimension	70 x 70 x 3 mm
Standard	EN 62561-1
PU	10 pc(s)



Heavy design M12

Part No.	478 149
Material of clamp	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Clamping range Rd / Fl	7-10 / 30-40 mm
Dimension	70 x 70 x 3 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	3.3 kA
PU	10 pc(s)



Light design M10

Part No.	478 129
Material of clamp	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Clamping range Rd / Fl	8-10 / 30 mm
Dimension	58 x 30 x 2.5 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	2.7 kA
PU	10 pc(s)



Threaded Adapter

For connection to fixed earthing terminals with thread M10, lock nut and spring washer, for use in case of perimeter insulation or thermal insulation composite systems.

Part No.	478 699
Material	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Female thread	M10 x 25 mm
Male thread	M10 x 80 mm
Total length	130 mm
Standard	EN 62561-1
PU	10 pc(s)



Connecting Clamps for Reinforcements

In accordance with the German standard DIN 18014: 2014-03 Fundamente der – Planung, Ausführung und Dokumentation (Title English: Foundation earth electrode - Planning, execution and documentation), foundation earth electrodes have to be connected every two meters with the reinforcement of the foundation plate. Among the various connection possibilities the clamping connection has turned out to be the most economic, as it can be realised fast and easily on site.

Among others also reinforcing steels shall be used as natural components of the down conductor system according to the current lightning protection standards. In the following a survey of the nominal and outer diameters as well as cross sections of the reinforcing steels DIN EN 10080: 2005.

For connecting concrete reinforcing mats or reinforcements with round and flat conductors.

Arrangement: (||) = parallel (+) = cross



The outer diameter including corrugation is approx. $d_A = 1.15 \times d_s$.

Nominal diameter d_s (mm)	6	8	10	12	14	16	20	25	28	32	40
Average outer diameter incl. corrugation d_A (mm)	7.1	9.4	11.8	14.2	16.5	18.9	23.6	29.5	33.1	37.8	47.2
Nominal cross section (mm ²)	28.3	50.3	78.5	113.1	154	201	314	491	616	804	1257



DEHNclip® Rebar Clamp

Quick and safe:

Without tools the new DEHNclip® rebar clamp allows to connect the earth electrode quick and safely with the reinforcing structure. DEHNclip® is tested for a lightning current carrying capability of 50 kA (10/350 µs) in accordance with EN 62561-1.

For connecting round conductors with the reinforcement



Part No.	308 130 ^{NEW}	308 131 ^{NEW}	308 132 ^{NEW}	308 133 ^{NEW}
Material	St/bare	St/bare	St/bare	St/bare
Clamping range Rd* / Rd	6-7 / 10 mm	8-9 / 10 mm	10 / 10 mm	12 / 10 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	2.5 kA	2.7 kA	2.4 kA	2.7 kA
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

* Nominal diameter d_s of the reinforcement

For connecting flat conductors with the reinforcement



Part No.	308 140 ^{NEW}	308 141 ^{NEW}	308 142 ^{NEW}	308 143 ^{NEW}
Material	St/bare	St/bare	St/bare	St/bare
Clamping range Rd* / Fl	6-7 / 30 mm	8-9 / 30 mm	10 / 30 mm	12 / 30 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	2.0 kA	2.3 kA	2.3 kA	2.3 kA
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

* Nominal diameter d_s of the reinforcement

For connecting the reinforcing steel



Part No.	308 134 ^{NEW}	308 135 ^{NEW}	308 132 ^{NEW}	308 136 ^{NEW}
Material	St/bare	St/bare	St/bare	St/bare
Clamping range Rd* / Rd	6 / 6 mm	8 / 8 mm	10 / 10 mm	12 / 12 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	2.2 kA	2.4 kA	2.4 kA	2.6 kA
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

* Nominal diameter d_s of the reinforcement

Connecting Clamps for Reinforcements

For T, cross and parallel connections

Part No.	308 025
Material	St/tZn
Clamping range Rd / Rd	(+) 6-10 / 6-10 mm
Clamping range Rd / Fl	(+) 6-10 / 30 mm
Clamping range Fl / Fl	(II) 30 / 30 mm
Screw	☒ M10 x 25 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9 kA
Standard	EN 62561-1
PU	50 pc(s)



For T, cross and parallel connections

Part No.	308 026
Material	St/tZn
Clamping range Rd / Fl	(+) 6-10 / 30 mm
Clamping range Fl / Fl	(+ / II) 30 / 30 mm
Screw	☒ M10 x 25 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	13 kA
Standard	EN 62561-1
PU	25 pc(s)



For T and cross connections

Part No.	308 030
Material	St/bare
Clamping range Rd / Fl	(+) 6-22 / 40 mm
Screw	☒ M10 x 40 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	1.0 kA
Standard	EN 62561-1
PU	25 pc(s)



For T, cross and parallel connections with clamping frame

For flexible connection of round conductors or for fixed earthing terminals and simultaneous fixing in the formwork.

Part No.	308 035
Material	St/bare
Clamping range Rd / Rd	(+/II) 6-22 / 6-10 mm
Clamping range Rd / Fl	(+) 6-22 / 40 mm
Screw	☒ M10 x 60 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	1.0 kA
Standard	EN 62561-1
PU	25 pc(s)



U-bolt clamp for large diameters

Part No.	308 045
Material	St/bare
Clamping range Rd / Rd	(II) 16-48 / 6-10 mm
Clamping range Rd / Fl	(II) 16-48 / 30-40 mm
Screw	stirrup bolt M10 x 48 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	16 kA
Standard	EN 62561-1
PU	25 pc(s)



U-bolt clamp for large diameters with two additional clamping frames

For cross connections of round conductors (6-10 mm) or for the fixing and simultaneous connection of fixed earthing terminals.



Part No.	308 046
Material	St/bare
Clamping range Rd / Rd	(+//II) 16-48 / 6-10 mm
Clamping range Rd / Fl	(II) 16-48 / 30-40 mm
Screw	stirrup bolt M10 x 48 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.9 kA
Standard	EN 62561-1
PU	25 pc(s)

MAXI MV clamps

For T, cross and parallel connections.



Part No.	308 041	308 040
Material	St/tZn	St/bare
Clamping range Rd / Rd	(+//II) 8-16 / 15-25 mm	(+//II) 8-16 / 15-25 mm
Screw	☒ M12 x 65 mm	☒ M12 x 65 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.2 kA	10.2 kA
Standard	EN 62561-1	EN 62561-1
UL certification	—	UL467B
Stock No.	5999-12-362-1557	—
PU	20 pc(s)	20 pc(s)

MV clamps with hexagon screw

Threaded base part.



Part No.	390 050	391 050
Material	St/tZn	St/tZn
Clamping range Rd	8-10 mm	10 mm
Screw	☒ M10 x 30 mm	☒ M10 x 35 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	5.5 kA	—
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

MV clamps with hexagon screw and spring washer

Threaded base part.



Part No.	390 550
Material	St/tZn
Clamping range Rd	8-10 mm
Screw	☒ M10 x 30 mm
Standard	EN 62561-1
PU	50 pc(s)

NEW



Parallel connectors with truss head screw

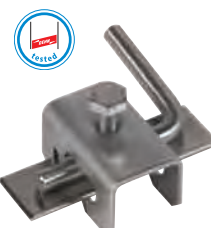
Part No.	306 121 ^{NEW}	306 122 ^{NEW}
Material	St/bare	St/tZn
Clamping range Rd / Rd	6-22 / 6-22 mm	6-22 / 6-22 mm
Screw	☒ M10 x 40 mm	☒ M10 x 40 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.1 kA	6.1 kA
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)

Connecting Clamps for Foundation Earth Electrodes

For connecting round and flat conductors in the concrete foundation.
For T, cross and parallel connections, no need of threading the conductors.

Arrangement:
(II) = parallel
(+) = crosswise

Part No.	308 120	308 129
Material	St/tZn	StSt
Clamping range Rd / Fl	(+) 10 / 30 mm	(+) 10 / 30 mm
Clamping range Fl / Fl	(+II) 30 / 30 mm	(+II) 30 / 30 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)



Connecting Clamps for Foundation Earth Electrodes and Reinforcements

For connecting round and flat conductors in the concrete foundation or the concrete reinforcing mats and the reinforcements with round and flat conductors.

Arrangement: (II) = parallel (+) = cross

Connecting clamp with thrust bracket

For T, cross and parallel connections.

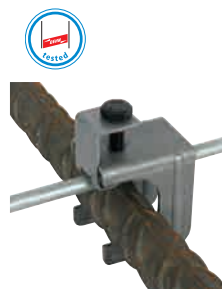
Part No.	308 031
Material	St/bare
Clamping range Rd / Rd	(+II) 6-20 / 6-10 mm
Clamping range Rd / Fl	(+II) 6-20 / 30 x 3-4 mm
Clamping range Fl / Fl	(+II) 30 x 3-4 / 30 x 3-4 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	8.4 kA
Standard	EN 62561-1
PU	25 pc(s)



Connecting clamp MAXI with thrust bracket

For T, cross and parallel connections.

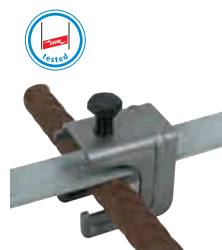
Part No.	308 036
Material	St/bare
Clamping range Rd / Rd	(+II) 20-32 / 6-10 mm
Clamping range Rd / Fl	(+II) 20-32 / 40 x 4-5 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14.0 kA
Standard	EN 62561-1
PU	25 pc(s)



Connecting clamp without thrust bracket

For cross connections.

Part No.	308 032
Material	St/bare
Clamping range Rd / Fl	(+) 6-20 / 30 x 3-4 mm
Clamping range Fl / Fl	(+) 30 x 3-4 / 30 x 3-4 mm
Standard	EN 62561-1
PU	25 pc(s)



Connecting clamp MAXI without thrust bracket

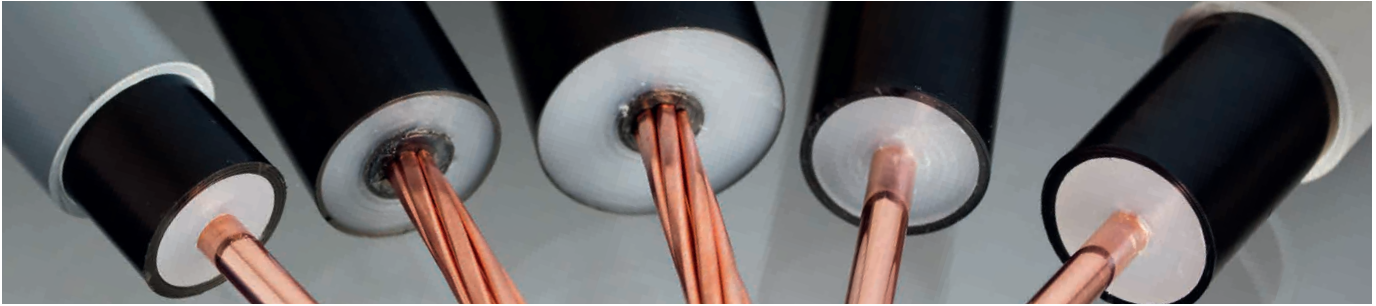
For cross connections.

Part No.	308 037
Material	St/bare
Clamping range Rd / Fl	(+) 20-32 / 30 x 3-40 x 5 mm
Standard	EN 62561-1
PU	25 pc(s)





DEHN protects.®



High-voltage-resistant, insulated HVI® Conductor: Innovation in external lightning protection

For preventing dangerous flashover between components of the external lightning protection system and conductive internal system components (electric lines, pipes, etc.) keeping the **separation distance s** is a crucial factor when designing and realising a lightning protection system.

Unique design

When using conventional lightning protection systems, it is often not possible to maintain the necessary separation distances. This is no problem with the **HVI®Conductor** thanks to its unique design and special sheath. The lightning current carrying conductor of the **HVI®Conductor** is wrapped with insulating material in such a way that the required separation distance from other conductive parts of the building, electric lines and pipes is maintained. The conductor consists of an inner copper conductor with a high-voltage-resistant thick-walled insulation and a weather-resistant semi-conductive special outer sheath.

Feature of the HVI®Conductor

High pulse voltages cause flashover on the surface of insulating material if no additional measures are taken. This effect is also referred to as creeping flashover. If the creeping discharge inception voltage is exceeded, a surface discharge is initiated which can easily flash over a distance of several meters. To prevent creeping discharges, the **HVI®Conductor** features a special outer sheath which allows to discharge high lightning impulse voltages to a reference potential. For functional reasons, a connection is established between the semi-conductive outer sheath and the equipotential bonding system of the building (no lightning voltage) in the sealing end range. This connection to the functional equipotential bonding system can be made e.g. on earthed metal roof-mounted structures located in the protected zone of the lightning protection system, earthed parts of the building's structure that do not carry lightning voltage or the protective conductor of the low-voltage system.

Types of the HVI®Conductor

In 2003, DEHN launched an innovation in external lightning protection, the high-voltage-resistant, insulated **HVI®Conductor**. Since then, thousands of buildings and installations have been successfully equipped with **HVI®Lightning Protection**. This high number of installed **HVI®Conductors** and intensive development work gave us an experience advantage which is reflected in the variety of **HVI®Conductor** types which meet the different requirements that are posed on lightning protection systems.

The application range has been gradually expanded by **HVI®light**, **DEHNcon-H**, **HVI®long**, **HVI®power**, **HVI®power long**. Thus, **HVI®Conductors** can be used for an **extremely wide** range of application.

The separation distance is crucial

The following overview makes it easier to select the right **HVI®Conductor**. The criterion for this selection is the **separation distance s** and the required class of **LPS**.

The IEC 62305-3 standard requires that a defined separation distance has to be kept as a minimum distance between the lightning protection system and electrically conductive materials. This prevents dangerous flashover and thus sparking, ensuring that lightning currents are reliably conducted to the earth-termination system. The high-voltage-resistant, insulated down conductors from DEHN provide an equivalent separation distance and thus meet the normative requirements.

The separation distance can be calculated automatically by means of the **DEHNsupport Toolbox** software.

Types of the HVI®Conductor

Three types of the **HVI®Conductor** are available:

- **HVI®light**, **DEHNcon-H**
- **HVI®Conductor**, **HVI®long Conductor**
- **HVI®power**, **HVI®power long Conductor**

The **HVI®Conductor** types are different in strength and characteristics requiring individual installation specifications. In addition there are black and grey conductors within the HVI Conductor product line. With the additional grey sheath the **HVI®Conductor** installed at buildings has an improved aesthetic appearance.

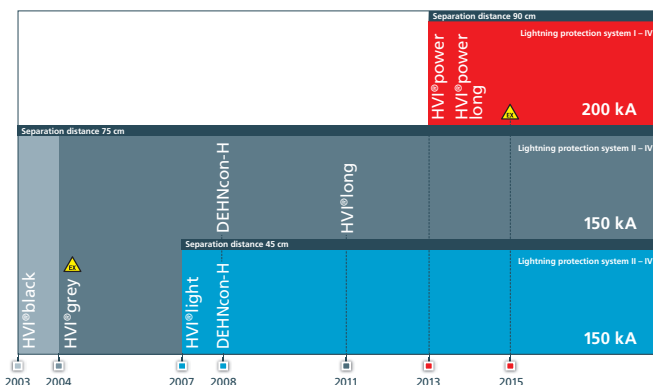
HVI®Conductor in the self-supporting tube – dimensioned according to Eurocode

In addition to the material of the supporting tube with inside / outside installed HVI Conductor a sufficient stability is a crucial factor when choosing self-supporting air-termination systems. The area exposed to wind is larger with the HVI Conductors installed outside of the supporting tube, thus the standing surface and the necessary base weight has to be considered accordingly.

The speed of wind gusts is determined by means of the following parameters:

- **Wind zone (I-V)**
- **Terrain category**
- **Object height**
- **Location altitude above sea level (standard up to 800 m above sea level)**

The table lists the respective maximum wind gust velocities for self-supporting air-termination systems with HVI Conductor. They shall be compared with the defined values of the table wind gust velocities. If the max. wind gust velocity for an air-termination system is lower than the respective local velocity of wind gusts, the air-termination system suits for this application.



HVI®/HVI®power Conductor in the self-supporting tube – dimensioned according to Eurocode


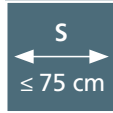



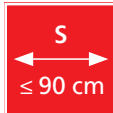
Max. gust wind speeds in km/h for self-supporting air-termination systems.

Combination kit														
Part No. Supporting tube / Air-termination Rods		Installation of HVI / HVI power Conductor		Tripod St/tZn (Radius 620 mm) Part No. 105 351			Tripod St/tZn (Radius 1435 mm) Part No. 105 201 without bracing				Tripod St/tZn (Radius 1435 mm) Part No. 105 201 with bracing Part No. 105 601			
Number of conductors / Number of concrete bases		max. outside	inside	6 bases	9 bases	12 bases	3 bases	6 bases	9 bases	12 bases	6 bases	9 bases	12 bases	
HVI®long Conductor Inside and outside installation Non slotted supporting tube	Part No. 105 330, AI, or Part No. 105 314, NIRO L = 3,2 m / FS = 1,0 m	0	1	134	167	202	—	—	—	—	—	—	—	
		1	0-1	115	136	160	128	172	173	173	—	—	—	
		2-4	0-1	104	124	139	119	149	149	149	—	—	—	
	Part No. 105 331, AI, or Part No. 105 315, NIRO L = 3,2 m / FS = 2,5 m	0	1	115	136	158	—	—	—	—	—	—	—	
		1	0-1	104	122	139	115	146	149	149	—	—	—	
		2-4	0-1	96	112	126	108	133	133	133	—	—	—	
	Part No. 105 332, AI, or Part No. 105 316, NIRO L = 4,7 m / FS = 1,0 m	1	0	—	—	—	—	—	—	—	—	111	128	145
		2-4	0	—	—	—	—	—	—	—	—	102	116	131
Part No. 105 333, AI, or Part No. 105 317, NIRO L = 4,7 m / FS = 2,5 m	1	0	—	—	—	—	—	—	—	—	104	121	134	
	2-4	0	—	—	—	—	—	—	—	—	97	111	124	
HVI®power Conductor Inside installation Non slotted supporting tube	Part No. 105 320, NIRO L = 3,5 m / FS = 1,0 m	0	1	—	152	179	—	—	—	—	—	—	—	
	Part No. 105 321, NIRO L = 3,5 m / FS = 2,5 m	0	1	—	128	148	—	—	—	—	—	—	—	
HVI®power Conductor Inside and outside installation Non slotted supporting tube	Part No. 105 563, AI L = 3,5 m / FS = 1,0 m	0	1	—	154	181	—	—	—	—	—	—	—	
		1	0	106	124	142	116	149	152	152	—	—	—	
		1	1	—	124	142	—	—	—	—	—	—	—	
	Part No. 105 573, AI L = 3,5 m / FS = 2,5 m	0	1	—	133	150	—	—	—	—	—	—	—	
		1	0	96	114	130	106	134	134	134	—	—	—	
		1	1	—	114	130	—	—	—	—	—	—	—	
	Part No. 105 565, AI L = 5,0 m / FS = 1,0 m	1	0	—	—	—	—	—	—	—	—	104	122	136
	Part No. 105 575, AI L = 5,0 m / FS = 2,5 m	1	0	—	—	—	—	—	—	—	—	99	115	129

Part No. Supporting tube / Air-termination Rods		Installation of HVI / HVI power Conductor		Tripod StStt (Radius 600 mm) Part No. 105 390			Four-legged stand StStt (Radius 600 mm) Part No. 105 490			Tripod StStt (Radius 1450 mm) Part No. 105 391				Four-legged stand StStt (Radius 1450 mm) Part No. 105 491			
Number of conductors / Number of concrete bases		max. outside	inside	6 bases	9 bases	12 bases	8 bases	12 bases	16 bases	3 bases	6 bases	9 bases	12 bases	4 bases	8 bases	12 bases	16 bases
HVI®long Conductor Outside installation Non slotted supporting tube	Part No. 105 330, AI, or Part No. 105 314, StStt L = 3,2 m / FS = 1,0 m	1	0	110	129	149	140	176	206	—	—	—	—	—	—	—	—
		2-4	0	100	116	133	125	154	181	—	—	—	—	—	—	—	—
	Part No. 105 331, AI, or Part No. 105 315, StStt L = 3,2 m / FS = 2,5 m	1	0	99	116	133	126	150	169	—	—	—	—	—	—	—	—
		2-4	0	93	108	122	117	138	149	—	—	—	—	—	—	—	—
Part No. 105 332, AI, or Part No. 105 316, StStt L = 4,7 m / FS = 1,0 m	1	0	—	93	105	101	120	132	—	110	127	142	107	141	170	192	
	2-4	0	—	—	95	93	109	115	—	101	115	129	100	129	152	162	
Part No. 105 333, AI, or Part No. 105 317, StStt L = 4,7 m / FS = 2,5 m	1	0	—	—	99	93	111	116	—	102	119	131	107	133	156	158	
	2-4	0	—	—	93	—	100	104	—	96	112	122	100	122	140	140	
HVI®long Conductor Inside and outside installation Slotted supporting tube	Part No. 105 325, AI, or Part No. 105 336, StStt L = 3,2 m / FS = 1,0 m	0	1	125	151	183	169	234	234	118	151	184	233	151	220	233	233
		1	0-1	110	129	149	140	176	206	106	131	156	183	133	177	214	229
		2-4	0-1	100	116	133	125	154	181	100	122	142	164	125	161	193	202
	Part No. 105 326, AI, or Part No. 105 337, StStt L = 3,2 m / FS = 2,5 m	0	1	110	131	149	140	176	189	108	133	160	187	135	180	188	188
		1	0-1	99	116	133	126	150	169	99	122	142	165	125	160	170	170
		2-4	0-1	93	108	122	119	138	149	94	116	134	151	119	149	154	154
	Part No. 105 327, AI, or Part No. 105 338, StStt L = 4,7 m / FS = 1,0 m	0	1	93	110	124	119	140	159	100	123	145	170	118	165	217	233
		1	0-1	—	93	105	101	120	132	—	110	127	142	107	141	170	192
	2-4	0-1	—	—	95	93	109	115	—	101	115	129	100	129	152	162	
Part No. 105 328, AI, or Part No. 105 339, StStt L = 4,7 m / FS = 2,5 m	0	1	—	100	111	108	127	136	93	114	133	152	118	148	183	189	
	1	0-1	—	—	99	93	111	116	—	102	119	131	107	133	156	158	
	2-4	0-1	—	—	93	—	100	104	—	96	112	122	100	122	140	140	
HVI®power Conductor Inside installation Slotted supporting tube	Part No. 105 392, StStt L = 3,5 m / FS = 1,0 m	0	1	117	140	166	151	195	234	112	142	172	212	143	192	234	234
	Part No. 105 393, StStt L = 3,5 m / FS = 2,5 m	0	1	104	122	140	133	162	164	104	129	152	162	131	162	162	162
	Part No. 105 394, StStt L = 5,0 m / FS = 1,0 m	0	1	122	104	118	114	133	146	97	120	139	158	122	154	192	234
Part No. 105 395, StStt L = 5,0 m / FS = 2,5 m	0	1	—	95	107	104	122	131	—	112	129	143	114	142	162	162	
HVI®power Conductor Outside installation Non slotted supporting tube	Part No. 105 563, AI L = 3,5 m / FS = 1,0 m	1	0	100	120	136	129	156	186	—	—	—	—	—	—	—	—
	Part No. 105 573, AI L = 3,5 m / FS = 2,5 m	1	0	—	110	124	119	142	147	—	—	—	—	—	—	—	—
	Part No. 105 565, AI L = 5,0 m / FS = 1,0 m	1	0	—	—	100	95	114	121	—	103	119	134	106	133	156	162
	Part No. 105 575, AI L = 5,0 m / FS = 2,5 m	1	0	—	—	93	—	104	108	—	98	112	127	100	125	140	140
HVI®power Conductor Inside and outside installation Slotted supporting tube	Part No. 105 513, AI L = 3,5 m / FS = 1,0 m	0	1	120	142	168	154	199	238	113	143	173	215	143	193	237	237
		1	0-1	100	120	136	129	156	186	99	124	145	169	125	163	192	192
	Part No. 105 543, AI L = 3,5 m / FS = 2,5 m	0	1	104	123	140	133	164	169	102	130	152	170	131	169	169	169
		1	0-1	—	110	124	119	142	147	—	115	134	146	118	148	148	148
	Part No. 105 515, AI L = 5,0 m / FS = 1,0 m	0	1	—	104	120	114	133	145	96	121	141	160	122	156	192	235
		1	0-1	—	—	100	95	114	121	—	103	119	134	106	133	156	162
	Part No. 105 545, AI L = 5,0 m / FS = 2,5 m	0	1	—	95	109	104	122	129	—	111	129	145	114	142	169	169
	1	0-1	—	—	93	—	104	108	—	98	112	127	100	125	140	140	

<p>HVI®light Conductor DEHNcon-H</p>		<p>Separation distance $s \leq 45$ cm "air" $s \leq 90$ cm "solid material"</p>	
<p>Technical data</p>		<p>HVI®light Conductor / DEHNcon-H</p>	
<p>Outer diameter / colour</p>		<p>20 mm / dark grey</p>	
<p>Equivalent separation distance (air)</p>		<p>≤ 45 cm</p>	
<p>Equivalent separation distance (solid material)</p>		<p>≤ 90 cm</p>	
<p>Operating temperature</p>		<p>-30 °C ... +70 °C</p>	
<p>Tested with I_{imp} (10/350 μs) based on EN 62561-1</p>		<p>150 kA</p>	
<p>For use in class of LPS in case of a single down conductor without current distribution ($k_c = 1$)</p>		<p>II, III, IV</p>	
<p>Installation in Ex zone 1 and 21</p>		<p>—</p>	
<p>Maximum admissible conductor length LPL II (at $k_c = 1$)</p>		<p>7.5 m</p>	
<p>Maximum admissible conductor length LPL III / IV (at $k_c = 1$)</p>		<p>11.25 m</p>	

<p>HVI®Conductor HVI®long Conductor DEHNcon-H</p>		<p>Separation distance $s \leq 75$ cm "air" $s \leq 150$ cm "solid material"</p>	
<p>Technical data</p>		<p>HVI®Conductor / HVI®long Conductor / DEHNcon-H</p>	
<p>Outer diameter / colour</p>		<p>20 mm / black or 23 mm / grey</p>	
<p>Equivalent separation distance (air)</p>		<p>≤ 75 cm</p>	
<p>Equivalent separation distance (solid material)</p>		<p>≤ 150 cm</p>	
<p>Operating temperature</p>		<p>-30 °C ... +70 °C</p>	
<p>Tested with I_{imp} (10/350 μs) based on EN 62561-1</p>		<p>150 kA</p>	
<p>For use in class of LPS in case of a single down conductor without current distribution ($k_c = 1$)</p>		<p>II, III, IV</p>	
<p>Installation in Ex zone 1 and 21</p>		<p>possible</p>	
<p>Maximum admissible conductor length LPL II (at $k_c = 1$)</p>		<p>12.5 m</p>	
<p>Maximum admissible conductor length LPL III / IV (at $k_c = 1$)</p>		<p>18.75 m</p>	

<p>HVI®power Conductor HVI®power long Conductor</p>		<p>Separation distance $s \leq 90$ cm "air" $s \leq 180$ cm "solid material"</p>	
<p>Technical data</p>		<p>HVI®power Conductor / HVI®power long Conductor</p>	
<p>Outer diameter / colour</p>		<p>27 mm / black</p>	
<p>Equivalent separation distance (air)</p>		<p>≤ 90 cm</p>	
<p>Equivalent separation distance (solid material)</p>		<p>≤ 180 cm</p>	
<p>Operating temperature</p>		<p>-50 °C ... +70 °C</p>	
<p>Tested with I_{imp} (10/350 μs) based on EN 62561-1</p>		<p>200 kA</p>	
<p>For use in class of LPS in case of a single down conductor without current distribution ($k_c = 1$)</p>		<p>I, II, III, IV</p>	
<p>Installation in Ex zone 1 and 21</p>		<p>possible</p>	
<p>Maximum admissible conductor length LPL I (at $k_c = 1$)</p>		<p>11.25 m</p>	
<p>Maximum admissible conductor length LPL II (at $k_c = 1$)</p>		<p>15.0 m</p>	
<p>Maximum admissible conductor length LPL III / IV (at $k_c = 1$)</p>		<p>22.5 m</p>	



The HVI light Conductor supplements the proven and tested HVI Conductor which has been used many times in practice. Designed for low, large-scale buildings where the separation distance cannot be maintained with conventional lightning protection systems.

A significant advantage of the HVI light Conductor is that it can be installed easily and quickly.

A sealing end which is connected to the functional equipotential bonding system of the building is not required. Instead, the conductor is connected at a defined coupling point to the supporting tube in the tripod which does not have to be connected to the functional equipotential bonding system.

The roof area of buildings is often used as an installation level, for pipes, electric and information technical systems or photovoltaic installations regardless of the potential risk of lightning strikes. All of these systems provide a conductive connection into the building along which lightning partial currents can flow into the structure where the sensitive electric / electronic equipment is interfered or even damaged. The insulated air-termination system prevents this transfer of lightning partial currents

into the building. The HVI light Conductor is the system to maintain the separation distance on flat roofs. The high-voltage-resistant, insulated HVI light Conductor prevents an uncontrolled flashover to metal or electric components underneath the roofing.

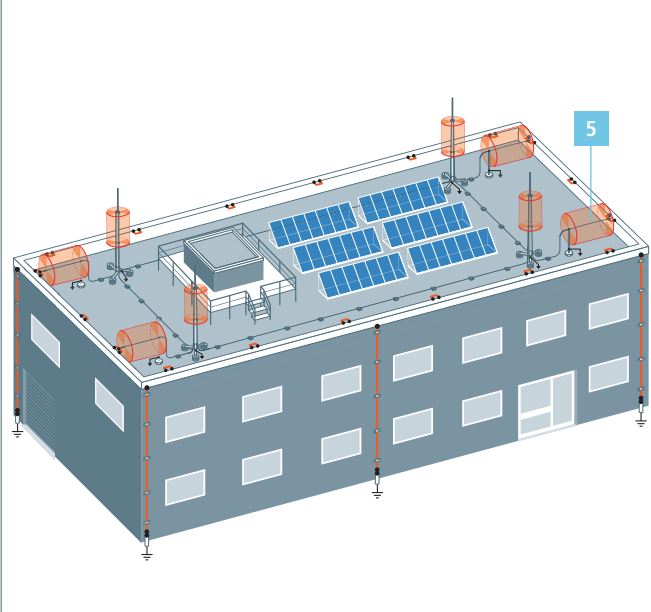
The conductor is delivered in a length of 100 m on a disposable plywood reel (diameter approx. 800 mm, width approx. 485 mm) and an Allen key included in delivery.

- **high-voltage-resistant, insulated HVI light Conductor to maintain the separation distance to electrically conductive parts according to IEC 62305-3 (VDE 0185-305-3)**
- **equivalent separation distance $s \leq 0.45$ m (in air) or**
- **$s \leq 0.90$ m (solid material)**

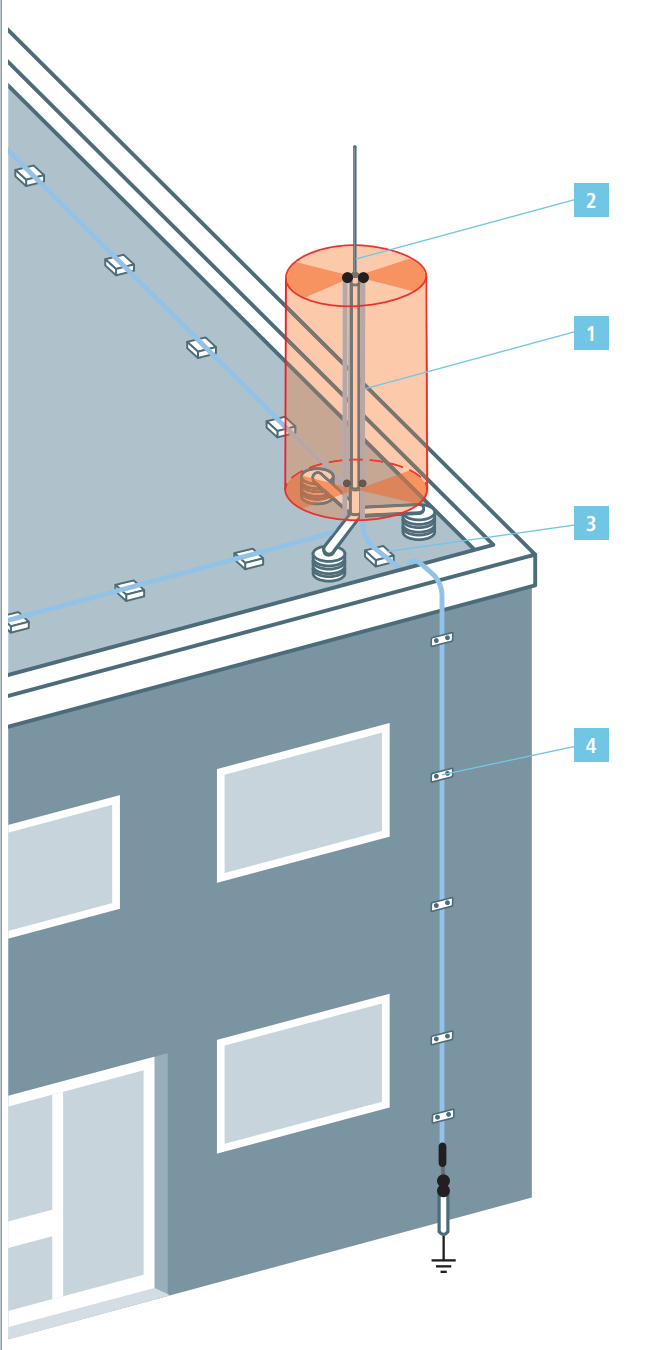
Technical data

Structure	solid
Cross section of the inner conductor (Cu)	19 mm ²
Colour	dark grey
Outer diameter	20 mm
Equivalent separation distance (air)	≤ 45 cm
Equivalent separation distance (solid material)	≤ 90 cm
Minimum bending radius (OD = outer diameter)	10 x OD, min. 200 mm
Operating temperature	-30 °C ... +70 °C
Installation temperature	-5 °C ... +40 °C
Tensile strength	950 N
UV / weather-resistant	yes
Tested with I_{imp} (10/350 μs) based on EN 62561-1	150 kA
For use in class of LPS in case of a single down conductor without current distribution ($k_c = 1$)	II, III, IV
Installation in Ex zone 1 and 21	not possible
Minimum order quantity	100 m
Cable weight / 100 m	~ 40 kg

Partly Isolated Lightning Protection System of an Administration Building



Isolated Lightning Protection System of an Administration Building



Product	Product name
<p>1</p>	<p>HVI®light Conductor Connection Elements</p> <p>Page 142</p>
<p>2</p>	<p>Air-termination Masts for HVI®light Conductor</p> <p>Page 143</p>
<p>3</p>	<p>Conductor Holder for Installation on Flat Roofs</p> <p>Page 145</p>
<p>4</p>	<p>Conductor Holder for Installation on Walls</p> <p>Page 147</p>
<p>5</p>	<p>Adjustment Range</p> <p>Page 150</p>



1 HVI®light Conductor

System to maintain the separation distance e.g. on flat roofs. The high-voltage-resistant, insulated HVI light Conductor prevents uncontrolled flashover to metal or electric components underneath the roofing. For use up to an equivalent separation distance $s \leq 45$ cm (in air) or $s \leq 90$ cm (solid material).

HVI®light Conductor (on reel)

The HVI light Conductor is delivered in a length of 100 m on a disposable plywood reel (diameter approx. 800 mm, width approx. 485 mm) and one Allen key included in delivery.



Part No.	819 125
Material of conductor	Cu
Material of insulation	PE
Material of sheath	PVC
Colour of conductor	dark grey ●
Diameter Ø conductor	20 mm
PU	100 m

HVI®light Conductor (cut to length)

The HVI light Conductor is delivered cut to length and in the carton (max. 70 m). Conductor length to be indicated when ordering (0.5 m steps).



Part No.	819 129
Material of conductor	Cu
Material of insulation	PE
Material of sheath	PVC
Colour of conductor	dark grey ●
Diameter Ø conductor	20 mm
Minimum order length	6 m
PU	1 pc(s)



1 Connection Elements for HVI®light Conductor

Connection element for HVI®light Conductor

Connection element for connecting the HVI light Conductor to other parts of the external lightning protection system or earth-termination system. Including heat-shrinkable sleeve.



Part No.	819 299
Material	StSt
Connection	bolt Ø10 mm, L 50 mm
Design	with spring washer
Screw	threaded bolt M6 x 8 mm
PU	1 pc(s)

EB Connection element for HVI®light Conductor

For discharging the electrical field in the sealing end range of the HVI light Conductor. Specially slotted desing for electrically contacting the semi-conductive sheath.



Part No.	410 219
Material	StSt
Clamping range Ø	17 mm
Connection bore Ø	11 mm
Screw	☒ M10 x 20 mm
PU	1 pc(s)

Fixing kit for HVI®light Conductor

Fixing kit for mounting the HVI light Conductor at the supporting tube Ø50 mm (e.g. HVI long supporting tube), consisting of connection plate (for four conductors, incl. two self-locking nuts) and fixing ring with four slotted conductor holders (Ø17 mm) for the adjustment range (incl. two cable ties).



Part No.	819 289
Material	StSt / Al
Connection plate support	square hole 13 mm
PU	1 pc(s)

Fixing bolt

Bolt for fixing a conductor cable to an air-termination rod (Ø22 / Ø16 mm) or to a connection plate (e.g. Part No. 819 289 or 819 288).

Part No.	105 229 ^{NEW}
Material	Al
Connection	1x W 11 mm, 1x W 23 mm
Screw	☛ M8 x 10 ☛ M12 x 20 mm
Wire end sleeve	50 mm ²
Material of wire end sleeve	Cu/Sn
PU	10 pc(s)



Accessory for Connection Elements for HVI®light Conductor

Wire End Ferrule

Wire end ferrule for safely fixing an aluminium cable with a cross-section of 50 mm² (Part No. 840 050).
1 set = 10 pieces

Part No.	444 050 ^{NEW}
Material	Cu/Sn
Cross section	50 mm ²
PU	1 Sa



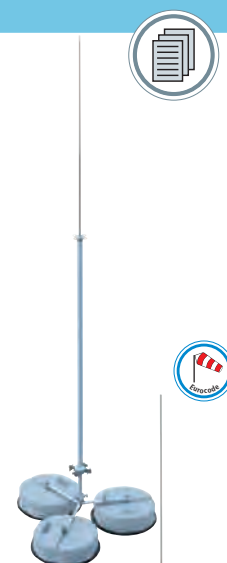
2 Air-termination Masts for HVI®light Conductor on Flat Roofs

Complete with connection plate plate for four HVI light Conductors and fixing kit for mounting the conductors at the air-termination mast. Adjustable to roof inclination up to max. 10°.

The concrete bases (weight 17 kg) and support plates have to be ordered separately.

Air-termination mast 30 for HVI®light Conductor KIT I total height 2300 mm

Part No.	819 282
Material of tripod	St/tZn
Radius of tripod	320 mm
Material of supporting tube	GRP / Al
Length of supporting tube	1300 mm
Insulating clearance	1095 mm
Length of air-termination rod	1000 mm
Material of air-termination rod	StSt
Max. gust wind speed at 3 blocks 17 kg each	158 km/h
PU	1 pc(s)



Air-termination mast 30 for HVI®light Conductor KIT II total height 2800 mm

Part No.	819 287
Material of tripod	St/tZn
Radius of tripod	320 mm
Material of supporting tube	GRP / Al
Length of supporting tube	1300 mm
Insulating clearance	1095 mm
Length of air-termination rod	1500 mm
Material of air-termination rod	StSt
Max. gust wind speed at 3 blocks 17 kg each	138 km/h
PU	1 pc(s)





Air-termination mast 50 for HVI®light Conductor KIT I total height 2900 mm

Part No.	819 380
Material of tripod	St/tZn
Radius of tripod	560 mm
Material of supporting tube	GRP / Al
Length of supporting tube	1900 mm
Insulating clearance	1535 mm
Length of air-termination rod	1000 mm
Material of air-termination rod	StSt
Max. gust wind speed at 3 blocks 17 kg each	128 km/h
Max. gust wind speed at 6 blocks 17 kg each	171 km/h
Max. gust wind speed at 9 blocks 17 kg each	207 km/h
PU	1 pc(s)



Air-termination mast 50 for HVI®light Conductor KIT II total height 3900 mm

Part No.	819 385
Material of tripod	St/tZn
Radius of tripod	560 mm
Material of supporting tube	GRP / Al
Length of supporting tube	1900 mm
Insulating clearance	1535 mm
Length of air-termination rod	2000 mm
Material of air-termination rod	Al
Max. gust wind speed at 3 blocks 17 kg each	114 km/h
Max. gust wind speed at 6 blocks 17 kg each	151 km/h
Max. gust wind speed at 9 blocks 17 kg each	181 km/h
PU	1 pc(s)



Air-termination mast 50 for HVI®light Conductor KIT III total height 4900 mm

Part No.	819 390
Material of tripod	St/tZn
Radius of tripod	560 mm
Material of supporting tube	GRP / Al
Length of supporting tube	1900 mm
Insulating clearance	1535 mm
Length of air-termination rod	3000 mm
Material of air-termination rod	Al
Max. gust wind speed at 3 blocks 17 kg each	106 km/h
Max. gust wind speed at 6 blocks 17 kg each	142 km/h
Max. gust wind speed at 9 blocks 17 kg each	165 km/h
PU	1 pc(s)

3 Conductor Holders and Accessories for Installation on Flat Roofs
Roof Conductor Holder for Flat Roofs

For fixing round and strip conductors on flat roofs with single conductor holder Type FB.

Part No.	253 015
Conductor leading	loose
Material of conductor holder	plastic
Conductor holder support Rd	8 mm
Block	concrete (C35/45)
Weight	1 kg
PU	10 pc(s)


Adapter for Installation of the HVI®light Conductor / HVI®Conductor on Flat Roofs

With roof conductor holder Type FB (Part No. 253 015) for snapping on.

Part No.	253 026
Material	plastic
Colour	black ●
Conductor holder support Rd	20 mm
PU	50 pc(s)


Roof Conductor Holder

For flat roofs, weight approx. 4.7 kg.

Conductor holder, concrete block and support plate, to install the HVI light Conductor, HVI Conductor on flat roofs.

Part No.	253 229
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Total weight	ca. 4,7 kg
PU	1 pc(s)


Conductor Holder

Conductor holder with slotted cleat for HVI light Conductor, HVI Conductor for fastening in the support plate (Part No. 253 300) with concrete block (Part No. 253 301).

Part No.	253 289
Material	StSt
Conductor holder support Rd	20 / 23 mm
Height of conductor holder	87 mm
Bolt	Ø10 mm (push-fit)
PU	24 pc(s)


Concrete Block

For stabilising the support plate.

Part No.	253 301
Material	concrete (C35/45)
Weight	4.6 kg
Dimension	180 x 180 x 70 mm
PU	24 pc(s)


Support Plate

Support plate with adapter (lock bush) for the spacer bar (Part No. 253 315, 253 325) as well as conductor holder (Part No. 253 289) and for protection of the roofing sheets under the concrete block (Part No. 253 301).

Part No.	253 300
Diameter Ø	300 mm
Diameter Ø of socket	10 mm
Height	60 mm
Material	plastic
Colour	grey ●
PU	24 pc(s)




Roof Conductor Holder

For flat roofs, weight approx. 8.6 kg.
Conductor holder, concrete block and base plate, for installing the HVI light Conductor, HVI Conductor on flat roofs.

Part No.	253 239
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Total weight	approx. 8.6 kg
PU	1 pc(s)


Conductor Holder

Conductor holder with slotted cleat for HVI light Conductor, HVI Conductor for wedge mounting with concrete base (Part No. 102 075).

Part No.	253 279
Material	StSt
Conductor holder support Rd	20 / 23 mm
Height of conductor holder	125 mm
Bolt	Ø16 mm (wedge-fit)
PU	25 pc(s)


Concrete Base

For wedge mounting, for air-termination rods Ø10, length 1000 mm or DEHNiso spacers Ø16 mm, length up to 675 mm (distance 0.8 m) or conductor holder (Part No. 253 297).

Part No.	102 075
Total weight	8.5 kg
Diameter Ø	240 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	120 pc(s)


Support Plate

For protecting the roofing sheets under the concrete base.
For concrete bases (Part No. 102 075, 102 003).

Part No.	102 060
Diameter Ø outside	280 mm
Diameter Ø inside	270 mm
Material	EVA
Colour	black ●
PU	1 pc(s)


Spacers for HVI®light Conductor

Spacer for installation e.g. with wedge mounting concrete block 17 kg (Part No. 102 340).

Part No.	106 852	106 812
Material of spacer	GRP	GRP
Material of conductor holder / adapter	PA	PA
Length	500 mm	1000 mm
Conductor holder support Rd	20 mm	20 mm
Thread	M8	M8
Max. gust wind speed (1x block 17 kg, holder distance 1000 mm)	154 km/h	98 km/h
PU	1 pc(s)	1 pc(s)


Concrete Base

For wedge mounting and adapted support plate, stackable.

Part No.	102 340
Total weight	17 kg
Support	wedge mounting Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge	StSt
PU	54 pc(s)

Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).

Part No.	102 010
Weight	17 kg
Support	wedge mounting Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	54 pc(s)


Support Plate

For protecting the roofing sheets under the concrete base.
For concrete bases (Part No. 102 010, 102 002).

Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black ●
PU	1 pc(s)


4 Conductor Holders for Installation on Walls
Conductor Holders

With thread.

Conductor holder for wall mounting with two-screw cleat (not for use in the sealing end range).

Part No.	275 250	275 251
Material of conductor holder	StSt	StSt
Conductor holder support Rd	20 / 23 mm	20 / 23 mm
Thread	M8	M6
PU	25 pc(s)	25 pc(s)


Conductor Holder

With slot hole.

For wall mounting with two-screw cleat (not for use in the sealing end range).

Part No.	275 252
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Fixing bore	5.5 x 10 mm
PU	25 pc(s)


Conductor Holder

With plastic base.

Conductor holder for wall mounting with two-screw cleat (not for use in the sealing end range).

Part No.	275 259
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Thread	M8
PU	25 pc(s)


Conductor Holder for HVI®Conductor

For wall mounting and for mounting in the sealing end range.

Part No.	275 220
Material of conductor holder	PA
Conductor holder support Rd	20 mm
Female thread	M8
Fixing bore	6.5 mm
PU	25 pc(s)





Stripping Tool for HVI®light Conductors / HVI®Conductors

Tool for stripping the semi-conductive sheath and the PE insulation of the HVI light Conductor, HVI Conductor (outer diameter 20 mm).

- Tool consists of a handle and various exchangeable cutting heads
- Stripping length of HVI light Conductor, HVI Conductor is adjustable in steps of 0.2 mm (lock points) by the set screw in the handle and is shown on the handle scale

Handling

Apply the cutting head at the conductor end and turn clockwise with light pressure for cutting / stripping.
Exchange of the cutting head without tool due to the bayonet coupling.

HVI®strip 20

For HVI light Conductor (handle + cutting head).



Part No.	597 220
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)

HVI®head 20

For HVI light Conductor (cutting head).



Part No.	597 120
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)

Accessories for Stripping Tool for HVI®light Conductors / HVI®Conductors

HVI®head holder

Adapter with bayonet coupling for attaching the HVI head cutting head (pre-set stripping length 35 mm). Adapter may be used in usual three-jaw chuck (Ø10 mm) e.g. of cordless screwdrivers.



Part No.	597 139
Material	plastic / Ms
PU	1 pc(s)

Spare Blades for HVI®head 20

1 set = 4 blades



Part No.	597 101
Material	StSt
PU	1 Sa

Stripping Tool for HVI®Conductors

Tool for stripping the additional grey sheath of the HVI light Conductor and HVI Conductor. DEHNhelix consists of a handle and an exchangeable bracket (depending on the conductor diameter).

DEHNhelix

Part No.	597 230
Diameter Ø conductor	20-27 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



Accessory for Stripping Tool for HVI®Conductors

Spare Blade for Stripping Tool

Part No.	597 130 ^{NEW}
Material	StSt
PU	1 pc(s)



Cable Shears for HVI®Conductors

Cable shears for easily cutting of the HVI light Conductor, HVI Conductor (outer diameter 20 / 23 mm) and HVI power Conductor (outer diameter 27 mm) and of the CUI Conductor.

The special design of the cable shears also allows for a precise cutting of stranded conductors for attaching the connection elements easily.

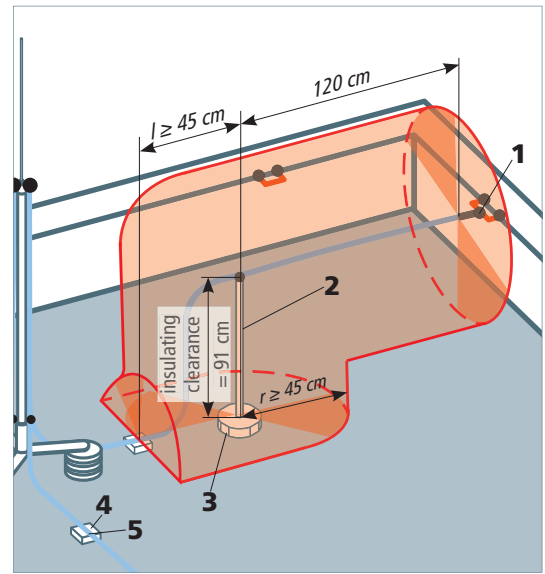
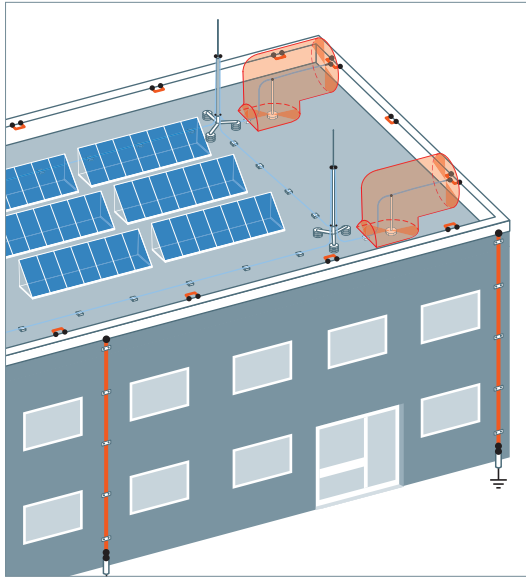
HVI®cutter

Part No.	597 032
Diameter Ø conductor	up to 32 mm
Material of blades	tool steel (CR-Moly (SCM440))
Material of handles	carbon steel (SS400)
Length	600 mm
PU	1 pc(s)



5 Adjustment Range, Separation Distance $s \leq 45 \text{ cm}$

Connection of the HVI light Conductor to an existing lightning protection system. The equivalent separation distance s at the connection point of the HVI light Conductor is $\leq 45 \text{ cm}$ (in air).
 In the connection area an adjustment range around the HVI light Conductor has to be provided. No electrical, conductive or earthed parts may be installed in this area. This is necessary to inject the lightning current safely into the conductor. An equipotential bonding connection is not necessary.



Accessories for Adjustment Range, Separation Distance $s \leq 45 \text{ cm}$

Connection Element for HVI®light Conductor

Connection element for sealing and connecting the HVI light Conductor to other parts of the external lightning protection system or earth-termination system. Including heat-shrinkable sleeve.



Part No.	819 299
PU	1 pc(s)

Spacers for HVI®light Conductor

Spacer for installation e.g. with wedge mounting concrete block 17 kg (Part No. 102 340).



Part No.	106 812
PU	1 pc(s)

Concrete Base

For wedge mounting and adapted support plate, stackable.



Part No.	102 340
PU	54 pc(s)

Roof Conductor Holder for Flat Roofs

For fixing round and strip conductors on flat roofs with single conductor holder Type FB.



Part No.	253 015
PU	10 pc(s)

Adapter for Installation of the HVI®light Conductor / HVI®Conductor on Flat Roofs

With roof conductor holder Type FB (Part No. 253 015) for snapping on.

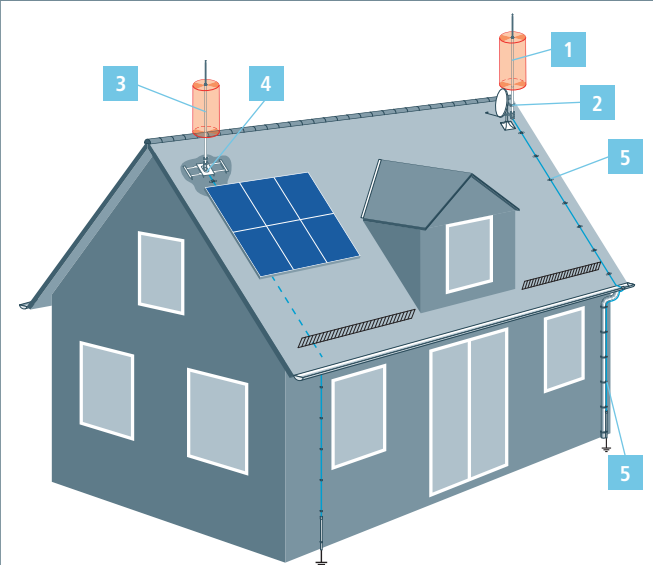


Part No.	253 026
PU	50 pc(s)

Installation of bare, uninsulated conductors can pose the problem of proximities in case of residential buildings or buildings of lower height. The consequent maintenance of the required separation distances is often not possible. Requirements for maintaining of the separation distance are specified, in the lightning protection standard IEC 62305 (VDE 0185-305) and also in communication technology standards. DIN EN 60728-11 (VDE 0855-1) points out that radio masts on buildings with lightning protection system shall be integrated preferably insulated (separated) in this system. The DEHNcon-H is ideally suited for this application.

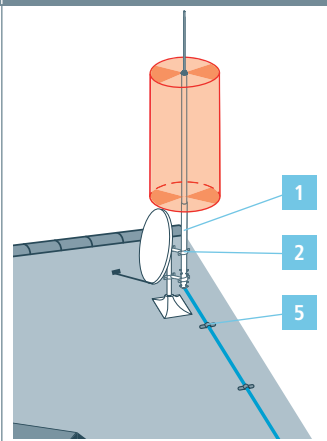
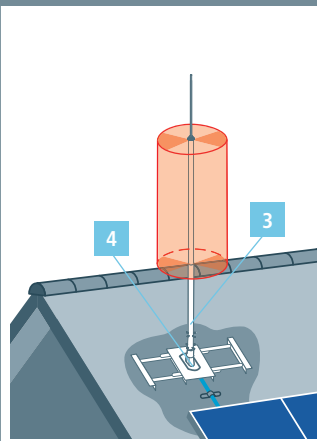
- Optically appealing due to the HVI/HVI light Conductor being installed inside of the supporting tube, reduced size of the supporting tubes and low weight of the whole structure, also fitting for subsequent installation at existing antenna poles.
- High-voltage-resistant, insulated down conductor for keeping the separation distance from electrically conductive parts according to IEC 62305-3 (VDE 0185-305-3).
- Supporting tube with insulating clearance made of glass-fibre reinforced plastic (GRP)
- Colour light grey, UV-stabilised

Isolated Lightning Protection of a Residential Building



Residential Building / Sub-roof installation

Residential Building / On-roof installation



Product	Product name
	<p>Supporting Tubes with HVI®light Conductor for On-roof Installation</p> <p>HVI®light Conductor Connection Elements</p> <p>Page 152</p>
	<p>Fixing Elements for Supporting Tubes</p> <p>Page 153</p>
	<p>Supporting Tubes for HVI® / HVI®light Conductor for Sub-roof Installation</p> <p>Supporting Tubes Connection Elements</p> <p>Page 155</p>
	<p>Mounting Bracket for Use on Rafters</p> <p>Roof Bushing Kit</p> <p>Page 157</p>
	<p>Conductor Holder for HVI® / HVI®light Conductor</p> <p>Page 158</p>



1 2 DEHNcon-H

Insulated air-termination system for transmitters/receivers (satellite dish, terrestrial antenna) or whole buildings or parts of a building. Optically appealing due to the HVI light Conductor being installed inside of the supporting tube, reduced size of the supporting tubes (Al pipe 40 x 5 mm / GRP tube 30 x 3 mm) and lower total weight, also suitable for subsequent mounting at antenna poles. Special interior sealing end provides a flexible StSt strip led out at the lower end of the supporting tube for connection to the equipotential bonding system of the building.



HVI®light Conductor inside of supporting tube with air-termination rod

With interior sealing end and air-termination rod StSt Ø10 mm.

General technical data:	
Material of supporting tube	GRP / Al
Material of conductor	Cu
Equivalent separation distance s (in air)	≤ 45 cm
Min. clamping length	600 mm

Part No.	819 255	819 256	819 257
Length of supporting tube	1990 mm	1990 mm	2640 mm
Length of air-termination rod	500 mm	1000 mm	500 mm
Minimum order length	6 m	6 m	6 m
Max. gust wind speed	232 km/h	198 km/h	232 km/h
Max. free length	1890 mm	2390 mm	2540 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	819 258	819 259
Length of supporting tube	2640 mm	5040 mm
Length of air-termination rod	1000 mm	500 mm
Minimum order length	6 m	7.5 m
Max. gust wind speed	198 km/h	148 km/h
Max. free length	3040 mm	4940 mm
PU	1 pc(s)	1 pc(s)



1 HVI®light Conductor

System to maintain the separation distance e.g. on flat roofs. The high-voltage-resistant, insulated HVI light Conductor prevents uncontrolled flashover to metal or electric components underneath the roofing. For use up to an equivalent separation distance $s \leq 45$ cm (in air) or $s \leq 90$ cm (solid material).

HVI®light Conductor (on reel)

The HVI light Conductor is delivered in a length of 100 m on a disposable plywood reel (diameter approx. 800 mm, width approx. 485 mm) and one Allen key included in delivery.



Part No.	819 125
Material of conductor	Cu
Material of insulation	PE
Material of sheath	PVC
Colour of conductor	dark grey ●
Diameter Ø conductor	20 mm
PU	100 m

HVI®light Conductor (cut to length)

The HVI light Conductor is delivered cut to length and in the carton (max. 70 m). Conductor length to be indicated when ordering (0.5 m steps).

Part No.	819 129
Material of conductor	Cu
Material of insulation	PE
Material of sheath	PVC
Colour of conductor	dark grey ●
Diameter Ø conductor	20 mm
Minimum order length	6 m
PU	1 pc(s)



DEHNcon-H Supporting Tubes for HVI®light Conductor

Supporting tubes for the HVI light Conductor for on-site assembly, air-termination rod StSt, Ø10 mm.

With air-termination rod

Part No.	105 272	105 273	105 274	105 280
Material of supporting tube	GRP / Al	GRP / Al	GRP / Al	GRP / Al
Length of supporting tube	1990 mm	1990 mm	2640 mm	2640 mm
Length of air-termination rod	500 mm	1000 mm	500 mm	1000 mm
Diameter Ø outside	30 mm	30 mm	30 mm	30 mm
Max. gust wind speed	232 km/h	198 km/h	232 km/h	198 km/h
Max. free length	1890 mm	2390 mm	2540 mm	3040 mm
Min. clamping length	600 mm	600 mm	600 mm	600 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



Connection Elements for DEHNcon-H, HVI®light Conductor

Connection kit for supporting tube Part No. 105 272 and 105 273

Connection kit for sealing the HVI light Conductor at both ends, for implementing the adjustment range of the conductor in the supporting tube (head piece) and connection element for other parts of the external lightning protection system or earth-termination system (incl. EB connection cable, constant force spring and three heat-shrinkable sleeves).

Part No.	819 271
Material of connection elements	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	20 mm
EB connection cable	Strip 1000 x 18 x 0.4 mm
PU	1 pc(s)



Connection kit for supporting tube Part No. 105 274 and 105 280

Connection kit for sealing the HVI light Conductor at both ends, for implementing the adjustment range of the conductor in the supporting tube (head piece) and connection element for other parts of the external lightning protection system or earth-termination system (incl. EB connection cable, constant force spring and three heat-shrinkable sleeves).

Part No.	819 272
Material of connection elements	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	20 mm
EB connection cable	strip 2200 x 18 x 0,4 mm
PU	1 pc(s)



Accessories for DEHNcon-H

Fixing Clamp for DEHNcon-H

Clamp for fixing the supporting tube e.g. at the antenna pole. Design with spacer, length 30 mm for adjusting the antenna fastening.

Part No.	105 161
Material	StSt
Clamping range of pipe Ø	45-65 mm (1 1/2-2")
Clamping range of supporting tube	40-50 mm
Length of spacer	30 mm
PU	1 pc(s)



Fixing Bracket

Wall mounting bracket for vertical mounting. For fastening of the supporting tubes or air-termination rods D40 / D50.

Part No.	105 342
Material of bracket	StSt
Fixing	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Clamping range of supporting tube	40-50 mm
Wall / corner distance	46 mm
Dimension of fixing	170 mm
PU	1 pc(s)



Support for Air-termination Rod D40 and DEHNcon-H

Wall fixing bracket



Part No.	105 140
Material	StSt
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
Wall distance	80 mm
Clamping range of air-termination rod	40 mm
PU	1 pc(s)

Railing Clamp

For pipes.

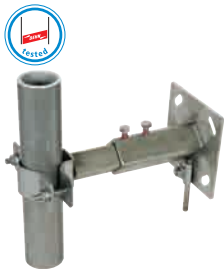


Part No.	105 354
Material	StSt
Clamping range of pipe Ø	48-60 mm (1 1/2-2")
Clamping range of supporting tube	40-50 mm
PU	5 pc(s)

Fixing Bracket

Wall mounting bracket with adjustment range between 150-200 mm.

For fastening of supporting tubes or air-termination rods D40 / D50 with double cleat for connection of 2x Rd 8-10 mm.



Part No.	105 344
Material of bracket	StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	150-200 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 26 mm
Standard	EN 62561-1
PU	1 pc(s)

Fixing Bracket

Wall mounting bracket with adjustment range between 400-700 mm.

For fastening of the supporting tubes or air-termination rods D40 / D50.



Part No.	105 343
Material of bracket	St/tZn / StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	400-700 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 25 mm
PU	1 pc(s)

Support for Air-termination Rod D40 and DEHNcon-H

Fixing clamp with tensioning strap.



Part No.	105 160
Material	StSt
Clamping range Ø pipe	50-300 mm
Clamping range of air-termination rod	40-50 mm
Dimension of strip (w x d)	25 x 0.3 mm
Standard	EN 62561-1
PU	1 pc(s)

Railing Clamp

With spacer for adjusting e.g. the antenna fastener.



Part No.	105 162
Material	StSt
Clamping range of pipe Ø	45-65 mm (1 1/2-2")
Clamping range of supporting tube	40-50 mm
Length of spacer	95 mm
PU	1 pc(s)

3 Air-termination Mast for Sub-roof Installation of the HVI®light Conductor



For installation on the mounting bracket for use at rafters.

Optically appealing installation of the HVI light Conductor inside of the supporting tube. The HVI light Conductor will be ducted through the supporting tube of the mounting bracket for use at rafters and installed in the area of the counter-battens/roof battens.

Advantages:

- Sub-roof installation – not visible
- Only the supporting tube is visible
- No mechanical loading e.g. by snow

DEHNcon-H / HVI®light Conductor inside of the supporting tube with air-termination rod

With interior sealing end and air-termination rod Ø10 mm.

PU 1 corresp. to a minimum order length of 6 m.

Conductor length to be indicated when ordering (in steps of 0.5 m).

Part No.	819 243
Material of supporting tube	GRP / Al
Length of supporting tube	2875 mm
Length of air-termination rod	1000 mm
Diameter Ø outside	30 mm
Diameter Ø of conductor	20 mm
Colour of conductor	grey ●
Material of conductor	Cu
Equivalent separation distance s (in air)	≤ 45 cm
Minimum order length	6 m
Max. gust wind speed	160 km/h
PU	1 pc(s)



DEHNcon-H Supporting Tube for HVI®light Conductor, Sub-roof Installation

Supporting tube for HVI light Conductor for on-site assembly, air-termination rod StSt, Ø10 mm.

With air-termination rod

Part No.	105 288
Material of supporting tube	GRP / Al
Length of supporting tube	2875 mm
Length of air-termination rod	1000 mm
Diameter Ø outside	30 mm
Max. gust wind speed	160 km/h
PU	1 pc(s)



HVI®light Conductor



System for keeping the separation distance e.g. on flat roofs. The high-voltage-resistant insulation of the HVI light Conductor avoids an uncontrolled sparkover e.g. through the roof covering to metal or electric parts underneath.

Applicable up to an equivalent separation distance $s \leq 45$ cm (in air) or $s \leq 90$ cm (solid material).

HVI®light Conductor (cut to length)

The HVI light Conductor cut to length will be supplied in a cardboard box (max. 70 m).

Conductor length to be indicated when ordering (in steps of 0.5 m).

Part No.	819 129
Material of conductor	Cu
Material of insulation	PE
Material of sheath	PVC
Colour of conductor	dark grey ●
Colour RAL	similar to 7000
Cross-section of core	19 mm ²
Equivalent separation distance s (in air)	≤ 45 cm
Diameter Ø conductor	20 mm
Characteristics of sheath	UV-stabilised and weather resistant
Minimum order length	6 m
PU	1 pc(s)





Connection Element for DEHNcon-H, HVI®light Conductor

Connection kit for sealing the HVI light Conductor at both ends for implementing the adjustment range of the conductor in the supporting tube (head piece) and connection element for connection to other parts of the external lightning protection or earth-termination system (incl. EB connection cable, constant force spring and three heat-shrinkable sleeves).

Connection kit for HVI®light Conductor Ø20 mm for Installation Inside of Tube

Part No.	819 272
Material of connection elements	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	20 mm
EB connection cable	strip 2200 x 18 x 0.4 mm
PU	1 pc(s)



Air-termination Mast for Sub-roof Installation of the HVI® Conductor

For installation on the mounting bracket for use at rafters. Optically adjusted installation of the HVI light Conductor inside of the supporting tube. The HVI light Conductor will be ducted through the supporting tube of the mounting bracket for use at rafters and installed in the area of the counter-battens / roof battens.

Advantages:

- Sub-roof installation – not visible
- Only the supporting tube is visible
- No mechanical loading e.g. by snow

DEHNcon-H / HVI®Conductor inside of the supporting tube with air-termination rod

Part No.	819 247
Material of supporting tube	GRP / Al
Length of supporting tube	1955 mm
Length of air-termination rod	2500 mm
Diameter Ø outside	50 mm
Diameter Ø conductor	20 mm
Colour of conductor	black ●
Material of conductor	Cu
Minimum order length	6 m
Max. gust wind speed	150 km/h
PU	1 pc(s)



DEHNcon-H Supporting Tube for HVI®Conductor, Sub-roof Installation

Supporting tube for HVI Conductor for on-site assembly, air-termination rod Al, Ø22 / 16 / 10 mm.

With air-termination rod

Part No.	105 281
Material of supporting tube	GRP / Al
Length of supporting tube	1955 mm
Length of air-termination rod	2500 mm
Diameter Ø outside	50 mm
Max. gust wind speed	150 km/h
PU	1 pc(s)



HVI®Conductor / HVI®long Conductor

High-voltage-resistant, insulated down conductor for keeping the separation distance to electrically conductive parts according to IEC/EN 62305-3. Applicable up to an equivalent separation distance $s \leq 75$ cm (in air) or $s \leq 150$ cm (solid material).

HVI®long Conductor (cut to length)

The HVI conductor cut to length will be supplied in a cardboard box (max. 70 m). Conductor length to be indicated when ordering (in steps of 0.5 m).

Part No.	819 131
Material of conductor	Cu
Material of insulation	PE
Material of coating	PVC
Colour of conductor	black ●
Diameter Ø conductor	20 mm
Minimum order length	6 m
PU	1 pc(s)



Connection Element for DEHNcon-H, HVI®Conductor

Connection elements for sealing the HVI long Conductor at both ends for implementing the sealing end of the conductor inside of the supporting tube (head piece) and connection element for connection to other parts of the external lightning protection system or earth-termination system (incl. two heat-shrinkable sleeves).

Connection Kit for HVI®Conductor Ø20 mm for Installation Inside of Tube

Part No.	819 145
Material	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	23 mm
Screw	threaded bolt M6 x 8 mm
PU	1 pc(s)



4 Mounting Bracket for Use on Rafters

For lateral fixing of the

- DEHNcon-H supporting tube (Ø40 mm)
- HVI Conductor inside of the supporting tube (Ø50 mm)
- as well as for attaching and fixing of the supporting tubes and for the sub-roof installation of the HVI Conductor or HVI light Conductor.

Part No.	105 240
Material	St/tZn
Adjustment range	600-750 mm
Roof pitch	24°-53°
Diameter Ø of supporting tube	48 mm
Fixing screw	8 x 120 mm
PU	1 pc(s)



Accessory for Mounting Bracket for Use on Rafters

Roof Bushing Kit

- For bushing and sealing of poles and pipes on steep roofs
- Universally usable with different roof tiles / roof stones due to formable aluminium roof tile

Roof bushing kit comprises aluminium roof tile, rubber grommet and sealing tape.

Part No.	105 245	105 246
Material of roof tile	aluminium, with UV stabilised plastic coating	aluminium, with UV stabilised plastic coating
Dimension of roof tile	450 x 500 mm	450 x 500 mm
Diameter Ø of mast hole	10 / 16 / 48 mm	10 / 16 / 48 mm
Roof inclination	24-53°	24-53°
Material of rubber grommet	UV stabilised rubber mixture	UV stabilised rubber mixture
Material of sealing tape	rubber based plastical sealant	rubber based plastical sealant
Type of sealing tape	strongly adhesive, self-welding	strongly adhesive, self-welding
Dimension of sealing tape	600 x 80 mm	600 x 80 mm
Processing temperature	+5 °C ... +40 °C	+5 °C ... +40 °C
Permanent temperature range of sealing tape	-40 °C ... +80 °C	-40 °C ... +80 °C
Colour	black ●	red ●
PU	1 pc(s)	1 pc(s)



5 Conductor Holder for Installation on the Roof

Roof Conductor Holder

With preformed bending points for angling and hooking on the tile and for screwing on the battens, for installing the HVI light Conductor on pitched roofs.

Part No.	202 829
Material of roof conductor holder	StSt
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Length of brace	205 mm
PU	1 pc(s)



5 Conductor Holders for Installation on Walls

Conductor Holders

With thread.

Conductor holder for wall mounting with two-screw cleat (not for use in the sealing end range).



Part No.	275 250	275 251
Material of conductor holder	StSt	StSt
Conductor holder support Rd	20 / 23 mm	20 / 23 mm
Thread	M8	M6
PU	25 pc(s)	25 pc(s)

Conductor Holder

With slot hole.

For wall mounting with two-screw cleat (not for use in the sealing end range).



Part No.	275 252
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Fixing bore	5.5 x 10 mm
PU	25 pc(s)

Conductor Holder

With plastic base.

Conductor holder for wall mounting with two-screw cleat (not for use in the sealing end range).



Part No.	275 259
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Thread	M8
PU	25 pc(s)

Conductor Holder for HVI®Conductor

For wall mounting and for mounting in the sealing end range.



Part No.	275 220
Material of conductor holder	PA
Conductor holder support Rd	20 mm
Female thread	M8
Fixing bore	6.5 mm
PU	25 pc(s)

Stripping Tool for HVI®light Conductors / HVI®Conductors

Tool for stripping the semi-conductive sheath and the PE insulation of the HVI light Conductor, HVI Conductor (outer diameter 20 mm).

- Tool consists of a handle and various exchangeable cutting heads
- Stripping length of HVI light Conductor, HVI Conductor is adjustable in steps of 0.2 mm (lock points) by the set screw in the handle and is shown on the handle scale

Handling

Apply the cutting head at the conductor end and turn clockwise with light pressure for cutting / stripping.

Exchange of the cutting head without tool due to the bayonet coupling.

HVI®strip 20

For HVI light Conductor (handle + cutting head).



Part No.	597 220
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)

HVI®head 20

For HVI light Conductor (cutting head).

Part No.	597 120
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



Accessories for Stripping Tool for HVI®light Conductors / HVI®Conductors

HVI®head holder

Adapter with bayonet coupling for attaching the HVI head cutting head (pre-set stripping length 35 mm). Adapter may be used in usual three-jaw chuck (Ø10 mm) e.g. of cordless screwdrivers.

Part No.	597 139
Material	plastic / Ms
PU	1 pc(s)



Spare Blades for HVI®head 20

1 set = 4 blades

Part No.	597 101
Material	StSt
PU	1 Sa



Stripping Tool for HVI®Conductors

Tool for stripping the additional grey sheath of the HVI light Conductor and HVI Conductor. DEHNhelix consists of a handle and an exchangeable bracket (depending on the conductor diameter).

DEHNhelix

Part No.	597 230
Diameter Ø conductor	20-27 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



Accessory for Stripping Tool for HVI®Conductors

Spare Blade for Stripping Tool

Part No.	597 130
Material	StSt
PU	1 pc(s)



Cable Shears for HVI®Conductors

Cable shears for easily cutting of the HVI light Conductor, HVI Conductor (outer diameter 20 / 23 mm) and HVI power Conductor (outer diameter 27 mm) and of the CUI Conductor. The special design of the cable shears also allows for a precise cutting of stranded conductors for attaching the connection elements easily.



HVI®cutter

Part No.	597 032
Diameter Ø conductor	up to 32 mm
Material of blades	tool steel (CR-Moly (SCM440))
Material of handles	carbon steel (SS400)
Length	600 mm
PU	1 pc(s)



The HVI / HVI long Conductor can be used for a wide range of installation variants to protect for example larger roof-mounted structures, antennas as well as masts with information technology systems against direct lightning strike. Due to the special characteristics this conductor can also be directly routed to the earth-termination system. If this is not required, connection to already existing conventional lightning protection systems (elevated / separated ring conductor) is also possible.

With the high-voltage-resistant, insulated conductor a separation distance to electrically conductive parts according to IEC 62305-3 is maintained. Equivalent separation distance $s < 0,75$ m (air) or $s < 1.5$ m (solid material).

HVI®Conductor pre-assembled

The pre-assembled HVI Conductor is delivered with one head piece and one connection element (loosely included). The following types are available:

- HVI Conductor pre-assembled for installation inside of tube
- HVI Conductor pre-assembled for installation outside of tube

HVI®long Conductor

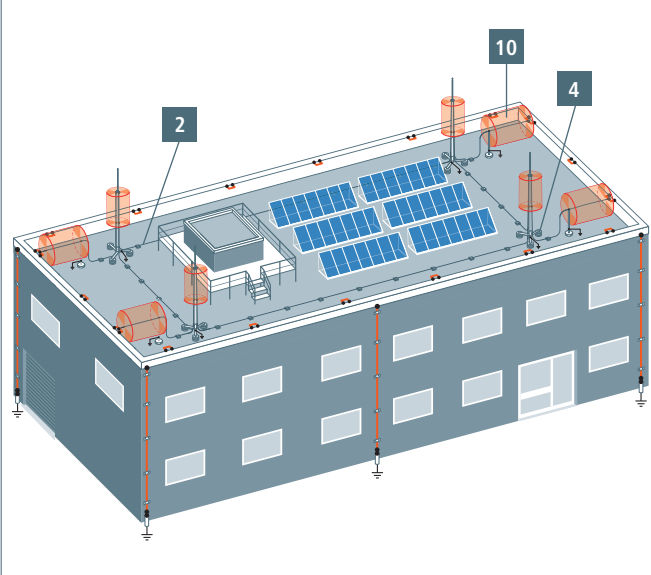
The HVI long Conductor can be assembled on site and thus allows for great flexibility when it comes to unknown or changing building situations and structures (new buildings, restoration) where the exact HVI conductor lengths of the lightning protection system cannot be determined already in the planning stage.

The HVI long Conductor is available in a length of 100 m on a disposable plywood reel (diameter approx. 800 mm, width approx. 485 mm) with one Allen key included in delivery. The installer determines the exact length on site, cuts the conductor to length, strips it and attaches the sealing ends.

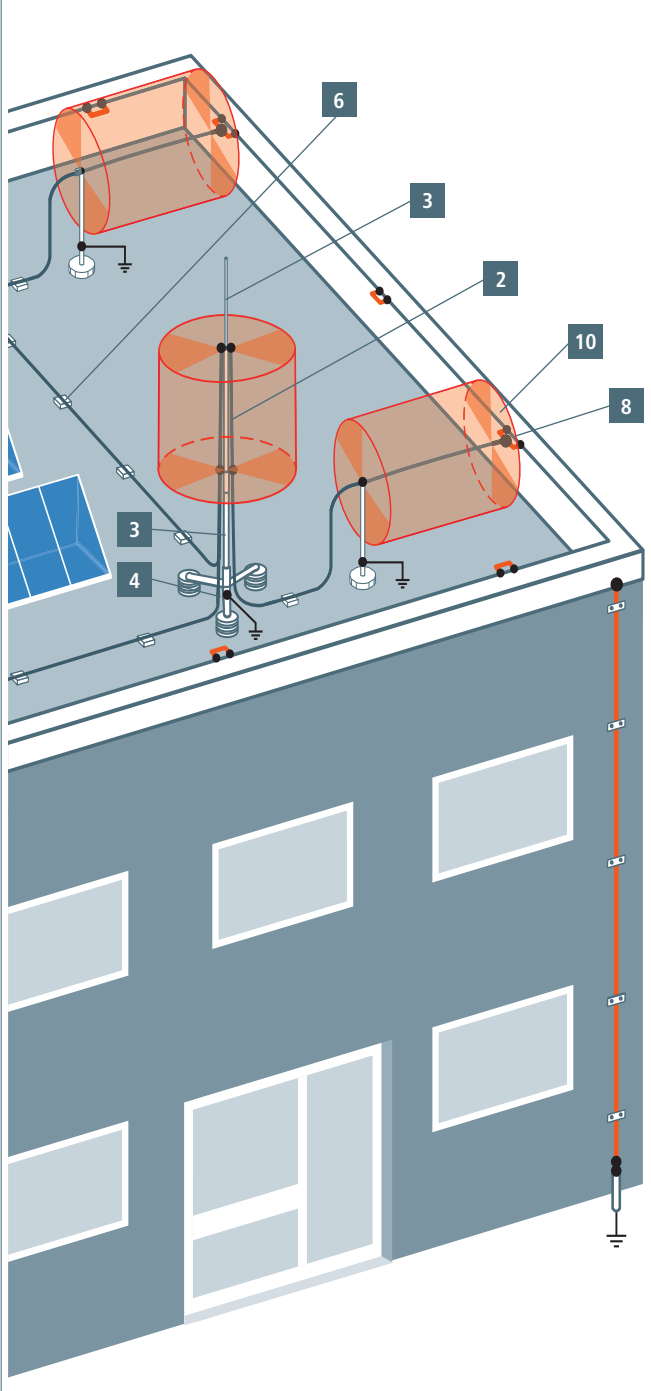


Technical data	HVI®Conductor		HVI®long	
	black	grey	black	grey
Structure	solid / stranded	solid / stranded	solid / stranded	solid / stranded
Cross-section of interior conductor (Cu)	19 mm ²	19 mm ²	19 mm ²	19 mm ²
Conductor colour	black	grey	black	grey
Outer diameter	20 mm	23 mm	20 mm	23 mm
Equivalent separation distance (air)	≤ 75 cm	≤ 75 cm	≤ 75 cm	≤ 75 cm
Equivalent separation distance (solid material)	≤ 150 cm	≤ 150 cm	≤ 150 cm	≤ 150 cm
Minimum bending radius (OD = outer diameter)	10 x OD, 200 mm	10 x OD, 230 mm	10 x OD, 200 mm	10 x OD, 230 mm
Operating temperature	-30 °C ... +70 °C	-30 °C ... +70 °C	-30 °C ... +70 °C	-30 °C ... +70 °C
Temperature for installation	-5 °C ... +40 °C	-5 °C ... +40 °C	-5 °C ... +40 °C	-5 °C ... +40 °C
Tensile strength	950 N	950 N	950 N	950 N
UV stability / weather resistance	yes	yes	yes	yes
Tested with I _{imp} (10/350 μs) based on EN 62561-1	150 kA	150 kA	150 kA	150 kA
For use in class of LPS in case of a single down conductor without current distribution (k _c = 1)	II, III, IV	II, III, IV	II, III, IV	II, III, IV
Installation in Ex zone 1 and 21	possible	possible	possible	possible
Minimum order quantity	> 6 m	> 6 m	100 m	100 m
Cable weight / 100 m	—	—	48 kg	~ 63 kg






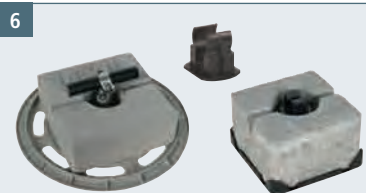




Isolated Protection of Roof-mounted Structures with HVI®Conductor



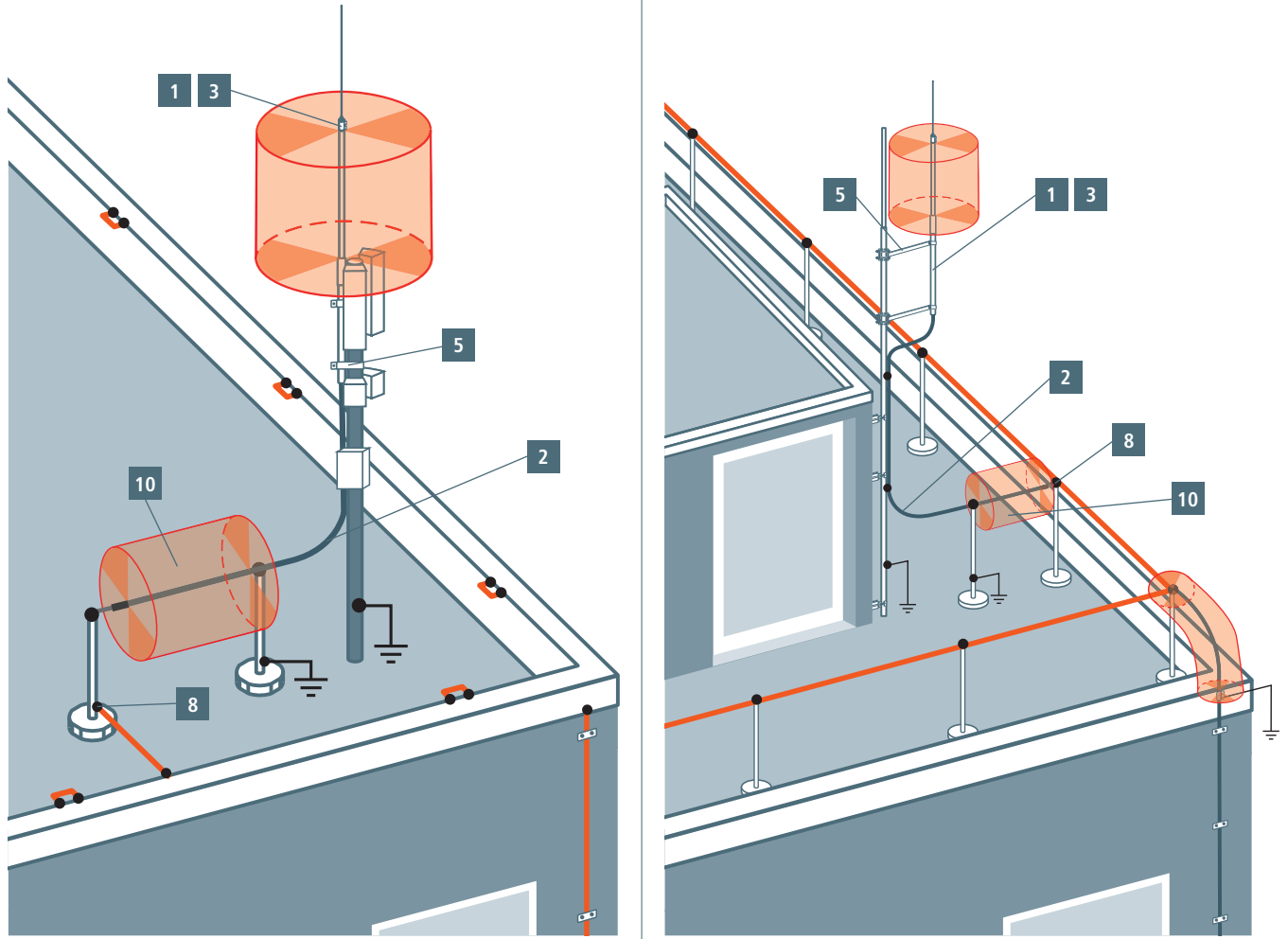
Installation of HVI®Conductor



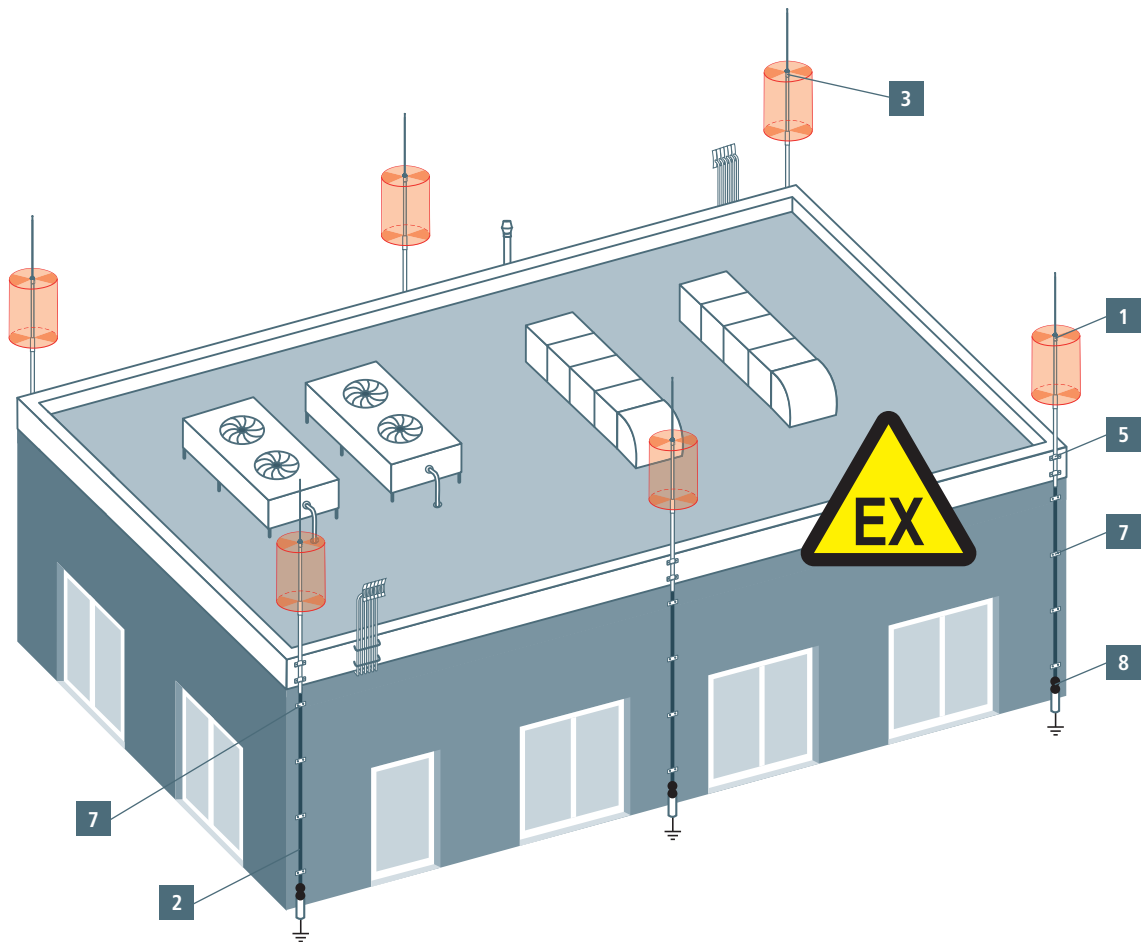
Valid as of January 1, 2017

Product	Product name
<p>1</p> 	<p>Supporting Tubes with HVI®Conductor</p> <p>Page 164</p>
<p>2</p> 	<p>HVI®Conductor HVI®long Conductor Connection Elements</p> <p>Page 166</p>
<p>3</p> 	<p>Supporting Tubes for HVI®long Conductor</p> <p>Page 169</p>
<p>4</p> 	<p>Tripods Accessories for Tripods</p> <p>Page 171</p>
<p>5</p> 	<p>Fixing Elements for Supporting Tubes</p> <p>Page 173</p>
<p>6</p> 	<p>Accessories for HVI®Conductor / HVI®long Conductor</p> <p>Page 175</p>
<p>7</p> 	<p>Conductor Holders for HVI®Conductor / HVI®long Conductor in Ex Areas</p> <p>Page 180</p>
<p>8</p> 	<p>Connecting Components 200 kA (10/350 μs)</p> <p>Page 182</p>
<p>9</p> 	<p>Stripping Tools Accessories</p> <p>Page 183</p>
<p>10</p> 	<p>Sealing End Ranges</p> <p>Page 185</p>

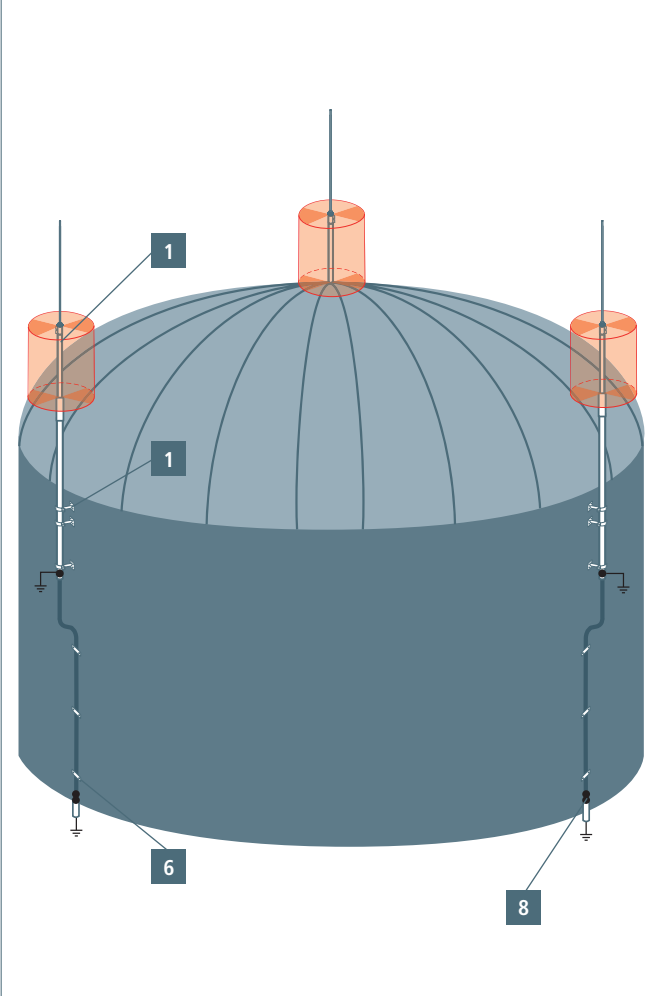
Installation of the HVI®Conductor on the Antenna Pole



Installation of the HVI®Conductor on an Explosion Hazardous Structure





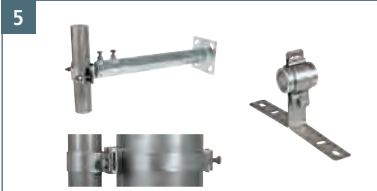
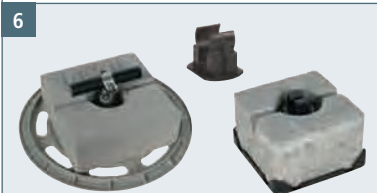






Installation of the HVI®Conductor for Protecting a Gas Container



Installation of the HVI®Conductor for Protecting a Building with Thatched Roof



Product	Product name
1 	Supporting Tubes with HVI®Conductor Page 164
2 	HVI®Conductor HVI®long Conductor Connection Elements Page 166
3 	Supporting Tubes for HVI®long Conductor Page 169
4 	Tripods Accessories for Tripods Page 171
5 	Fixing Elements for Supporting Tubes Page 173
6 	Accessories for HVI®Conductor / HVI®long Conductor Page 175
7 	Conductor Holders for HVI®Conductor / HVI®long Conductor in Ex Areas Page 180
8 	Connecting Components 200 kA (10/350 μs) Page 182
9 	Stripping Tools Accessories Page 183
10 	Sealing End Ranges Page 185

1 Supporting Tube with HVI®Conductor



Optically adapted installation of HVI Conductor inside of the supporting tube with small wind exposed surface area. For use up to an equivalent separation distance $s \leq 75$ cm (in air) or $s \leq 150$ cm (solid material). Conductor length to be indicated when ordering (steps of 0.5 m).

HVI®Conductor in supporting tube with air-termination rod

With interior sealing end and air-termination rod StSt Ø10 mm, length 1000 mm.



Part No.	819 326	819 336
Material of supporting tube	GRP / Al	GRP / Al
Length of supporting tube	3200 mm	3200 mm
Transport length	3200 mm	3200 mm
Diameter Ø outside	50 mm	50 mm
Diameter Ø conductor	20 mm	23 mm
Colour of conductor	black ●	grey ●
Material of conductor	Cu	Cu
Minimum order length	6 m	6 m
Max. free length with air-termination rod (wall mounting)	3500 mm	3500 mm
Max. gust wind speed (wall mounting, 1x HVI inside)	237 km/h	237 km/h
Max. gust wind speed (wall mounting, 1x HVI outside)	227 km/h	225 km/h
Max. gust wind speed (wall mounting, 4x HVI outside)	197 km/h	197 km/h
PU	1 pc(s)	1 pc(s)

Max. gust wind speed (tripod with supporting tube) see table on page 138.

HVI®Conductor in supporting tube with air-termination rod

With interior sealing end and air-termination rod Al Ø22 /16 / 10 mm, length 2500 mm.



Part No.	819 328	819 338	819 426	819 438
Material of supporting tube	GRP / Al	GRP / Al	GRP / Al	GRP / Al
Length of supporting tube	3200 mm	3200 mm	4700 mm	4700 mm
Transport length	3200 mm	3200 mm	4700 mm	4700 mm
Diameter Ø outside	50 mm	50 mm	50 mm	50 mm
Diameter Ø conductor	20 mm	23 mm	20 mm	23 mm
Colour of conductor	black ●	grey ●	black ●	grey ●
Material of conductor	Cu	Cu	Cu	Cu
Minimum order length	6 m	6 m	6 m	6 m
Max. free length with air-termination rod (wall mounting)	5000 mm	5000 mm	5000 mm	5000 mm
Max. gust wind speed (wall mounting, 1x HVI inside)	190 km/h	190 km/h	190 km/h	190 km/h
Max. gust wind speed (wall mounting, 1x HVI outside)	175 km/h	175 km/h	175 km/h	175 km/h
Max. gust wind speed (wall mounting, 4x HVI outside)	163 km/h	163 km/h	163 km/h	163 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Max. gust wind speed (tripod with supporting tube) see table on page 138.

HVI®Conductor in supporting tube (lateral outlet) with air-termination rod and small tripod

With interior sealing end and air-termination rod StSt Ø10 mm, length 1000 mm. With tripod (Part No. 105 390) and threaded rods kit (Part No. 105 397).



Part No.	819 371	819 381
Material of supporting tube	GRP / Al	GRP / Al
Length of supporting tube	3200 mm	3200 mm
Transport length	3200 mm	3200 mm
Diameter Ø outside	50 mm	50 mm
Diameter Ø conductor	20 mm	23 mm
Colour of conductor	black ●	grey ●
Material of conductor	Cu	Cu
Radius of tripod	600 mm	600 mm
Space required for tripod	1400 x 1200 mm	1400 x 1200 mm
Length of threaded rods	M16 x 520 mm	M16 x 520 mm
Minimum order length	6 m	6 m
PU	1 pc(s)	1 pc(s)

Max. gust wind speed (tripod with supporting tube) see table on page 138.

HVI®Conductor in supporting tube (lateral outlet) with air-termination rod and small tripod

With interior sealing end and air-termination rod Al Ø22 /16 / 10 mm, length 2500 mm.
With tripod (Part No. 105 390) and threaded rods kit (Part No. 105 397).

Part No.	819 373	819 383
Material of supporting tube	GRP / Al	GRP / Al
Length of supporting tube	3200 mm	3200 mm
Transport length	3200 mm	3200 mm
Diameter Ø outside	50 mm	50 mm
Diameter Ø conductor	20 mm	23 mm
Colour of conductor	black ●	grey ●
Material of conductor	Cu	Cu
Radius of tripod	600 mm	600 mm
Space required for tripod	1400 x 1200 mm	1400 x 1200 mm
Length of threaded rods	M16 x 520 mm	M16 x 520 mm
Minimum order length	6 m	6 m
PU	1 pc(s)	1 pc(s)


HVI®Conductor in supporting tube (lateral outlet) with air-termination rod and large tripod

With interior sealing end and air-termination rod Al Ø22 /16 / 10 mm, length 2500 mm.
With tripod (Part No. 105 391) and threaded rods kit (Part No. 105 397).

Part No.	819 473	819 483
Material of supporting tube	GRP / Al	GRP / Al
Length of supporting tube	4700 mm	4700 mm
Transport length	4700 mm	4700 mm
Diameter Ø outside	50 mm	50 mm
Diameter Ø conductor	20 mm	23 mm
Colour of conductor	black ●	grey ●
Material of conductor	Cu	Cu
Radius of tripod	1450 mm	1450 mm
Space required for tripod	2900 x 2600 mm	2900 x 2600 mm
Length of threaded rods	M16 x 650 mm	M16 x 650 mm
Minimum order length	6 m	6 m
PU	1 pc(s)	1 pc(s)



Max. gust wind speed (tripod with supporting tube) see table on page 138.

Due to the order-related production (customised conductor length) the conductor can not be taken back.

1 Air-termination Mast with HVI®Conductor

For a maximum free length of the whole air-termination system of 8.5 m. To be fixed with three variable supports (Part No. 105 345).
Transport length 6000 mm.

With 1x HVI Conductor installed inside. Conductor length to be indicated when ordering (0.5 m steps).
Maximum total length of the HVI Conductor 12.5 m for lightning protection system class II.
Maximum total length of the HVI Conductor 18.5 m for lightning protection system class III.

Part No.	819 730
Total length of air-termination mast	10800 mm
Length of air-termination rod	3000 mm
Length of supporting tube	2100 mm
Length of mast pipe	6000 mm
Colour of conductor	black ●
Minimum order length	10.0 m
Max. gust wind speed	166 km/h
PU	1 pc(s)


Accessory for Air-termination Mast with HVI®Conductor
Variable Support for Air-termination Masts

Three supports per air-termination mast are to be mounted.
Clamping range of air-termination mast Ø60 mm.

Part No.	105 345
Material of support	St/tZn
Range of adjustment	250-350 mm
Fixing bores Ø	[4x] 12 x 25 mm
PU	1 pc(s)



2 HVI®Conductor / HVI®long Conductor



High-voltage-resistant, insulated down conductor for keeping the separation distance to electrically conductive parts according to IEC 62305-3.

For use up to an equivalent separation distance $s \leq 75$ cm (in air) or $s \leq 150$ cm (solid material).



HVI®Conductor (pre-assembled, installation inside of tube)

With one head piece and one connection element (loosely enclosed).

Minimum order length 6 m, conductor length to be indicated when ordering (in steps of 0.5 m).

Part No.	819 220	819 223
Material of conductor	Cu	Cu
Material of insulation	PE	PE
Material of coating	PVC	PVC
Colour of conductor	black ●	grey ●
Diameter Ø conductor	20 mm	23 mm
Minimum order length	6 m	6 m
PU	1 pc(s)	1 pc(s)



HVI®Conductor (pre-assembled, installation outside of tube)

With one head piece and one connection element (loosely enclosed).

Minimum order length 6 m, conductor length to be indicated when ordering (in steps of 0.5 m).

Part No.	819 226	819 227
Material of conductor	Cu	Cu
Material of insulation	PE	PE
Material of coating	PVC	PVC
Colour of conductor	black ●	grey ●
Diameter Ø conductor	20 mm	23 mm
Minimum order length	6 m	6 m
PU	1 pc(s)	1 pc(s)

HVI®long Conductor (on cable reel)

The HVI long Conductor for on-site assembly will be delivered in a length of 100 m on a disposable plywood reel (diameter approx. 800 mm, width approx. 485 mm) incl. one Allen key.



Part No.	819 135	819 136
Material of conductor	Cu	Cu
Material of insulation	PE	PE
Material of coating	PVC	PVC
Colour of conductor	black ●	grey ●
Diameter Ø conductor	20 mm	23 mm
PU	100 m	100 m

HVI®long Conductor (cut to length)

HVI long Conductor cut to length for on-site assembly. Conductor will be delivered on coil.

Conductor length to be indicate when ordering (0.5 m steps).



Part No.	819 131	819 132
Material of conductor	Cu	Cu
Material of insulation	PE	PE
Material of coating	PVC	PVC
Colour of conductor	black ●	grey ●
Diameter Ø conductor	20 mm	23 mm
Minimum order length	6 m	6 m
Max. order length	70 m	60 m
PU	1 pc(s)	1 pc(s)

2 Connection Elements for HVI®long Conductor



Connection kit for HVI®long Conductor Ø20 mm inside of supporting tube

Connection elements for sealing the HVI long Conductor at both ends, for implementing the sealing end of the conductor in the supporting tube (head piece) and connection element for connecting to other parts of the external lightning protection system or earth-termination system (incl. two heat-shrinkable sleeves).

These connection elements may be used with HVI long supporting tubes.

Part No.	819 145
Material	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	23 mm
PU	1 pc(s)



Connection kit for HVI®long Conductor Ø20 mm outside of supporting tube

Connection elements for sealing the HVI long Conductor at both ends, for implementing the sealing end of the conductor outside of the supporting tube (head piece for connection plate) and connection element for connecting to other parts of the external lightning protection system or earth-termination system (incl. two heat-shrinkable sleeves and four cable ties).

These connection elements may only be used with the fixing kit (Part No. 819 294) at HVI long supporting tubes.

Part No.	819 146
Material	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	23 mm
PU	1 pc(s)



Connection element (head piece) for HVI®long Conductor Ø20 mm outside of supporting tube

Connection element for sealing the HVI long Conductor, for implementing the sealing end of the conductor outside at the supporting tube (head piece for connection plate). Incl. one heat-shrinkable sleeve and two cable ties.

Part No.	819 197
Material	StSt
Connection	thread M12
Diameter Ø connection element	23 mm
PU	1 pc(s)



Connection element for HVI®long Conductor Ø20 mm

Connection element for sealing the HVI long Conductor, for implementing the sealing end of the conductor for other parts of the external lightning protection or earth-termination system. Incl. one heat-shrinkable sleeve and two cable ties.

Part No.	819 199
Material	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	23 mm
PU	1 pc(s)



Connection kit for HVI®long Conductor Ø23 mm inside of supporting tube

Connection elements for sealing the HVI long Conductor at both ends, for implementing the sealing end of the conductor inside the supporting tube (head piece) and connection element for connecting to other parts of the external lightning protection or earth-termination system (incl. four heat-shrinkable sleeves).

These connection elements may be used with HVI long supporting tubes.

Part No.	819 147
Material	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	23 mm
PU	1 pc(s)



Connection kit for HVI®long Conductor Ø23 mm outside of supporting tube

Connection elements for sealing the HVI long Conductor at both ends, for implementing the sealing end of the conductor outside the supporting tube (head piece for connection plate) and connection element for connecting to other parts of the external lightning protection or earth-termination system (incl. four heat-shrinkable sleeves and four cable ties).

These connection elements may only be used with the fixing kit (Part No. 819 294) and with HVI supporting tubes.

Part No.	819 148
Material	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	23 mm
PU	1 pc(s)



Connection element (head piece) for HVI®long Conductor Ø23 mm outside of supporting tube

Connection element for sealing the HVI long Conductor, for implementing the sealing end of the conductor outside of the supporting tube (head piece for connection plate). Incl. two heat-shrinkable sleeves and two cable ties.



Part No.	819 196
Material	StSt
Connection	thread M12
Diameter Ø connection element	23 mm
PU	1 pc(s)

Connection element for HVI®long Conductor Ø23 mm

Connection element for sealing the HVI long Conductor, for implementing the sealing end of the conductor for other parts of the external lightning protection or earth termination system. Incl. two heat-shrinkable sleeves and two cable ties.



Part No.	819 198
Material	StSt
Connection	bolt Ø10 mm, L 50 mm
Diameter Ø connection element	23 mm
PU	1 pc(s)

Fixing kit for HVI®long Conductor black / grey

Fixing kit for installation of the HVI long Conductor on HVI long supporting tubes, consisting of connection plate (for four conductors, incl. two serrated lock nuts) and fixing ring with four slotted conductor holders (D 20 mm) for the sealing end (incl. two cable ties).



Part No.	819 294
Material	StSt
Connection plate support	square hole 13 mm
Conductor holder	4 x 20 mm
PU	1 pc(s)

EB Connection element for HVI®long Conductor

For discharging the electric field of the HVI long Conductor in the sealing end range. Special slotted design for electrically contacting of the semi-conductive sheath.



Part No.	410 229
Material	StSt
Clamping range Ø	20 mm
Connection bore Ø	11 mm
PU	1 pc(s)

Connection plate

Connection plate (for four conductors, incl. two serrated lock nuts) for installing the HVI long Conductor at the supporting tube D 50 mm (e.g. Part No. 105 330, 105 331, 105 332, 105 333).



Part No.	819 288
Material	StSt
Connection plate support	square hole 13
PU	1 pc(s)

Accessories for Connection Elements for HVI®long Conductor

Fixing Bolt

Fixing bolt for spanning an aluminium cable 50 mm² Part No. 840 050 at an air-termination rod (Ø22 / Ø16 mm) or connection plate (e.g. Part No. 819 289 or 819 288).



NEW

Part No.	105 229 ^{NEW}
Bore	1x B 11 mm, 1x B 23 mm
Material of bolt	Al
Wire end ferrule	50 mm ²
Material of wire end ferrule	Cu/Sn
Standard	EN 62561-1
PU	10 pc(s)

Wire End Ferrule

Wire end ferrule for safely fixing an aluminium cable with a cross-section of 50 mm² (Part No. 840 050). 1 set = 10 pieces



NEW

Part No.	444 050 ^{NEW}
Material	Cu/Sn
Cross section	50 mm ²
PU	1 Sa

3 Supporting Tubes for HVI®long Conductor



With air-termination rod

Supporting tube with interior sealing end and EB spring element.
Air-termination rod StSt, Ø10 mm, length 1000 mm.

Part No.	105 330	105 332	105 314	105 316
Material of supporting tube	GRP / Al	GRP / Al	GRP / StSt	GRP / StSt
Length of supporting tube	3200 mm	4700 mm	3200 mm	4700 mm
Transport length	3200 mm	4700 mm	3200 mm	4700 mm
Diameter Ø outside	50 mm	50 mm	50 mm	50 mm
Length of insulating clearance	1535 mm	1535 mm	1535 mm	1535 mm
Max. free length with air-termination rod (wall mounting)	3500 mm	3500 mm	3500 mm	3500 mm
Max. gust wind speed (wall mounting, 1x HVI inside)	237 km/h	237 km/h	234 km/h	234 km/h
Max. gust wind speed (wall mounting, 1x HVI outside)	225 km/h	225 km/h	229 km/h	229 km/h
Max. gust wind speed (wall mounting, 4x HVI outside)	197 km/h	197 km/h	200 km/h	200 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



With air-termination rod

Supporting tube with interior sealing end and EB spring element.
Air-termination rod Ø22/16/10 mm, length 2500 mm.

Part No.	105 331	105 333	105 315	105 317
Material of air-termination rod	Al	Al	StSt	StSt
Material of supporting tube	GRP / Al	GRP / Al	GRP / StSt	GRP / StSt
Length of supporting tube	3200 mm	4700 mm	3200 mm	4700 mm
Transport length	3200 mm	4700 mm	3200 mm	4700 mm
Diameter Ø outside	50 mm	50 mm	50 mm	50 mm
Length of insulating clearance	1535 mm	1535 mm	1535 mm	1535 mm
Max. free length with air-termination rod (wall mounting)	5000 mm	5000 mm	5000 mm	5000 mm
Max. gust wind speed (wall mounting, 1x HVI inside)	190 km/h	190 km/h	188 km/h	188 km/h
Max. gust wind speed (wall mounting, 1x HVI outside)	175 km/h	175 km/h	173 km/h	173 km/h
Max. gust wind speed (wall mounting, 4x HVI outside)	163 km/h	163 km/h	159 km/h	159 km/h
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



With air-termination rod and lateral outlet

Supporting tube with interior sealing end and EB spring element.
Air-termination rod StSt, Ø10 mm, length 1000 mm.

Part No.	105 325	105 327	105 336	105 338
Material of supporting tube	GRP / Al	GRP / Al	GRP / StSt	GRP / StSt
Length of supporting tube	3200 mm	4700 mm	3200 mm	4700 mm
Transport length	3200 mm	4700 mm	3200 mm	4700 mm
Diameter Ø outside	50 mm	50 mm	50 mm	50 mm
Length of insulating clearance	1535 mm	1535 mm	1535 mm	1535 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)





With air-termination rod and lateral outlet

Supporting tube with interior sealing end and EB spring element.
Air-termination rod Ø22/16/10 mm, length 2500 mm.

Part No.	105 326	105 328	105 337	105 339
Material of air-termination rod	Al	Al	StSt	StSt
Material of supporting tube	GRP / Al	GRP / Al	GRP / StSt	GRP / StSt
Length of supporting tube	3200 mm	4700 mm	3200 mm	4700 mm
Transport length	3200 mm	4700 mm	3200 mm	4700 mm
Diameter Ø outside	50 mm	50 mm	50 mm	50 mm
Length of insulating clearance	1535 mm	1535 mm	1535 mm	1535 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Max. gust wind speed (tripod with supporting tube) see table on page 138.

Accessories for Supporting Tubes for HVI®long Conductor

Lateral Air-termination Rods Al for Supporting Tubes

Fastening kit for mounting lateral/horizontal air-termination rods at HVI long supporting tubes and HVI power supporting tubes. Consisting of four air-termination rods and one fixing ring.

Note: The additional wind load on the air-termination system resulting from the laterally mounted air-termination rods must be observed!



Part No.	819 183	819 185
Length of air-termination rod	530 mm	1030 mm
Material of air-termination rod	Al	Al
Material of fixing ring	Al	Al
PU	1 pc(s)	1 pc(s)

Lateral Air-termination Rods StSt for Supporting Tubes

Fastening kit for mounting lateral/horizontal air-termination rods on HVI long supporting tubes and HVI power supporting tubes. Consisting of four air-termination rods and one fixing ring.

Note: The additional wind load on the air-termination system resulting from the laterally mounted air-termination rods must be observed!



Part No.	819 184	819 186
Length of air-termination rod	530 mm	1030 mm
Material of air-termination rod	StSt	StSt
Material of fixing ring	StSt	StSt
PU	1 pc(s)	1 pc(s)

4 Tripod for Supporting Tubes without Lateral Outlet

Special design for HVI Conductor installed inside / outside of the supporting tube, with double cleat for connection of 2x Rd 8-10 mm. For keeping the bending radius of the HVI Conductor at the tripod, two concrete bases are positioned underneath and one above the brace. Adjustable to the roof inclination up to max. 10°.



The stackable concrete base (Part No. 102 010) and the support plate (Part No. 102 050) have to be ordered separately.

Tripod small

Suitable for the HVI Conductor installed inside of the supporting tube.

Part No.	105 351
Material of tripod	St/tZn
Support	50 mm
Radius	620 mm
Quantity of concrete bases	3-12 blocks 17 kg each
Space required for tripod	1300 x 1450 mm
PU	1 pc(s)



Tripod large

Suitable for the HVI Conductor installed outside of the supporting tube.

Part No.	105 201
Material of tripod	St/tZn
Support	40 / 50 mm
Radius	1435 mm
Quantity of concrete bases	3-12 blocks 17 kg each
Space required for tripod	2520 x 2860 mm
PU	1 pc(s)

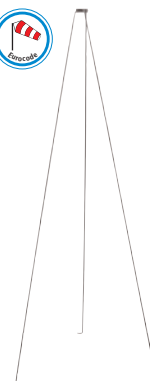


Accessories for Tripod for Supporting Tubes without Lateral Outlet

Bracing

Bracing, 3-fold with clamp for tubes D 50 mm for fastening at the tripod (Part No. 105 201). Bracing suitable for supporting tubes with a length of 4700 mm (e.g. Part No. 105 332, 105 316, 105 333, 105 317, 105 322, 105 323, 105 565, 105 575).

Part No.	105 601
Material	StSt
Brace length	2910 mm
Ø clamp	50 mm
PU	1 pc(s)



Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).

Part No.	102 010
Weight	17 kg
Support	wedge mounting Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	54 pc(s)



Support Plate

For protecting the roofing sheets under the concrete base. For concrete bases (Part No. 102 010, 102 002).

Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black ●
PU	1 pc(s)



4 Tripods for Supporting Tubes with Lateral Outlet



Special design for HVI Conductor installed inside the supporting tube, with lateral outlet and double cleat for connection of 2x Rd 8-10 mm. Adjustable to the roof inclination up to max. 5°

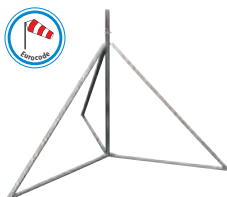
The stackable concrete base (Part No. 102 010) and the support plate (Part No. 102 050) as well as the threaded rod sets (Part No. 105 396-105 398 or Part No. 105 496-105 498) have to be ordered separately.

Tripod small



Part No.	105 390
Material	StSt
Support	50 mm
Radius	600 mm
Space required for tripod	1400 x 1200 mm
PU	1 pc(s)

Tripod large



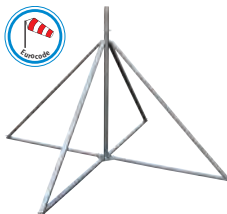
Part No.	105 391
Material	StSt
Support	50 mm
Radius	1450 mm
Space required for tripod	2900 x 2500 mm
PU	1 pc(s)

Four-legged stand small



Part No.	105 490
Material	StSt
Support	50 mm
Radius	600 mm
Space required for tripod	1200 x 1200 mm
PU	1 pc(s)

Four-legged stand large



Part No.	105 491
Material	StSt
Support	50 mm
Radius	1450 mm
Space required for tripod	2400 x 2400 mm
PU	1 pc(s)

Accessories for Tripods for Supporting Tubes with Lateral Outlet

Threaded Rod Sets for Tripod

Three threaded rods with base plate 44 x 4 mm and 3x nut with spring washer each.



Part No.	105 396	105 397	105 398
For tripod	Part No. 105 390	Part No. 105 390 / 105 391	Part No. 105 391
Quantity of concrete blocks	1 to 2	1 to 3	3 to 4
Material	StSt	StSt	StSt
Length	M16 x 340 mm	M16 x 520 mm	M16 x 650 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)

Threaded Rod Sets for Four-legged Stand

Four threaded rods with base plate 44 x 4 mm and 3x nut with spring washer each.



Part No.	105 496	105 497	105 498
For four-legged stand	Part No. 105 490	Part No. 105 490 / 105 491	Part No. 105 491
Quantity of concrete blocks	1 to 2	1 to 3	3 to 4
Material	StSt	StSt	StSt
Length	M16 x 340 mm	M16 x 520 mm	M16 x 650 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)

Concrete Base

Concrete base without wedge, for the erection of tripods.

Part No.	102 012
Weight	17 kg
Support	Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
PU	54 pc(s)



Support Plate

For protecting the roofing sheets under the concrete base.
For concrete bases (Part No. 102 010, 102 002).

Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black ●
PU	1 pc(s)



5 Fixing Elements for Supporting Tubes

Fixing Clamp with Tensioning Strap

For fixing the supporting tubes at construction elements e.g. antenna masts.

Part No.	105 360
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
PU	1 pc(s)



Fixing Clamp with Tensioning Strap

With additional spacer for adjusting the fasteners of sector antennas at the mast.

Part No.	105 361
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length of spacer	30 mm
PU	1 pc(s)



Fixing Clamp with Tensioning Strap

With additional long spacer for adjusting the fasteners of sector antennas at the mast.

Part No.	105 362
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length of spacer	95 mm
PU	1 pc(s)



Fixing Bracket

For fixing the supporting tubes at the structure to be protected or on the wall.



Part No.	105 340
Material	StSt
Clamping range of supporting tube	50 mm
Wall / corner distance	80 mm
Dimension of fixing	320 mm
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
PU	1 pc(s)

Fixing Bracket

For fixing the supporting tubes at the structure to be protected or on the wall.



Part No.	105 341
Material	StSt
Clamping range of supporting tube	50 mm
Wall / corner distance	80 mm
Dimension of fixing	152 mm
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
PU	1 pc(s)

Fixing Bracket

Wall mounting bracket for vertical mounting.
For fastening of the supporting tubes or air-termination rods D40 / D50.



Part No.	105 342
Material of bracket	StSt
Fixing	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Clamping range of supporting tube	40-50 mm
Wall / corner distance	46 mm
Dimension of fixing	170 mm
PU	1 pc(s)

Fixing Bracket

Wall mounting bracket with adjustment range between 150-200 mm.
For fastening of supporting tubes or air-termination rods D40 / D50 with double cleat for connection of 2x Rd 8-10 mm.



Part No.	105 344
Material of bracket	StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	150-200 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 26 mm
Standard	EN 62561-1
PU	1 pc(s)

Fixing Bracket

Wall mounting bracket with adjustment range between 400-700 mm.
For fastening of the supporting tubes or air-termination rods D40 / D50.



Part No.	105 343
Material of bracket	St/tZn / StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	400-700 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 25 mm
PU	1 pc(s)

Railing Clamp

For pipes.

Part No.	105 354
Material	StSt
Clamping range of pipe Ø	48-60 mm (1 1/2-2")
Clamping range of supporting tube	40-50 mm
PU	5 pc(s)


Railing Clamp

For pipes.

Part No.	105 355
Material	StSt
Clamping range of pipe Ø	70-90 mm (2 1/4-3")
Clamping range of supporting tube	40-50 mm
PU	5 pc(s)


Railing Clamps

For square hollow profiles.

Part No.	105 356	105 376
Material	StSt	StSt
Clamping range of square profile	20 x 20 bis 50 x 50 mm	60 x 120 mm
Clamping range of supporting tube	40-50 mm	40-50 mm
PU	5 pc(s)	5 pc(s)


5 Spacers for Omnidirectional Antennas

Spacer for DEHNiso Combi supporting tubes with inside and / or outside installed HVI Conductor mounted on the antenna mast.

Part No.	105 363	105 364	105 365
Material of support / square profile	St/tZn	St/tZn	St/tZn
Clamping range (Ø mast)	55-100 mm	100-150 mm	150-190 mm
Clamping range of supporting tube	50 mm	50 mm	50 mm
Length of spacer	1000 mm	1000 mm	1000 mm
Dimension (w x h x d)	140 x 120 x 55 mm	190 x 140 x 60 mm	230 x 180 x 70 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)



Spacers for omnidirectional antennas in special lengths or any other diameters available upon request!

6 Accessories for HVI®Conductor and HVI®long Conductor
Roof Conductor Holder for Flat Roofs

For fixing round and strip conductors on flat roofs with single conductor holder Type FB.

Part No.	253 015
Conductor leading	loose
Material of conductor holder	plastic
Conductor holder support Rd	8 mm
Block	concrete (C35/45)
Weight	1 kg
PU	10 pc(s)


Adapter for Installation of the HVI®light Conductor / HVI®Conductor on Flat Roofs

With roof conductor holder Type FB (Part No. 253 015) for snapping on.

Part No.	253 026
Material	plastic
Colour	black ●
Conductor holder support Rd	20 mm
PU	50 pc(s)



Adapter for Installation of the HVI®Conductor on Flat Roofs

With roof conductor holder Type FB (Part No. 253 015), for snapping on.



Part No.	253 027
Material	plastic
Colour	black ●
Conductor holder support Rd	23 mm
PU	50 pc(s)

Roof Conductor Holder

For flat roofs, weight approx. 4.7 kg.

Conductor holder, concrete block and support plate, for installing the HVI light Conductor, HVI Conductor on flat roofs.



Part No.	253 229
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Total weight	approx. 4.7 kg
PU	1 pc(s)

Roof Conductor Holder

For flat roofs, weight approx. 8.6 kg.

Conductor holder, concrete block and support plate, for installing the HVI light Conductor, HVI Conductor on flat roofs.



Part No.	253 239
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Total weight	approx. 8.6 kg
PU	1 pc(s)

Conductor Holder

Conductor holder with slotted cleat for HVI light Conductor, HVI Conductor for fastening in the support plate (Part No. 253 300) with concrete block (Part No. 253 301).



Part No.	253 289
Material	StSt
Conductor holder support Rd	20 / 23 mm
Height of conductor holder	87 mm
Bolt	Ø10 mm (push-fit)
PU	24 pc(s)

Concrete Block

For stabilising the support plate.



Part No.	253 301
Material	concrete (C35/45)
Weight	4.6 kg
Dimension	180 x 180 x 70 mm
PU	24 pc(s)

Support Plate

Support plate with adapter (lock bush) for the spacer bar (Part No. 253 315, 253 325) as well as conductor holder (Part No. 253 289) and for protection of the roofing sheets under the concrete block (Part No. 253 301).



Part No.	253 300
Diameter Ø	300 mm
Diameter Ø of socket	10 mm
Height	60 mm
Material	plastic
Colour	grey ●
PU	24 pc(s)

Conductor Holder

Conductor holder with slotted cleat for HVI light Conductor, HVI Conductor for wedge mounting with concrete base (Part No. 102 075).



Part No.	253 279
Material	StSt
Conductor holder support Rd	20 / 23 mm
Height of conductor holder	125 mm
Bolt	Ø16 mm (wedge-fit)
PU	25 pc(s)

Concrete Base

For wedge mounting, for air-termination rods Ø10, length 1000 mm or DEHNiso spacers Ø16 mm, length up to 675 mm (distance 0.8 m) or conductor holder (Part No. 253 297).

Part No.	102 075
Total weight	8.5 kg
Diameter Ø	240 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	120 pc(s)


Support Plate

For protecting the roofing sheets under the concrete base.
For concrete bases (Part No. 102 075, 102 003).

Part No.	102 060
Diameter Ø outside	280 mm
Diameter Ø inside	270 mm
Material	EVA
Colour	black●
PU	1 pc(s)


EB Clamp

For connecting the special sheath of the HVI Conductor to the equipotential bonding.

Part No.	405 020
Material of clamp	St/tZn
Clamping range Ø	20 mm
Terminal cross-section	4-95 mm ²
PU	25 pc(s)


Spacer with EB Element

For implementing the sealing end of the HVI Conductor.
With MV clamp for connection to the equipotential bonding Rd 16 mm / Rd 8-10 mm.
Concrete base (Part No. 102 010, weight 17 kg) and **support plate** (Part No. 102 050) have to be ordered separately.

Part No.	105 275
Material of spacer	Al
Length of spacer	705 mm
Conductor holder support Rd	20 mm
Material of conductor holder	StSt
PU	1 pc(s)


Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).

Part No.	102 010
Weight	17 kg
Support	wedge mounting Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	54 pc(s)


Support Plate

For protecting the roofing sheets under the concrete base.
For concrete bases (Part No. 102 010, 102 002).

Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black●
PU	1 pc(s)



Roof Conductor Holder

With preformed bending points for angling and hooking at the tile and for screwing to the batten, for installing the HVI Conductor on saddle roofs.



Part No.	202 829	
Material of roof conductor holder	StSt	
Material of conductor holder	StSt	
Conductor holder support Rd	20 / 23 mm	
Length of brace	205 mm	
PU	1 pc(s)	

Conductor Holder with Tensioning Strap

With conductor holder made of PA.



Part No.	275 330	275 333
Material of conductor holder	PA	PA
Conductor holder support Rd	20 mm	23 mm
Tensioning range Ø pipe	50-300 mm	50-300 mm
PU	1 pc(s)	1 pc(s)

Conductor Holder with Tensioning Strap

With metal conductor holder.



Part No.	275 320	
Material of conductor holder	StSt	
Conductor holder support Rd	20-23 mm	
Tensioning range Ø pipe	50-300 mm	
PU	1 pc(s)	

Conductor Holder for Tensioning Strap Fixing

For fixing the HVI Conductor at pipes e.g. with pipe clamp (Part No. 106 323).



Part No.	275 319	
Material of conductor holder	StSt	
Conductor holder support Rd	20-23 mm	
PU	10 pc(s)	

Pipe Clamp with Tensioning Strap

For fixing (tensioning) of conductor holders (e.g. 275 359) on different pipes.



Part No.	106 323	
Material of head / strap	StSt	
Clamping range Ø	50-300 mm	
Dimension of strap	1100 x 25 x 0.3 mm	
Material of screw	StSt	
PU	10 pc(s)	

Separate Grip Head

For combination with endless tensioning strap (Part No. 540 901) in case of larger pipe diameters, e.g. for adapter with fixing bush.



Part No.	106 324	
Material of head	StSt	
For strap (w x d)	25 x 0.3 mm	
Screw	M8 x 20 mm	
Material of screw	StSt	
PU	20 pc(s)	

Tensioning Strap



Part No.	540 901	
Material	StSt	
Strap dimension (w x d)	25 x 0.3 mm	
Length	100 m	
Military Name	VG 96953 T05 BB001	
PU	1 pc(s)	

Conductor Holders

With thread.

For wall mounting with two-screw cleat (not for use in the sealing end range).

Part No.	275 250	275 251
Material of conductor holder	StSt	StSt
Conductor holder support Rd	20 / 23 mm	20 / 23 mm
Thread	M8	M6
PU	25 pc(s)	25 pc(s)


Conductor Holder

With plastic base.

For wall mounting with two-screw cleat (not for use in the sealing end range).

Part No.	275 259
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Thread	M8
PU	25 pc(s)


Conductor Holder

With slot hole.

For wall mounting with two-screw cleat (not for use in the sealing end range).

Part No.	275 252
Material of conductor holder	StSt
Conductor holder support Rd	20 / 23 mm
Fixing bore	5.5 x 10 mm
PU	25 pc(s)


Conductor Holders for HVI®Conductor

For wall mounting and for mounting in the sealing end range.

Part No.	275 220	275 225
Material of conductor holder	PA	PA
Conductor holder support Rd	20 mm	23 mm
Female thread	M8	M8
Fixing bore	6.5 mm	6.5 mm
Screw	🔩 M6 x 16 mm	🔩 M6 x 16 mm
PU	25 pc(s)	25 pc(s)


Conductor Holder for HVI®Conductor

For wall mounting with two-screw cleat (not in the sealing end range).

Part No.	275 229
Material of conductor holder	StSt
Conductor holder support Rd	20 mm
Fixing bore	6.5 x 16 mm
Screw	🔩 ↻ M6 x 14 mm
PU	50 pc(s)


Conductor Holder for HVI®Conductor

For wall mounting with two-screw cleat (not for use in the sealing end range).

Part No.	275 239
Material of conductor holder	StSt
Conductor holder support Rd	23 mm
Fixing bore	6.5 x 16 mm
Screw	🔩 ↻ M6 x 14 mm
PU	50 pc(s)



Sign
Front in German
ACHTUNG! Getrennter Blitzschutz mit HVI-Leitung

Back in English
ATTENTION! Separated Lightning Protection with HVI conductor system


Part No.	480 598
Material	plastic
Dimension (l x w x d)	300 x 210 x 1 mm
Fastening	[4x] Ø6.5 mm
Hole distance	270 / 180 mm
PU	1 pc(s)

Sign
Front in German
ACHTUNG! Potentialausgleich

Back in English
ATTENTION! Equipotential Bonding

Hole distance suits for two-screw cleat Part No. 480 291.



Part No.	480 599
Material	plastic
Dimension (l x w x d)	70 x 30 x 1 mm
Fastening	[2x] Ø6.5 mm
Hole distance	38 mm
PU	1 pc(s)

7 Conductor Holders for HVI®Conductor in Ex Areas


The HVI Conductor is suitable for use in explosion hazardous areas of Ex zone 1 (gases, vapours, mists) as well as Ex zone 21 (dusts). The special installation conditions safely prevent electric sparks to neighbouring metal parts when lightning current flows through the HVI Conductor.

The HVI Conductor has to be installed in explosion hazardous areas in accordance with the installation instructions.

HVI®Ex W70 holder

For fixing on metal construction parts (façades) in Ex zones 1 and 21.



Part No.	275 440
Material	StSt
Conductor holder support Rd	20 mm
Wall distance	70 mm
Fixing	[4x] Ø5.1 / [2x] 7 x 10 mm
PU	10 pc(s)

HVI®Ex W200 holder

For fixing on metal construction parts (façades) in Ex zones 1 and 21.



Part No.	275 441
Material	StSt
Conductor holder support Rd	20 mm
Wall distance	200 mm
Fixing	[4x] Ø5.1 / [2x] 7 x 10 mm
PU	10 pc(s)

HVI®Ex busbar 500

For HVI Conductor installation with conductor holder HVI-Ex W70 holder (Part No. 275 440) on a non-conductive structure, e.g. stone, wood.



Part No.	275 498
Material of brace	StSt
Fixing	[4x] Ø5.5 / [2x] 7 x 10 mm
Dimension (l x w x d)	450 x 30 x 3 mm
PU	10 pc(s)

HVI®Ex P70 holder

For fastening on pipes e.g. with pipe clamp (Part No. 106 323) in Ex zones 1 and 21.



Part No.	275 444
Material	StSt
Conductor holder support Rd	20 mm
Wall distance	70 mm
Clamping range of tube	50-300 mm
PU	10 pc(s)

HVI®Ex P200 holder

For fixing on pipes e.g. with pipe clamp (Part No. 106 323) in Ex zones 1 and 21.

Part No.	275 442
Material	StSt
Conductor holder support Rd	20 mm
Wall distance	200 mm
Clamping range of tube	50-300 mm
PU	10 pc(s)


Accessories for Conductor Holders for HVI®Conductor in Ex Areas
Pipe Clamp with Tensioning Strap

For fixing (tensioning) the HVI Ex P200 holder (Part No. 275 442) on pipes.

Part No.	106 323
Material of head / strap	StSt
Clamping range Ø	50-300 mm
Dimension of strap	1100 x 25 x 0.3 mm
Screw	☒ M8 x 20 mm
Material of screw	StSt
PU	10 pc(s)


Separate Grip Head

For combination with endless tensioning strap (Part No. 540 901) in case of larger pipe diameters, e.g. for adapter with fixing bush.

Part No.	106 324
Material of head	StSt
For strap (w x d)	25 x 0.3 mm
Screw	☒ M8 x 20 mm
Material of screw	StSt
PU	20 pc(s)


Tensioning Strap

Part No.	540 901
Material	StSt
Strap dimension (w x d)	25 x 0.3 mm
Length	100 m
Military Name	VG 96953 T05 BB001
PU	1 pc(s)



8 Connecting Components 200 kA (10/350 µs)



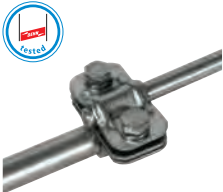
For use in protection class I and II of the lightning protection system (class of LPS I, II).
Clamps are tested with a 200 kA (10/350 µs) lightning impulse current, based on EN 62561-1.

UNI disconnecting clamp for two round conductors



Part No.	459 200
Material	StSt
Clamping range Rd / Rd	10 / 10 mm
Clamping range Rd / FI	10 / 30 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)

UNI disconnecting clamp for earth entry rods



Part No.	459 219
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)

Clamping piece



Part No.	380 209
Material	StSt
Clamping range FI	30 x 4 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)

KS connector



Part No.	301 209
Material	StSt
Clamping range Rd	10 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)

MV clamp for round conductors



Part No.	390 209
Material	StSt
Clamping range Rd / Rd	8-10 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)

MV clamp for air-termination rods



Part No.	392 209
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)

DECLARATION OF MANUFACTURER

Product: UNI Disconnecting Clamps 200 kA
 Product designation: Part No. 459 200
 Part No. 459 219
 Type: UTE 200 210 FI 20 DP C/A
 UTE 200 210 FI 20 C/A
 Manufacturer: DEHN + SOHN GmbH + Co. KG
 ELECTROTECHNISCHE FABRIK
 DEHN Gmbh, DEHN AG
 92233 Neumarkt/OP, Germany

Application:
 The UNI disconnecting clamps are used as lightning current carrying specific connections from an termination tip on rods to conductors respectively from down conductors to the earth network as per IEC 62561-1:2014 (EN 62561-1) and IEC 62561-2:2014 (EN 62561-2).
 We herewith confirm that the UNI disconnecting clamps are suitable for use in Ex zone 2 (gas, vapor, mist) and Ex zone 22 (dust).
 The UNI disconnecting clamps have no general access of lightning component of their own and are thus not subject to the European directive 94/EC.
 Therefore approval according to the European directive 94/EC is legally impossible and not required from an explosion protection point of view.

Neumarkt, 26.11.2014

 Dr. Ing. Rüdiger Beckler
 Director R & D

9 Stripping Tool for HVI®light Conductors / HVI®Conductors



Tool for stripping the semi-conductive sheath and the PE insulation of the HVI light Conductor, HVI Conductor (outer diameter 20 mm).

- Tool consists of a handle and various exchangeable cutting heads
- Stripping length of HVI light Conductor, HVI Conductor is adjustable in steps of 0.2 mm (lock points) by the set screw in the handle and is shown on the handle scale

Handling

Apply the cutting head at the conductor end and turn clockwise with light pressure for cutting / stripping.
Exchange of the cutting head without tool due to the bayonet coupling.

HVI®strip 20

For HVI light Conductor (handle + cutting head).

Part No.	597 220
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



HVI®head 20

For HVI light Conductor (cutting head).

Part No.	597 120
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



Accessories for Stripping Tool for HVI®light Conductors / HVI®Conductors

HVI®head holder

Adapter with bayonet coupling for attaching the HVI head cutting head (pre-set stripping length 35 mm). Adapter may be used in usual three-jaw chuck (Ø10 mm) e.g. of cordless screwdrivers.

Part No.	597 139
Material	plastic / Ms
PU	1 pc(s)



Spare Blades for HVI®head 20

1 set = 4 blades

Part No.	597 101
Material	StSt
PU	1 Sa



9 Stripping Tool for HVI®Conductors

Tool for stripping the additional grey sheath of the HVI light Conductor and HVI Conductor. DEHNhelix consists of a handle and an exchangeable bracket (depending on the conductor diameter).



DEHNhelix

Part No.	597 230
Diameter Ø conductor	20-27 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)

Accessory for Stripping Tool for HVI®Conductors

NEW



Spare Blade for Stripping Tool

Part No.	597 130 <small>NEW</small>
Material	StSt
PU	1 pc(s)

9 Cable Shears for HVI®Conductors



Cable shears for easily cutting of the HVI light Conductor, HVI Conductor (outer diameter 20 / 23 mm) and HVI power Conductor (outer diameter 27 mm) and of the CUI Conductor.

The special design of the cable shears also allows for a precise cutting of stranded conductors for attaching the connection elements easily.



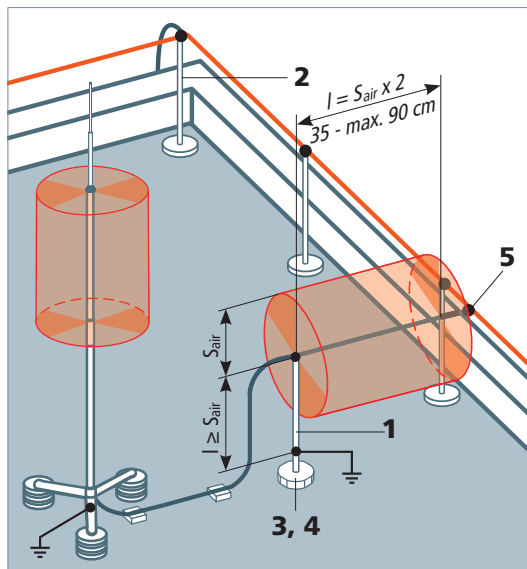
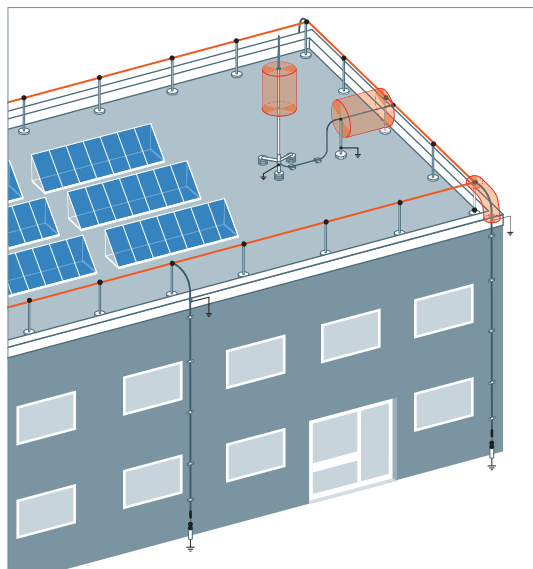
HVI®cutter

Part No.	597 032
Diameter Ø conductor	up to 32 mm
Material of blades	tool steel (CR-Moly (SCM440))
Material of handles	carbon steel (S5400)
Length	600 mm
PU	1 pc(s)

10 Sealing End Range, Connection to "Isolated Ring Conductor"



If several installations are protected, it is not necessary to connect the HVI Conductors of the individual air-termination systems directly with the earth-termination system. The HVI Conductors can be connected to an "isolated ring conductor". From there several down conductors are routed to the earth-termination system. The „isolated ring conductor“ has to be installed on spacers and concrete bases e.g. on the roof level. The calculated separation distance "s" must be observed.



Accessories for Sealing End Range, Connection to "Isolated Ring Conductor"

Spacer with EB Element

For implementing the sealing end of the HVI Conductor.

With MV clamp for connection to the equipotential bonding Rd 16 mm / Rd 8-10 mm.

Concrete base (Part No. 102 010, weight 17 kg) and support plate (Part No. 102 050) have to be ordered separately.

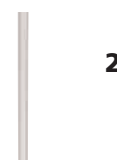
Part No.	105 275
PU	1 pc(s)



DEHNiso Spacers with MMV Clamp

For crossing points, on installation in concrete base (Part No. 102 075), fixed conductor leading.

Part No.	106 150
PU	1 pc(s)



Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).

Part No.	102 010
PU	54 pc(s)



Support Plate

For protecting the roofing sheets under the concrete base. For concrete bases (Part No. 102 010, 102 002).

Part No.	102 050
PU	1 pc(s)

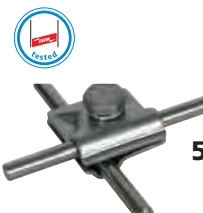


MV Clamp

With hexagon screw, spring washer and thread in the base part.

Lightning current carrying capability 200 kA (10/350 µs).

Part No.	390 209
PU	1 pc(s)

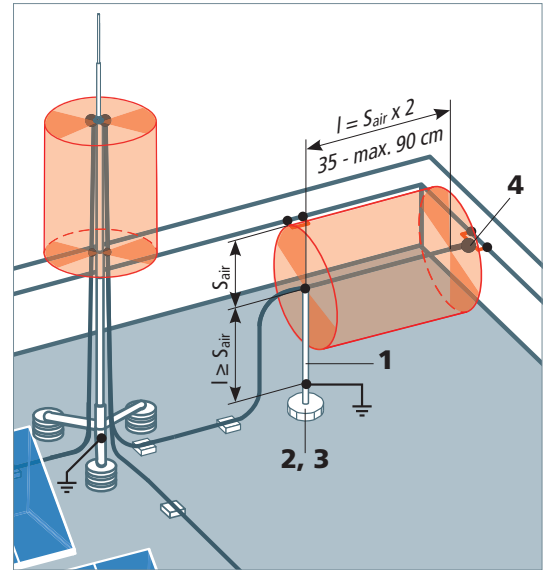
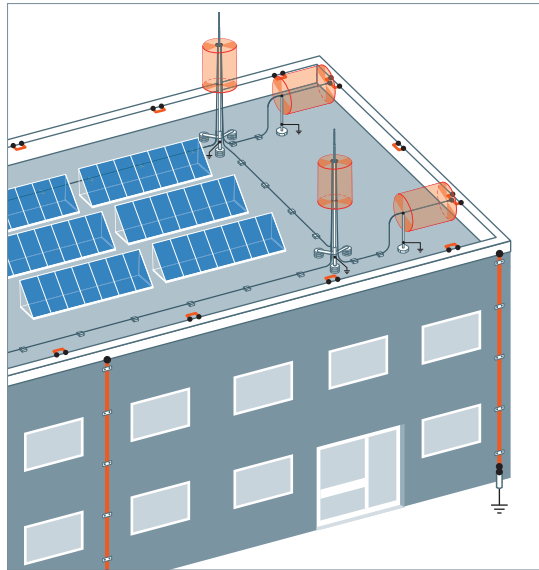


HVI®Conductor



10 Sealing End Range, Connection to "Capping of Roof Parapet"

If several installations are protected, it is not necessary to connect the HVI Conductors of the individual air-termination systems directly with the earth-termination system. The HVI Conductors from the air-termination systems can be connected to the capping of the roof parapet. From there several down conductors are routed to the earth-termination system.



Accessories for Sealing End Range, Connection to "Capping of Roof Parapet"



Spacer with EB Element

For implementing the sealing end of the HVI Conductor.
With MV clamp for connection to the equipotential bonding Rd 16 mm / Rd 8-10 mm.
Concrete base (Part No. 102 010, weight 17 kg) and support plate (Part No. 102 050) have to be ordered separately.

Part No.	105 275
PU	1 pc(s)



Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).

Part No.	102 010
PU	54 pc(s)



Support Plate

For protecting the roofing sheets under the concrete base.
For concrete bases (Part No. 102 010, 102 002).

Part No.	102 050
PU	1 pc(s)



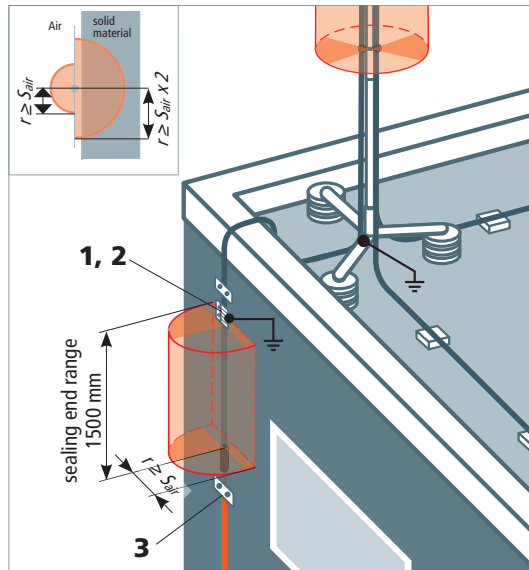
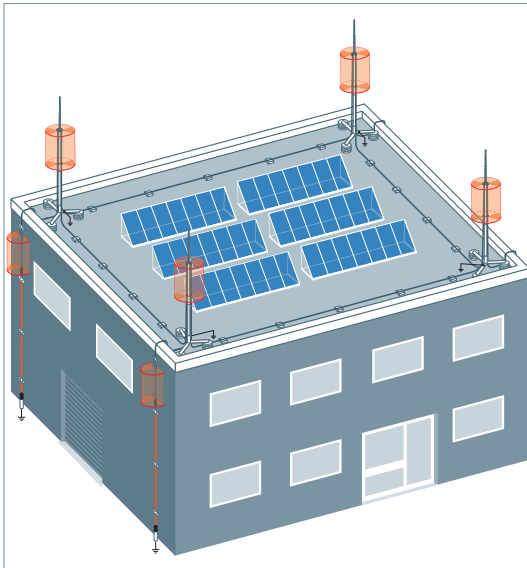
KS Connector

With screw and nut M10. For connecting the HVI power Conductor with the metal capping of the roof parapet.
Lightning current carrying capability 200 kA (10/350 µs).

Part No.	301 209
PU	1 pc(s)

10 Sealing End Range on a Building

If HVI Conductors are installed on a building, the calculated separation distance "s" in the sealing end range from the metal parts in the building must be maintained. The sealing end ranges from the EB connection element to the connection of the earth connection element. If the HVI Conductor is directly connected with an earth entry rod / earth-termination system an EB element is not necessary. The sealing end range remains unconsidered.



HVI®Conductor

Accessories for Sealing End Range on a Building

EB Connection Element for HVI®long Conductor

For discharging the electric field of the HVI long Conductor in the sealing end range. Special slotted design for electrically contacting of the semi-conductive sheath.

Part No.	410 229
PU	1 pc(s)



KS Connector

With screw and nut M10.

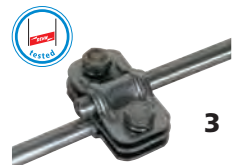
Part No.	301 019
PU	100 pc(s)



Disconnecting Clamp

Disconnecting clamp with spring washer to connect the HVI power Conductor with the earth entry rod. Lightning current carrying capability 200 kA (10/350 μs).

Part No.	459 200
PU	1 pc(s)



The HVI power Conductor is the most powerful variant of the high-voltage-resistant, insulated down conductors (HVI Conductors). Compared with the standard HVI Conductor it allows to maintain an equivalent separation distance of 0.9 m in air and 1.8 m in solid material. It shall be pointed out in particular that the HVI power Conductor and the corresponding components are tested for a lightning current carrying capability of up to 200 kA (10/350 μ s) based on EN 62561-1. Therefore this type of conductor may be used for all classes of LPS (I-V).

This conductor is installed preferably on buildings such as hospitals, computing centres or silos where due to the building dimensions (height) wide separation distances are to be maintained. Also the conductor can be routed over a longer distance down to the earth-termination system. The conductor is installed inside of the supporting tube. The required functional equipotential bonding for the sealing end is automatically provided by the interior EB spring element. Connection of the supporting tube with the functional equipotential bonding of the building is not necessary.

Pre-assembled HVI®power Conductor

The pre-assembled HVI power Conductor is delivered with one head piece and one connection element (loosely included). Minimum order length is 6 m, additional conductor lengths in steps of 0.5 m. Conductor lengths to be indicated when ordering.

HVI®power long Conductor

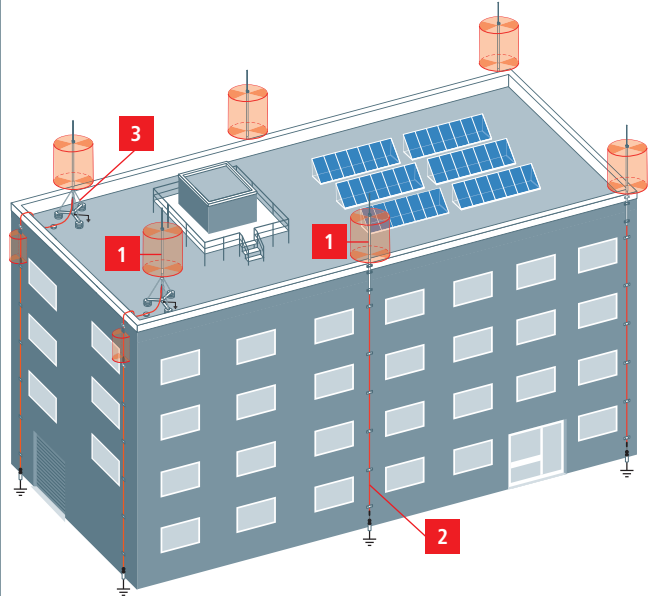
The HVI power long conductor for on-site assembly will be delivered in a length of 100 m on a disposable plywood reel (diameter approx. 900 mm, width approx. 485 mm) incl. one Allen key.

- High-voltage-resistant, insulated HVI power Conductor to maintain the separation distance from electrically conductive parts according to EN 62305-3
- Equivalent separation distance $s < 0.9$ m (in air) or < 1.8 m (solid material)

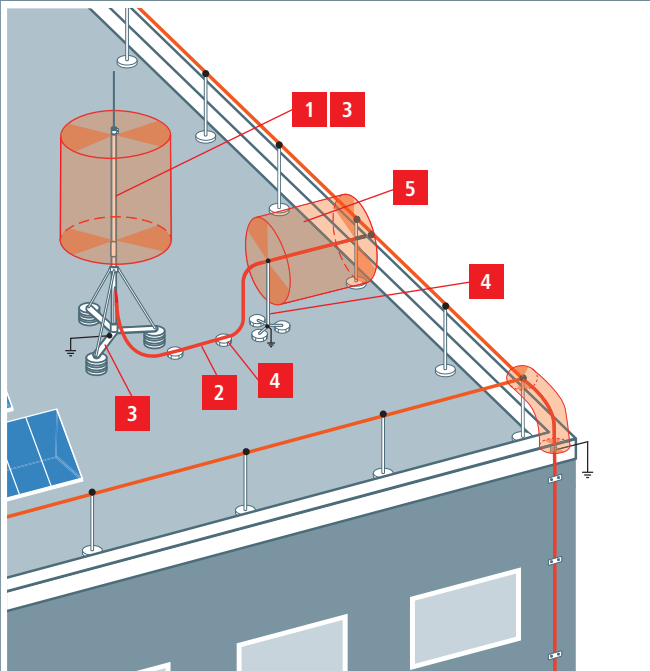


Technical data	HVI®power	HVI®power long
Structure	stranded	stranded
Cross-section of interior conductor (Cu)	25 mm ²	25 mm ²
Colour	black	black
Outer diameter	27 mm	27 mm
Equivalent separation distance (air)	≤ 90 cm	≤ 90 cm
Equivalent separation distance (solid material)	≤ 180 cm	≤ 180 cm
Minimum bending radius (OD = outer diameter)	10 x AO, 270 mm black	10 x AO, 270 mm black
Operating temperature	-50 °C ... +70 °C	-50 °C ... +70 °C
Temperature for installation	-5 °C ... +40 °C	-5 °C ... +40 °C
Tensile strength	1200 N	1200 N
UV stability / weather resistance	yes	yes
Tested with I_{imp} (10/350 μ s) based on EN 62561-1	200 kA	200 kA
For use in class of LPS in case of a single down conductor without current distribution ($k_c = 1$)	I, II, III, IV	I, II, III, IV
Installation in Ex zone 1 and 21	possible	possible
Minimum order quantity	> 6 m	100 m
Cable weight / 100 m	—	~ 73 kg

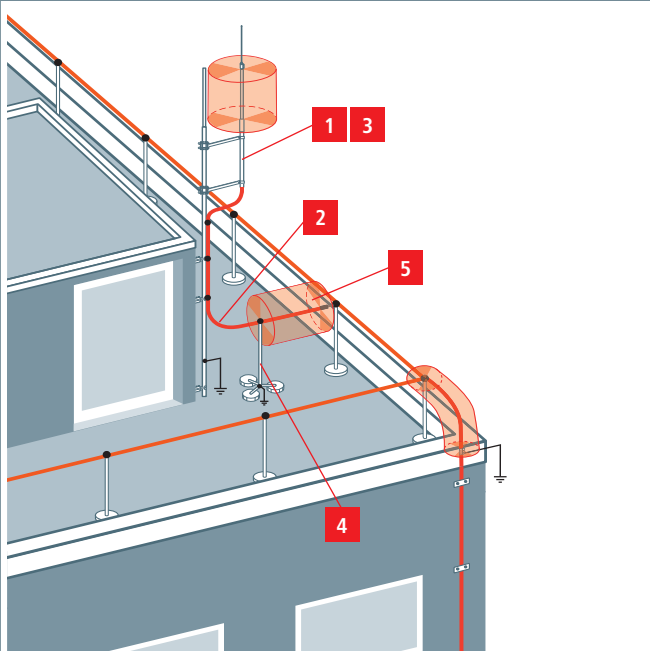
Partly Isolated Lightning Protection of an Industrial Building




Self-supporting HVI®power System



HVI®power Conductor Mounted on an Antenna Pole



Product	Product name
<p>1</p> 	<p>Supporting Tubes with HVI®power Conductor</p> <p>Page 190</p>
<p>2</p> 	<p>HVI®power Conductor Connection Elements</p> <p>Page 191</p>
<p>3</p> 	<p>Supporting Tubes for HVI®power Conductor Tripods</p> <p>Accessories for Tripods</p> <p>Page 192</p>
<p>4</p> 	<p>Fixing Elements for Tripods</p> <p>Page 196</p>
<p>5</p> 	<p>Sealing End Ranges</p> <p>Page 205</p>

HVI®power Conductor

1 Supporting Tube with HVI®power Conductor



Optically adapted installation of the HVI power Conductor inside of the supporting tube provides less wind exposed surface. Applicable up to an equivalent separation distance $s \leq 90$ cm (in air) or $s \leq 180$ cm (solid material). Conductor length to be indicated when ordering (in steps of 0.5 m).

HVI®power Conductor inside of supporting tube with air-termination rod

Supporting tube with interior sealing end and EB spring element. Air-termination rod StSt, Ø10 mm, length 1000 mm.



Part No.	819 430
Material of supporting tube	GRP / StSt
Length of supporting tube	3500 mm
Transport length	3500 mm
Diameter Ø conductor	27 mm
Colour of conductor	black ●
Material of conductor	Cu
Minimum order length	6 m
Maximum order length	35 m
Suitable for installation outside of tube	no
Max. free length with air-termination rod (wall mounting)	3500 mm
Max. gust wind speed (wall mounting, 1x HVI power inside)	235 km/h
PU	1 pc(s)

HVI®power Conductor inside of supporting tube with air-termination rod

Supporting tube with interior sealing end and EB spring element. Air-termination rod StSt, Ø22 / 16 / 10 mm, length 2500 mm.



Part No.	819 431	819 433
Material of supporting tube	GRP / StSt	GRP / StSt
Length of supporting tube	3500 mm	5000 mm
Transport length	3500 mm	5000 mm
Diameter Ø conductor	27 mm	27 mm
Colour of conductor	black ●	black ●
Material of conductor	Cu	Cu
Minimum order length	6 m	6 m
Maximum order length	35 m	35 m
Suitable for installation outside of tube	no	no
Max. free length with air-termination rod (wall mounting)	5000 mm	5000 mm
Max. gust wind speed (wall mounting, 1x HVI power inside)	169 km/h	169 km/h
PU	1 pc(s)	1 pc(s)

Due to the order related manufacturing (customised conductor length) the conductor can not be taken back.
Max. gust wind speed (supporting tube with tripod) see table on page 138.

Air-termination Mast with HVI®power Conductor



For a maximum free length of the whole air-termination system of 8.5 m. Fixing has to be implemented with three variable supports (Part No. 105 345). Transport length 6000 mm.

Design with 1x HVI power Conductor inside. Conductor length to be indicated when ordering (steps of 0.5 m).

Maximum total length of the HVI power Conductor 11.0 m at LPS class I.

Maximum total length of the HVI power Conductor 15.0 m at LPS class II.

Maximum total length of the HVI power Conductor 22.5 m at LPS class III.



Part No.	819 760
Total length of air-termination mast	11000 mm
Length of air-termination rod	3000 mm
Length of supporting tube	2300 mm
Length of mast pipe	6000 mm
Minimum order length	10 m
Maximum order length	35 m
Suitable for installation outside of tube	no
Max. gust wind speed	147 km/h
PU	1 pc(s)

Accessory for Air-termination Mast with HVI®power Conductor

Variable Support for Air-termination Masts

Three supports per air-termination mast are to be mounted. Clamping range of air-termination mast Ø60 mm.



Part No.	105 345
Material of support	St/tZn
Range of adjustment	250-350 mm
Fixing bores Ø	[4x] 12 x 25 mm
PU	1 pc(s)

2 HVI®power Conductor



High-voltage-resistant, insulated down conductor for maintaining the separation distance to electrically conductive parts according to IEC/ EN 62305-3.

For use up to an equivalent separation distance $s \leq 90$ cm (in air) or $s \leq 180$ cm (solid material).

HVI®power Conductor (pre-assembled, installation inside of tube)

With head piece and connection element (loosely enclosed).

Minimum order length 6 m, conductor length to be indicated when ordering (in steps of 0.5 m).

Part No.	819 160
Material of conductor	Cu
Material of insulation	PE
Material of sheath	PE
Colour of conductor	black ●
Diameter Ø conductor	27 mm
Minimum order length	6 m
Maximum order length	35 m
PU	1 pc(s)



HVI®power Conductor (pre-assembled, installation outside of tube) für HVI®power supporting tube GRP / Al

HVI power Conductor pre-assembled for installation outside of tube with head piece and connection element (loosely enclosed).

Connection kit for installation of the HVI power Conductor on HVI power supporting tubes GRP / Al consists of threaded pins, connection part, heat-shrinkable sleeve and fixing ring with slotted conductor holder (Ø27 mm) for the sealing end (including cable ties).

Minimum order length 6 m, conductor length to be indicated when ordering (in steps of 0.5 m).

Part No.	819 165
Material of conductor	Cu
Material of insulation	PE
Material of sheath	PE
Colour of conductor	black ●
Diameter Ø conductor	27 mm
Minimum order length	6 m
Maximum order length	35 m
PU	1 pc(s)



HVI®power Conductor

HVI®power long Conductor (on reel)

The HVI power long Conductor for on-site assembly is delivered in a length of 100 m on a disposable plywood reel (diameter approx. 900 mm, width approx. 485 mm) including one Allen key.

Part No.	819 137
Material of conductor	Cu
Material of insulation	PE
Material of sheath	PE
Colour of conductor	black ●
Diameter Ø conductor	27 mm
PU	100 m



HVI®power long Conductor (cut to length)

HVI power long Conductor cut to length for on-site assembly. The conductor is available in coil (Part No. 819 163) or on reel (Part No. 819 161). Conductor length to be indicated when ordering (in steps of 0.5 m).

Part No.	819 163 <small>NEW</small>	819 161 <small>NEW</small>
Material of conductor	Cu	Cu
Material of insulation	PE	PE
Material of sheath	PE	PE
Colour of conductor	black ●	black ●
Diameter Ø conductor	27 mm	27 mm
Minimum order length	6 m	36 m
Maximum order length	35 m	80 m
PU	1 pc(s)	1 pc(s)



2 Connection Elements for HVI®power Conductor / HVI®power long Conductor



Connection kit for HVI®power long Conductor Ø27 mm for installation inside of tube

Connection elements for sealing the HVI power long Conductor at both ends, to implement the sealing end of the conductor in the supporting tube (head piece) and connection element for connection with other parts of the external lightning protection system or earth-termination system (including two heat-shrinkable sleeves).

Part No.	819 142
Material	StSt
Connection	bolt Ø10 mm, L 40 mm
Diameter Ø outside	30 mm
Screw	threaded bolt M6 x 8 mm
PU	1 pc(s)

Connection kit for HVI®power long Conductor Ø27 mm for installation outside of tube

Connection kit for HVI power Conductor for installation on HVI power supporting tubes GRP / Al consisting of connection elements, threaded pins, connection part, heat-shrinkable sleeves, cable ties and fixing ring with a slotted conductor holder (Ø27 mm).



Part No.	819 149
Material	StSt
Connection	bolt Ø10 mm, L 40 mm
Diameter Ø outside	30 mm
Screw	threaded bolt M6 x 8 mm
PU	1 pc(s)

EB connection element for HVI®power Conductor / HVI®power long Conductor

For discharging the electric field of the HVI power Conductor (pre-assembled / on reel) in the sealing end range. Special slotted design for electrical contacting of the semi-conductive sheath.



Part No.	410 239
Material	StSt
Clamping range Ø	27 mm
Connection bore Ø	11 mm
Screw	● M10 x 20 mm
PU	1 pc(s)

3 Supporting Tubes for HVI®power Conductor / HVI®power long Conductor



With air-termination rod

Supporting tube with interior sealing end and EB spring element. Air-termination rod StSt, Ø10 mm, length 1000 mm.

Part No.	105 563	105 565	105 320	105 322
Material of supporting tube	GRP / Al	GRP / Al	GRP / StSt	GRP / StSt
Length of supporting tube	3500 mm	5000 mm	3500 mm	5000 mm
Diameter Ø outside	50 mm	50 mm	50 mm	50 mm
Transport length	3500 mm	5000 mm	3500 mm	5000 mm
Length of insulating clearance	1800 mm	1800 mm	1800 mm	1800 mm
Suitable for installation outside of tube	yes	yes	no	no
Max. free length with air-termination rod (wall mounting)	4000 mm	4000 mm	4000 mm	4000 mm
Max. gust wind speed (wall mounting, 1x HVI power inside)	203 km/h	203 km/h	235 km/h	235 km/h
Max. gust wind speed (wall mounting, 1x HVI power inside / outside)	181 km/h	181 km/h	—	—
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



With air-termination rod

Supporting tube with interior sealing end and EB spring element. Air-termination rod StSt, Ø22 / 16 / 10 mm, length 2500 mm.

Part No.	105 573	105 575	105 321	105 323
Material of supporting tube	GRP / Al	GRP / Al	GRP / StSt	GRP / StSt
Length of supporting tube	3500 mm	5000 mm	3500 mm	5000 mm
Diameter Ø outside	50 mm	50 mm	50 mm	50 mm
Transport length	3500 mm	5000 mm	3500 mm	5000 mm
Length of insulating clearance	1800 mm	1800 mm	1800 mm	1800 mm
Suitable for installation outside of tube	yes	yes	no	no
Max. free length with air-termination rod (wall mounting)	5500 mm	5500 mm	5500 mm	5500 mm
Max. gust wind speed (wall mounting, 1x HVI power inside)	173 km/h	173 km/h	169 km/h	169 km/h
Max. gust wind speed (wall mounting, 1x HVI power inside / outside)	155 km/h	155 km/h	—	—
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



With air-termination rod and lateral outlet

Supporting tube with interior sealing end and EB spring element. Air-termination rod StSt, Ø10 mm, length 1000 mm.

Part No.	105 513	105 515	105 392	105 394
Material of supporting tube	GRP / Al	GRP / Al	GRP / StSt	GRP / StSt
Length of supporting tube	3500 mm	5000 mm	3500 mm	5000 mm
Diameter Ø outside	50 mm	50 mm	50 mm	50 mm
Transport length	3500 mm	5000 mm	3500 mm	5000 mm
Length of insulating clearance	1800 mm	1800 mm	1800 mm	1800 mm
Suitable for installation outside of tube	yes	yes	no	no
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Max. gust wind speed (supporting tube with tripod) see table on page 138.

With air-termination rod and lateral outlet

Supporting tube with interior sealing end and EB spring element. Air-termination rod StSt, Ø22 / 16 / 10 mm, length 2500 mm.

Part No.	105 543	105 545	105 393	105 395
Material of supporting tube	GRP / Al	GRP / Al	GRP / StSt	GRP / StSt
Length of supporting tube	3500 mm	5000 mm	3500 mm	5000 mm
Diameter Ø outside	50 mm	50 mm	50 mm	50 mm
Transport length	3500 mm	5000 mm	3500 mm	5000 mm
Length of insulating clearance	1800 mm	1800 mm	1800 mm	1800 mm
Suitable for installation outside of tube	yes	yes	no	no
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Max. gust wind speed (supporting tube with tripod) see table on page 138.



Accessories for Supporting Tubes for HVI®power Conductor / HVI®power long Conductor

Lateral Air-termination Rods Al for Supporting Tubes

Fastening kit for mounting lateral/horizontal air-termination rods at HVI long supporting tubes and HVI power supporting tubes. Consisting of four air-termination rods and one fixing ring.

Note: The additional wind load on the air-termination system with the laterally mounted air-termination rods must be observed!

Part No.	819 183	819 185
Length of air-termination rod	530 mm	1030 mm
Material of air-termination rod	Al	Al
Material of fixing ring	Al	Al
PU	1 pc(s)	1 pc(s)



Lateral Air-termination Rods StSt for Supporting Tubes

Fastening kit for mounting lateral/horizontal air-termination rods on HVI long supporting tubes and HVI power supporting tubes. Consisting of four air-termination rods and one fixing ring.

Note: The additional wind load on the air-termination system with the laterally mounted air-termination rods must be observed!

Part No.	819 184	819 186
Length of air-termination rod	530 mm	1030 mm
Material of air-termination rod	StSt	StSt
Material of fixing ring	StSt	StSt
PU	1 pc(s)	1 pc(s)



3 Tripods for Supporting Tubes without Lateral Outlet

Special design for supporting tube with HVI power Conductor installed inside, with double cleat for the connection of 2x Rd 8-10 mm. The bending radius of the HVI power Conductor at the bottom of the tripod is maintained by positioning three concrete blocks under and one on the brace.

Adjustable to the roof inclination up to max. 10°.

The stackable **concrete base** (Part No. 102 010, 102 012) and the **support plate** (Part No. 102 050) have to be ordered separately.

Tripod small

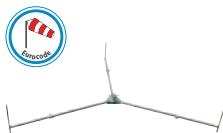
To use for supporting tube with HVI power Conductor inside.

Part No.	105 351
Material of tripod	St/tZn
Support	50 mm
Radius	620 mm
Quantity of concrete bases	3-12 blocks 17 kg each
Space required for tripod	1300 x 1450 mm
PU	1 pc(s)

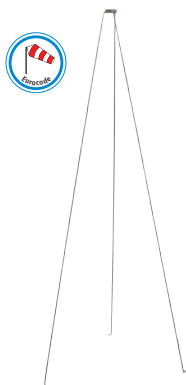


Tripod large

To use for supporting tube with HVI power Conductor outside.



Part No.	105 201
Material of tripod	St/tZn
Support	40 / 50 mm
Radius	1435 mm
Quantity of concrete bases	3-12 blocks 17 kg each
Space required for tripod	2520 x 2860 mm
PU	1 pc(s)

Accessories for Tripods for Supporting Tubes without Lateral Outlet

Bracing

Bracing, 3-fold with clamp for tubes D 50 mm for fastening at the tripod (Part No. 105 201). Bracing suitable for supporting tubes with a length of 4700 mm (e.g. Part No. 105 332, 105 316, 105 333, 105 317, 105 322, 105 323, 105 565, 105 575).

Part No.	105 601
Material	StSt
Brace length	2910 mm
Ø clamp	50 mm
PU	1 pc(s)

Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).



Part No.	102 010
Weight	17 kg
Support	wedge mounting Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	54 pc(s)

Concrete Base

Concrete base without wedge, for the erection of tripods.



Part No.	102 012
Weight	17 kg
Support	Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
PU	54 pc(s)

Support Plate

 For protecting the roofing sheets under the concrete base.
 For concrete bases (Part No. 102 010, 102 002).


Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black ●
PU	1 pc(s)

3 Tripods for Supporting Tubes with Lateral Outlet



Special design for supporting tube with HVI Conductor installed inside, with lateral outlet and double cleat for connection of 2x Rd 8-10 mm. Adjustable to the roof inclination up to max. 5°

The stackable concrete base (Part No. 102 010) and the support plate (Part No. 102 050) as well as the threaded rod sets (Part No. 105 396-105 398 or Part No. 105 496-105 498) have to be ordered separately.

Tripod small

Part No.	105 390
Material	StSt
Support	50 mm
Radius	600 mm
Space required for tripod	1400 x 1200 mm
PU	1 pc(s)



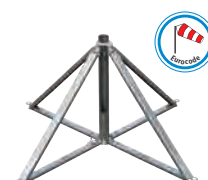
Tripod large

Part No.	105 391
Material	StSt
Support	50 mm
Radius	1450 mm
Space required for tripod	2900 x 2500 mm
PU	1 pc(s)



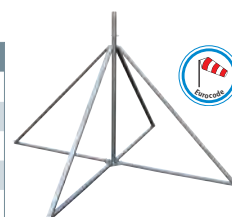
Four-legged stand small

Part No.	105 490
Material	StSt
Support	50 mm
Radius	600 mm
Space required for tripod	1200 x 1200 mm
PU	1 pc(s)



Four-legged stand large

Part No.	105 491
Material	StSt
Support	50 mm
Radius	1450 mm
Space required for tripod	2400 x 2400 mm
PU	1 pc(s)



Accessories for Tripods for Supporting Tubes with Lateral Outlet

Threaded Rod Kits for Tripod

Three threaded rods with base plate 44 x 4 mm and 3x nut with spring washer each.

Part No.	105 396	105 397	105 398
For tripod	Part No. 105 390	Part No. 105 390 / 105 391	Part No. 105 391
Quantity of concrete blocks	1 to 2	1 to 3	3 to 4
Material	StSt	StSt	StSt
Length	M16 x 340 mm	M16 x 520 mm	M16 x 650 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)



Threaded Rod Kits for Four-legged Stand

Four threaded rods with base plate 44 x 4 mm and 3x nut with spring washer each.

Part No.	105 496	105 497	105 498
For four-legged stand	Part No. 105 490	Part No. 105 490 / 105 491	Part No. 105 491
Quantity of concrete blocks	1 to 2	1 to 3	3 to 4
Material	StSt	StSt	StSt
Length	M16 x 340 mm	M16 x 520 mm	M16 x 650 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)



Concrete Base

Concrete base without wedge, for the erection of tripods.



Part No.	102 012
Weight	17 kg
Support	Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
PU	54 pc(s)

Support Plate

For protecting the roofing sheets under the concrete base. For concrete bases (Part No. 102 010, 102 002).



Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black ●
PU	1 pc(s)

4 Fixing Elements for Supporting Tubes
Fixing Clamp with Tensioning Strap

For fixing the supporting tubes at construction elements e.g. antenna masts.



Part No.	105 360
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
PU	1 pc(s)

Fixing Clamp with Tensioning Strap

With additional spacer for adjusting the fasteners of sector antennas at the mast.



Part No.	105 361
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length of spacer	30 mm
PU	1 pc(s)

Fixing Clamp with Tensioning Strap

With additional long spacer for adjusting the fasteners of sector antennas at the mast.



Part No.	105 362
Material of clip	StSt
Clamping range of supporting tube	50 mm
Clamping range of pipe Ø	50-300 mm
Material of tensioning strap	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length of spacer	95 mm
PU	1 pc(s)

Fixing Bracket

For fixing the supporting tubes at the structure to be protected or on the wall.



Part No.	105 340
Material	StSt
Clamping range of supporting tube	50 mm
Wall / corner distance	80 mm
Dimension of fixing	320 mm
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
PU	1 pc(s)

Fixing Bracket

For fixing the supporting tubes at the structure to be protected or on the wall.

Part No.	105 341
Material	StSt
Clamping range of supporting tube	50 mm
Wall / corner distance	80 mm
Dimension of fixing	152 mm
Fixing	[8x] Ø5.1 / [4x] 11 x 20 mm
PU	1 pc(s)


Fixing Bracket

Wall mounting bracket for vertical mounting.

For fastening of the supporting tubes or air-termination rods D40 / D50.

Part No.	105 342
Material of bracket	StSt
Fixing	[8x] Ø5.1 / [4x] 7 x 10 / [2x] 11 x 20 mm
Clamping range of supporting tube	40-50 mm
Wall / corner distance	46 mm
Dimension of fixing	170 mm
PU	1 pc(s)


Fixing Bracket

Wall mounting bracket with adjustment range between 150-200 mm.

For fastening of supporting tubes or air-termination rods D40 / D50 with double cleat for connection of 2x Rd 8-10 mm.

Part No.	105 344
Material of bracket	StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	150-200 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 26 mm
Standard	EN 62561-1
PU	1 pc(s)


Fixing Bracket

Wall mounting bracket with adjustment range between 400-700 mm.

For fastening of the supporting tubes or air-termination rods D40 / D50.

Part No.	105 343
Material of bracket	St/tZn / StSt
Clamping range of supporting tube	40-50 mm
Wall / corner distance	400-700 mm
Dimension of plate	120 x 120 x 4 mm
Fixing	[4x] 12 x 25 mm
PU	1 pc(s)


Railing Clamp

For pipes.

Part No.	105 354	105 355
Material	StSt	StSt
Clamping range of pipe Ø	48-60 mm (1 1/2-2")	70-90 mm (2 1/4-3")
Clamping range of supporting tube	40-50 mm	40-50 mm
PU	5 pc(s)	5 pc(s)


Railing Clamps

For square hollow profiles.

Part No.	105 356	105 376
Material	StSt	StSt
Clamping range of square profile	20 x 20 bis 50 x 50 mm	60 x 120 mm
Clamping range of supporting tube	40-50 mm	40-50 mm
PU	5 pc(s)	5 pc(s)



Spacers for Omnidirectional Antennas



Spacer for DEHNiso Combi supporting tubes with inside and / or outside installed HVI Conductor mounted on the antenna mast.



Part No.	105 363	105 364	105 365
Material of support / square profile	St/tZn	St/tZn	St/tZn
Clamping range (∅ mast)	55-100 mm	100-150 mm	150-190 mm
Clamping range of supporting tube	50 mm	50 mm	50 mm
Length of spacer	1000 mm	1000 mm	1000 mm
Dimension (w x h x d)	140 x 120 x 55 mm	190 x 140 x 60 mm	230 x 180 x 70 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)

Spacers for omnidirectional antennas in special lengths or any other diameters available upon request!

4 Accessories for HVI®power Conductor / HVI®power long Conductor

Fixing Bolt

Fixing bolt for spanning an aluminium cable 50 mm² Part No. 840 050 at an air-termination rod (∅22 / ∅16 mm) or connection plate (e.g. Part No. 819 289 or 819 288).



NEW

Part No.	105 229 ^{NEW}
Bore	1x B 11 mm, 1x B 23 mm
Material of bolt	Al
Wire end ferrule	50 mm ²
Material of wire end ferrule	Cu/Sn
Standard	EN 62561-1
PU	10 pc(s)

Wire End Ferrule

Wire end ferrule for safely fixing an aluminium cable with a cross-section of 50 mm² (Part No. 840 050).
1 set = 10 pieces



NEW

Part No.	444 050 ^{NEW}
Material	Cu/Sn
Cross section	50 mm ²
PU	1 Sa

Roof Conductor Holder

For flat roofs, weight approx. 4.7 kg.
Conductor holder, concrete block and support plate for installing the HVI power Conductor on flat roofs.



Part No.	253 333
Material of conductor holder	StSt
Conductor holder support Rd	27 mm
Total weight	approx. 4.7 kg
PU	24 pc(s)

Roof Conductor Holder

For flat roofs, weight approx. 8.6 kg.
Conductor holder, concrete block and support plate for installing the HVI power Conductor on flat roofs.



Part No.	253 334
Material of conductor holder	StSt
Conductor holder support Rd	27 mm
Total weight	approx. 8.6 kg
PU	1 pc(s)

Conductor Holder

With slotted cleat for HVI power Conductor to be fixed in the concrete block (Part No. 253 301) and support plate (Part No. 253 300).



Part No.	253 330
Material	StSt
Conductor holder support Rd	27 mm
Height of conductor holder	approx. 87 mm
PU	24 pc(s)

Concrete Block

For stabilising the support plate.

Part No.	253 301
Material	concrete (C35/45)
Weight	4.6 kg
Dimension	180 x 180 x 70 mm
PU	24 pc(s)


Support Plate

Support plate with adapter (lock bush) for the spacer bar (Part No. 253 315, 253 325) as well as conductor holder (Part No. 253 289) and for protection of the roofing sheets under the concrete block (Part No. 253 301).

Part No.	253 300
Diameter Ø	300 mm
Diameter Ø of socket	10 mm
Height	60 mm
Material	plastic
Colour	grey ●
PU	24 pc(s)


Conductor Holder

With slotted cleat for HVI power Conductor to be fixed in the concrete block with wedge (Part No. 102 075).

Part No.	253 331
Material	StSt
Conductor holder support Rd	27 mm
Height of conductor holder	approx. 125 mm
PU	25 pc(s)


Concrete Base

For wedge mounting, for air-termination rods Ø10, length 1000 mm or DEHNiso spacers Ø16 mm, length up to 675 mm (distance 0.8 m) or conductor holder (Part No. 253 297).

Part No.	102 075
Total weight	8.5 kg
Diameter Ø	240 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	120 pc(s)


Support Plate

For protecting the roofing sheets under the concrete base. For concrete bases (Part No. 102 075, 102 003).

Part No.	102 060
Diameter Ø outside	280 mm
Diameter Ø inside	270 mm
Material	EVA
Colour	black ●
PU	1 pc(s)


Variable Tripod with EB Element

Tripod (hinged) with variable spacer to implement the sealing end of the HVI power Conductor.

With double cleat for the connection of 2x Rd 8-10 mm.

Adjustable to the roof inclination up to max. 10°.

 The **three concrete bases** (Part No. 102 010, weight 17 kg) and the **support plates** (Part No. 102 050) have to be ordered separately.

Part No.	105 279
Material of tripod	StSt
Radius	320 mm
Quantity of concrete blocks	3 blocks of 17 kg each
Conductor holder support Rd	27 mm
Adjustment range of spacer	610-1100 mm
PU	1 pc(s)



Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).



Part No.	102 010
Weight	17 kg
Support	wedge mounting Ø16 mm
Diameter Ø	337 mm
Material	concrete (C45/55)
Material of wedge / adapter	StSt
PU	54 pc(s)

Support Plate

For protecting the roofing sheets under the concrete base. For concrete bases (Part No. 102 010, 102 002).



Part No.	102 050
Diameter Ø outside	370 mm
Diameter Ø inside	360 mm
Material	EVA
Colour	black ●
PU	1 pc(s)

Conductor Holder

With thread.

For wall mounting with two-screw cleat (not for use in the sealing end range).



Part No.	275 240	275 241
Material of conductor holder	StSt	StSt
Conductor holder support Rd	27 mm	27 mm
Thread	M8	M6
PU	25 pc(s)	25 pc(s)

Conductor Holder

With plastic base.

For wall mounting, with two-screw cleat (not for use in the sealing end range).



Part No.	275 249
Material of conductor holder	StSt
Conductor holder support Rd	27 mm
Thread	M8
PU	25 pc(s)

Conductor Holder

With slot hole. For wall mounting, with two-screw cleat (not for use in the sealing end range).



Part No.	275 242
Material of conductor holder	StSt
Conductor holder support Rd	27 mm
Fixing bore	5.5 x 10 mm
PU	25 pc(s)

Conductor Holder with Tensioning Strap

For fastening the HVI power Conductor e.g. at pipes.



Part No.	275 339
Material of conductor holder	StSt
Conductor holder support Rd	27 mm
Tensioning range Ø pipe	50-300 mm
PU	1 pc(s)

Conductor Holder for Tensioning Strap Fixing

For fixing the HVI power Conductor at pipes e.g. with pipe clamp (Part No. 106 323).



Part No.	275 359
Material of conductor holder	StSt
Conductor holder support Rd	27 mm
PU	1 pc(s)

Pipe Clamp

For fixing (tensioning) of conductor holders (e.g. 275 359) on different pipes.

Part No.	106 323
Material of head / strap	StSt
Clamping range Ø	50-300 mm
Dimension of strap	1100 x 25 x 0.3 mm
Material of screw	StSt
PU	10 pc(s)


Separate Grip Head

For combination with endless tensioning strap (Part No. 540 901) in case of larger pipe diameters, e.g. for adapter with fixing bush.

Part No.	106 324
Material of head	StSt
For strap (w x d)	25 x 0.3 mm
Screw	☐ M8 x 20 mm
Material of screw	StSt
PU	20 pc(s)


Tensioning Strap

Part No.	540 901
Material	StSt
Strap dimension (w x d)	25 x 0.3 mm
Length	100 m
Military Name	VG 96953 T05 BB001
PU	1 pc(s)


Roof Conductor Holder

With preformed bending points for hooking at tiles and screwing at battens to install the HVI power Conductor on saddle roofs.

Part No.	202 857
Material of roof conductor holder	StSt
Material of conductor holder	StSt
Conductor holder support Rd	27 mm
Length of brace	205 mm
PU	25 pc(s)


Conductor Holders for HVI®power Conductor in Ex Areas

The HVI power Conductor is suitable for installation in explosion hazardous areas Ex zone 1 (gases, vapours, mists) as well as Ex zone 21 (dusts). The special installation conditions safely prevent electric sparks to neighbouring metal parts when lightning current flows through the HVI power Conductor.

The HVI power Conductor has to be installed in accordance with the installation instructions.


HVI®power Ex W85 holder

For fastening on metal construction parts (facades) in Ex zones 1 and 21.

Part No.	275 450
Material	StSt
Conductor holder support Rd	27 mm
Wall distance	85 mm
Fixing	[4x] Ø5.1 / [2x] 7 x 10 mm
PU	10 pc(s)


HVI®power Ex W240 holder

For fixing on metal construction parts (facades) in Ex zones 1 and 21.

Part No.	275 451
Material	StSt
Conductor holder support Rd	27 mm
Wall distance	240 mm
Fixing	[4x] Ø5.1 / [2x] 7 x 10 mm
PU	10 pc(s)



HVI®power Ex busbar 500

For HVI power Conductor installation with conductor holder HVI Ex W85 holders (Part No. 275 450) on a non-conductive structure e.g. stone, wood.



Part No.	275 498
Fixing	[4x] Ø5.5 / [2x] 7 x 10 mm
PU	10 pc(s)

HVI®power Ex P85 holder

For fixing on pipes e.g. with pipe clamp (Part No. 106 323) in Ex zones 1 and 21.



Part No.	275 454
Material	StSt
Conductor holder support Rd	27 mm
Wall distance	95 mm
Clamping range of tube	50-300 mm
PU	10 pc(s)

HVI®power Ex P240 holder

For fixing on pipes e.g. with pipe clamp (Part No. 106 323) in Ex zones 1 and 21.



Part No.	275 455
Material	StSt
Conductor holder support Rd	27 mm
Wall distance	250 mm
Clamping range of tube	50-300 mm
PU	10 pc(s)

Accessories for Conductor Holders for HVI®power Conductor in Ex Areas

Pipe Clamp

For fixing (tensioning) of conductor holders (e.g. 275 359) on different pipes.



Part No.	106 323
Material of head / strap	StSt
Clamping range Ø	50-300 mm
Dimension of strap	1100 x 25 x 0.3 mm
Material of screw	StSt
PU	10 pc(s)

Separate Grip Head

For combination with endless tensioning strap (Part No. 540 901) in case of larger pipe diameters, e.g. for adapter with fixing bush.



Part No.	106 324
Material of head	StSt
For strap (w x d)	25 x 0.3 mm
Screw	M8 x 20 mm
Material of screw	StSt
PU	20 pc(s)

Tensioning Strap



Part No.	540 901
Material	StSt
Strap dimension (w x d)	25 x 0.3 mm
Length	100 m
Military Name	VG 96953 T05 BB001
PU	1 pc(s)

4 Connecting Components 200 kA (10/350 µs)



For use in protection class I and II of the lightning protection system (class of LPS I, II).
Clamps are tested with a 200 kA (10/350 µs) lightning impulse current, based on EN 62561-1.

UNI disconnecting clamp for two round conductors

Part No.	459 200
Material	StSt
Clamping range Rd / Rd	10 / 10 mm
Clamping range Rd / FI	10 / 30 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



UNI disconnecting clamp for earth entry rods

Part No.	459 219
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



Clamping piece

Part No.	380 209
Material	StSt
Clamping range FI	30 x 4 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



KS connector

Part No.	301 209
Material	StSt
Clamping range Rd	10 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



MV clamp for round conductors

Part No.	390 209
Material	StSt
Clamping range Rd / Rd	8-10 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



MV clamp for air-termination rods

Part No.	392 209
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



HVI®power Conductor

4 Stripping Tool for HVI®power Conductors



Tool for stripping the semi-conductive sheath and the PE insulation of the HVI power Conductor (outer diameter 27 mm)

- Tool consisting of handle and various exchangeable cutting heads
- Stripping length of the HVI power Conductor is adjustable in steps of 0.2 mm (lock points) by the set screw in the handle and is shown on the handle scale

Handling

Apply the cutting head at the conductor end and turn clockwise with light pressure for cutting / stripping. Exchange of the cutting head without tool due to the bayonet coupling.

HVI®strip 27

For the HVI power Conductor.



Part No.	597 227
Diameter Ø conductor	27 mm
Material of moulded part	plastic / Al
Material of blade	StSt
PU	1 pc(s)

HVI®head 27

For the HVI power Conductor.



Part No.	597 127
Diameter Ø conductor	27 mm
Material of moulded part	Al
Material of blade	StSt
PU	1 pc(s)

HVI®power Conductor

Accessories for Stripping Tool for HVI®power Conductors

HVI®head holder

Adapter with bayonet coupling for attaching the HVI head cutting head (pre-set stripping length 35 mm). Adapter may be used in usual three-jaw chuck (Ø10 mm) e.g. of cordless screwdrivers.



Part No.	597 139
Material	plastic / Ms
PU	1 pc(s)

Spare Blades for HVI®head 27

1 set = 4 blades



Part No.	597 102
Material	StSt
PU	1 Sa

4 Cable Shears for HVI®Conductors



Cable shears for easily cutting of the HVI light Conductor, HVI Conductor (outer diameter 20 / 23 mm) and HVI power Conductor (outer diameter 27 mm) and of the CUI Conductor.

The special design of the cable shears also allows for a precise cutting of stranded conductors for attaching the connection elements easily.

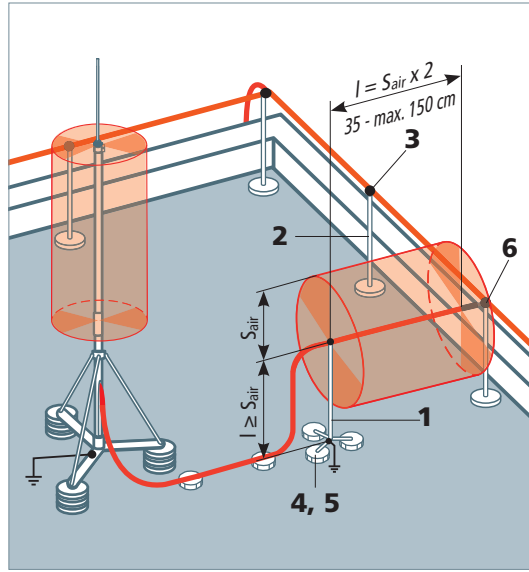
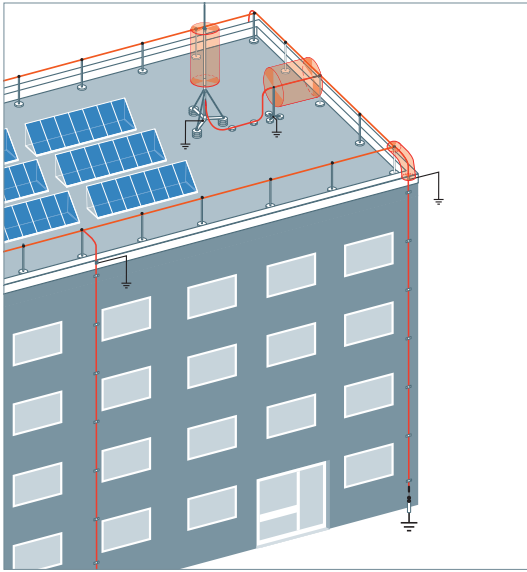
HVI®cutter



Part No.	597 032
Diameter Ø conductor	up to 32 mm
Material of blades	tool steel (CR-Moly (SCM440))
Material of handles	carbon steel (SS400)
Length	600 mm
PU	1 pc(s)

5 Sealing End Range, Connection to "Isolated Ring Conductor"

If several installations are protected, it is not necessary to connect the HVI power Conductors of the individual air-termination systems directly with the earth-termination system. The HVI power Conductors can be connected to an "isolated ring conductor". From there several down conductors are routed to the earth-termination system. The „isolated ring conductor“ has to be installed on spacers and concrete bases e.g. on the roof level. The calculated separation distance "s" must be observed.



Accessories for Sealing End Range, Connection to "Isolated Ring Conductor"

Variable Tripod with EB Element

Tripod (hinged) with variable spacer to implement the sealing end of the HVI power Conductor. With double cleat for the connection of 2x Rd 8-10 mm. Adjustable to the roof inclination up to max. 10°.

The three concrete bases (Part No. 102 010, weight 17 kg) and the support plates (Part No. 102 050) have to be ordered separately.

Part No.	105 279
PU	1 pc(s)

DEHNiso Spacer

E.g. for air-termination rod Part No. 101 001, air-termination rod with MV clamp Part No. 105 071 (for crossover points) or MV clamp for overspanning Part No. 105 079.

Part No.	106 217	106 220
PU	10 pc(s)	10 pc(s)

MV Clamp for Spanning

For screwing in.

Part No.	105 079
PU	1 pc(s)

Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).

Part No.	102 010
PU	54 pc(s)

Support Plate

For protecting the roofing sheets under the concrete base. For concrete bases (Part No. 102 010, 102 002).

Part No.	102 050
PU	1 pc(s)

MV Clamp

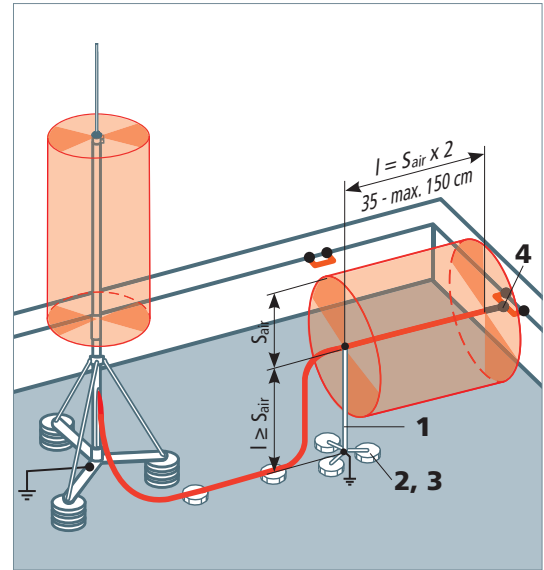
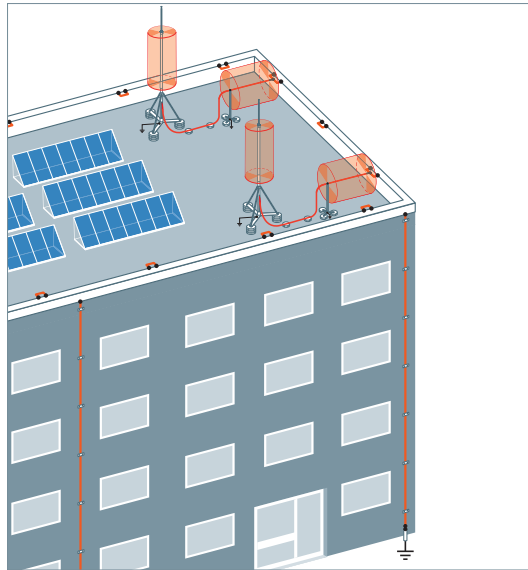
With hexagon screw, spring washer and thread in the base part. Lightning current carrying capability 200 kA (10/350 µs).

Part No.	390 209
PU	1 pc(s)



5 Sealing End Range, Connection to "Capping of Roof Parapet"

If several installations are protected, it is not necessary to connect the HVI power Conductors of the individual air-termination systems directly with the earth-termination system. The HVI power Conductors from the air-termination systems can be connected to the capping of the roof parapet. From there several down conductors are routed to the earth-termination system.



HVI®power Conductor

Accessories for Sealing End Range, Connection to "Capping of Roof Parapet"



1

Variable Tripod with EB Element

Tripod (hinged) with variable spacer to implement the sealing end of the HVI power Conductor. With double cleat for the connection of 2x Rd 8-10 mm. Adjustable to the roof inclination up to max. 10°. The three concrete bases (Part No. 102 010, weight 17 kg) and the support plates (Part No. 102 050) have to be ordered separately.

Part No.	105 279
PU	1 pc(s)



2

Concrete Base

For wedge mounting, stackable, for air-termination rods Ø16 mm, chamfered or tapered, DEHNiso spacers Ø16 mm or conductor holder (Part No. 253 279).

Part No.	102 010
PU	54 pc(s)



3

Support Plate

For protecting the roofing sheets under the concrete base. For concrete bases (Part No. 102 010, 102 002).

Part No.	102 050
PU	1 pc(s)



4

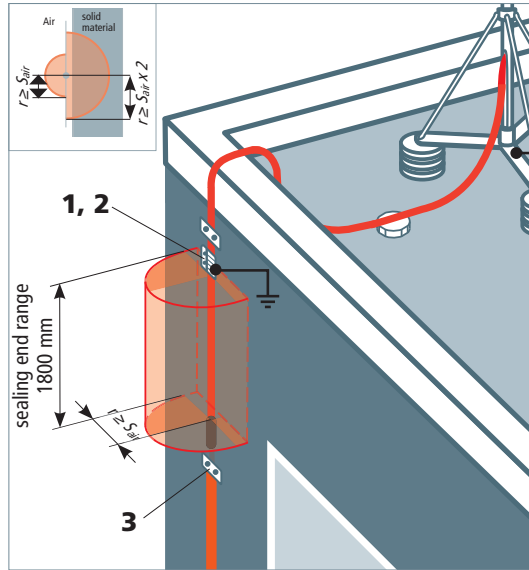
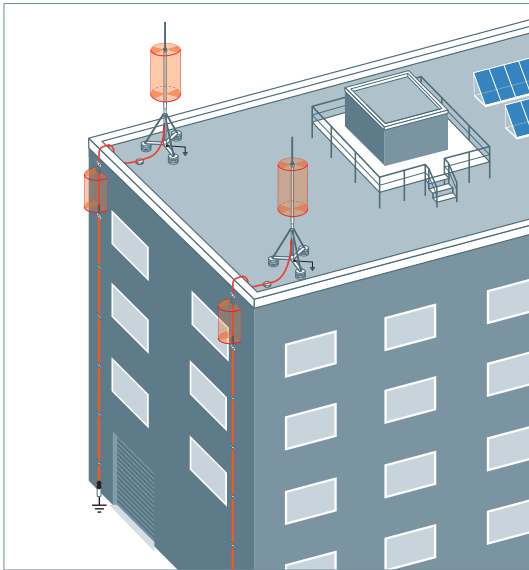
KS Connector

With screw and nut M10. For connecting the HVI power Conductor with the metal capping of the roof parapet. Lightning current carrying capability 200 kA (10/350 µs).

Part No.	301 209
PU	1 pc(s)

5 Sealing End Range on a Building

If HVI power Conductors are installed on a building, the calculated separation distance "s" in the sealing end range from metal parts on the building must be maintained. The sealing end range extends from the EB connection element to the earth-termination connection element. If the HVI power Conductor is directly connected with an earth entry rod / earth-termination system an EB element is not necessary. The sealing end range remains unconsidered.



Accessories for Sealing End Range on a Building

EB Connection Element for HVI®power / HVI®power long Conductor

EB connection element for discharging the electric field of the HVI power Conductor (pre-assembled / on reel) in the sealing end range. Special slotted design for electrical contacting of the semi-conductive sheath.

Part No.	410 239
PU	1 pc(s)



KS Connector

With screw and nut M10.

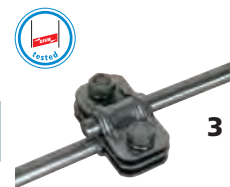
Part No.	301 019
PU	100 pc(s)



Disconnecting Clamp

Disconnecting clamp with spring washer to connect the HVI power Conductor with the earth entry rod. Lightning current carrying capability 200 kA (10/350 μs).

Part No.	459 200
PU	1 pc(s)



IEC/EN 62305-3 points out that in special cases outside of a building the touch voltage may be extremely dangerous near the down-conductors, although there is a lightning lightning protection system in accordance with the state of standardisation.

As applies for example, if bare/uninsulated down conductors and lightning protection earth electrodes are installed near the entrance or sheltering areas of buildings with high visitor frequency, such as theatres, cinemas, shopping centres etc. Especially exposed (lightning endangered) buildings or structures of public access (e.g. shelters) may also require touch voltage protection measures.

Touch voltage is defined as the voltage affecting somebody standing on the ground in a distance of approx. 1 m from the down conductor and who touches the down conductor. In such a case the current flows from the hand into the body down to the feet (see **Figure 1**).

The hazardous area for persons outside of a building is defined as an area of 3 m around the down conductor and from ground level up to a height of approx. 3 m.

According to IEC/EN 62305-3 Subclause E.4.2.4.2, the area to be protected against touch voltage corresponds to the height of a person with raised arm plus the separation distance s (see **Figure 2**).

Additionally, the step voltage in the surrounding of the building/down conductor has to be taken into account.

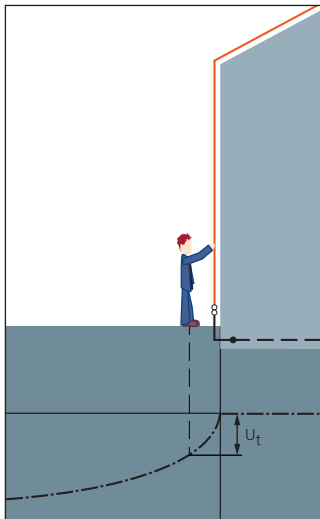


Figure 1: Schema diagramm – touch voltage U_t

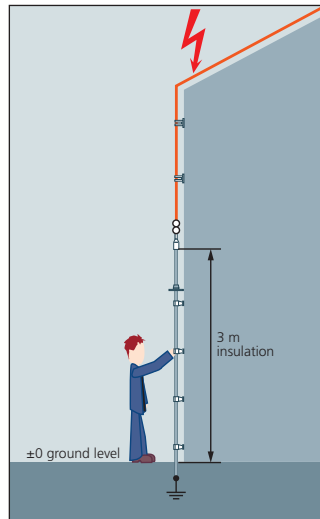


Figure 2: Protective measures

Effective protection measures against injuries due to touch voltage are defined according to the standard as follows:

- Installation of an insulated (coated) down conductor providing a surge withstand capability of 100 kV at 1.2/50 μ s, e.g. an at least 3 mm thick cross-linked polyethylene;
- physical restrictions and/or warning signs to minimise the possibility of down conductors being touched.

The CUI conductor (CU copper Insulated) has an inner copper conductor with a diameter of 8 mm and a high-voltage-resistant insulation (see **Figure 3**).

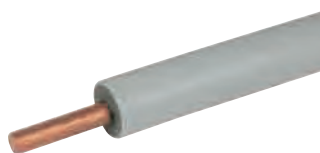


Figure 3: Design of a CUI conductor

Requirements:

- Surge withstand capability of 100 kV (1.2/50 μ s)
- Prevention of creepage sparkover even at rain.

The surge withstand capability of 100 kV (1.2/50 μ s) is achieved by a special cross-linked polyethylene insulation (XLPE). Unless additional measures are taken, high impulse voltages cause sparkovers at insulating surfaces. This effect is known as creeping discharge. If the creeping discharge inception voltage is exceeded, a surface discharge will be initiated, which can easily spark over a distance of several metres to earthed parts. In order to avoid arising creeping discharges even at rain, the CUI conductor additionally has a shield which keeps the conductor dry. This shield on the conductor and the drops after the rain test is shown in **Figure 4**.



Figure 4: Rain test

Application in the entrance area

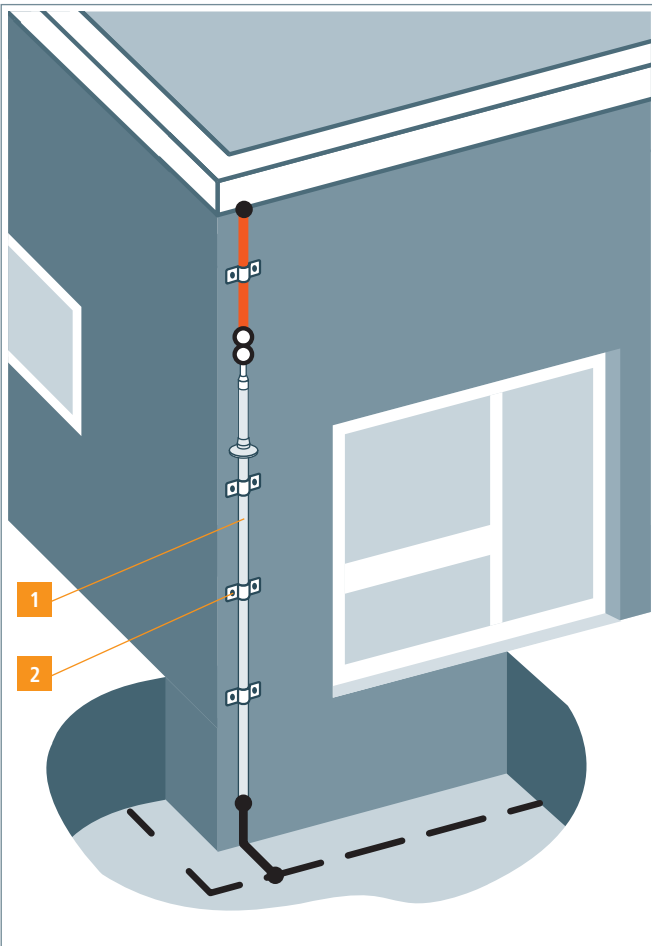
Development of the CUI conductor is based on the "rain test" according to IEC 60-1 Subclause 9. At this test a defined quantity of water is sprayed on the conductor in an angle of approx. 45° (see **Figure 4**).

Protection against step voltage

In IEC 62305-3 not only the risk of touch voltage but also the risk of step voltage is pointed out. The risk for living beings can be reduced by protective measures. In addition to an increasing of the resistance of the upper ground layer (ground insulation, e.g. by asphalt), applying of barriers or warning signs, also a meshed earth-termination system can be installed. This earth-termination system is installed in addition to the existing earth-termination system as a so-called potential control grid in the area around a down conductor.

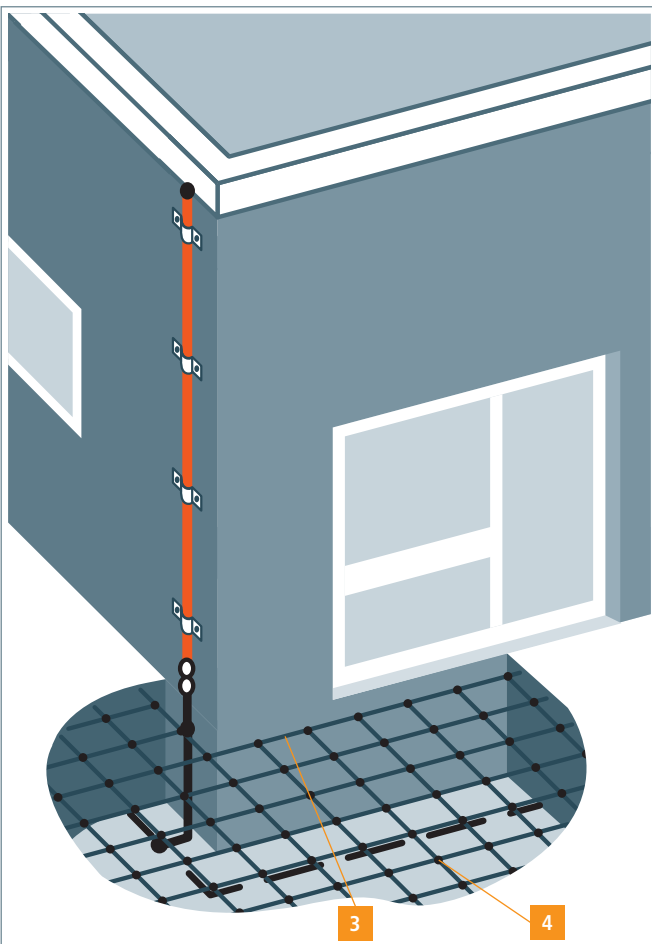
In the German ABB leaflet „Blitzschutz von Schutzhütten“ ("Lightning Protection for Shelters") a mesh size of < 25 x 25 cm is recommended for the potential control grid. The grid shall be preferably installed in a low depth of maximum 25 cm under the surface. The material should be stainless steel StSt V4A (e.g. material No. 1.4571). The metal grid has to be connected with the earth-termination system every 4 m (at least at all corners).



Protection against Touch Voltage



Product	Product name
1 	CUI Conductor Page 210
2 	Conductor Holder Stripping Tool Page 210

Protection against Step Voltage



Product	Product name
3 	Round Wires Connection Lugs Page 212
4 	Clamps Connector Conductor Holders Page 212

1 CUI Conductor



Touch voltage at down conductors can be avoided by the CUI conductor.

The dangerous area of touch and step voltages for living beings is defined as an area of approx. 3 m around the down conductor, from ground level up to a height of approx. 3 m.

The CUI conductor has a copper core and a high-voltage-resistant insulation.

These conductors shall meet the requirements of a:

- Surge withstand capability of 100 kV (1.2/50 µs)
- Prevention of creeping flashover even at rain

Part No.	830 208	830 218
Material of conductor	Cu	Cu
Material of insulation	XLPE	XLPE
Diameter Ø conductor	20 mm	20 mm
Standard	EN 62551-2	EN 62551-2
Colour of conductor	light grey ●	light grey ●
Cross-section of core	50 mm ²	50 mm ²
Total length	3500 mm	5000 mm
PU	1 pc(s)	1 pc(s)

2 Conductor Holder for CUI Conductor



For installing the CUI conductor on walls or façades.

Height 19 mm



Part No.	275 220
Material of conductor holder	PA
Conductor holder support Rd	20 mm
Fixing	Ø6.5 mm
PU	25 pc(s)

Height 10 mm



Part No.	275 229
Material of conductor holder	StSt
Conductor holder support Rd	20 mm
Fixing	6.5 x 16 mm
PU	50 pc(s)

Two-screw cleat for direct wall mounting

Due to the special kind of installation (without distance) the conductor can not be used as climbing aid and is therefore especially suitable for schools or kindergarten facilities.



Part No.	275 129
Material of conductor holder	StSt
Conductor holder support Rd	20 mm
Fixing	[2x] 6.5 x 8 mm
PU	10 pc(s)

2 Stripping Tool for CUI-Conductors



Tool for stripping the XLPE insulated CUI Conductor (outer diameter 20 mm).

- Tool consists of a handle and an exchangeable cutting head
- Stripping length of the CUI Conductor is adjustable in steps of 0.2 mm (lock points) by the setting knob in the handle and shown on the handle scale

Handling

Apply the cutting head at the conductor end and turn clockwise with light pressure for cutting / stripping.

CUI-strip 20

Part No.	597 320
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



CUI-head 20

Toolless exchange of the cutting head due to the bayonet coupling.

Part No.	597 020
Diameter Ø conductor	20 mm
Material of moulded part	plastic
Material of blade	StSt
PU	1 pc(s)



More details in installation instructions No. 1845.

Sign

Lightning Voltage

Front in German

„ACHTUNG! Blitzspannung
Bei Gewitter Bereich räumen / nicht betreten“

Back in English

„ATTENTION! Lightning voltage
Clear / do not enter this area during thunderstorms“

Part No.	480 698
Material	Al
Dimension (l x w x d)	297 x 210 x 0.7 mm
Fixing	[4x] Ø6.5 mm
PU	1 pc(s)



Sign

In case of step and touch voltage hazard for living beings. In accordance with the requirements of IEC/EN 62305-3.

Step and Touch Voltage

Front in German:

Bei Gewitter ist der Aufenthalt im Umkreis von 3 m um die Ableitung verboten!

Back in English:

During thunderstorm a distance of 3 m around the down conductor has to be kept!

Part No.	480 699
Material	Al
Dimension (l x w x d)	297 x 210 x 0.7 mm
Fixing	[4x] Ø6.5 mm
PU	1 pc(s)





Stainless Steel Wire

Stainless steel wire (Rd 10 mm) for use in soil has to be made of StSt (V4A) with a molybdenum proportion of > 2 %, e.g. 1.457, according to EN 62561-2, IEC 62305-3, DIN 18014 and DIN VDE 0151.

Part No.	860 010	860 020	860 050
Diameter Ø conductor	10 mm	10 mm	10 mm
Cross-section	78 mm ²	78 mm ²	78 mm ²
Material	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404
Standard	EN 62561-2	EN 62561-2	EN 62561-2
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	2.9 kA	2.9 kA	2.9 kA
Conductor length	80 m	20 m	50 m
Coil weight	approx. 50 kg	approx. 12 kg	approx. 31 kg
PU	80 m	20 m	50 m

Connection Lug straightened

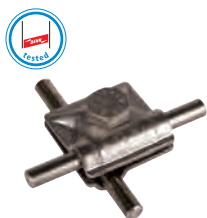
For connecting the down conductors to the earth-termination system; made of corrosion-resistant stainless steel StSt (V4A).



Part No.	860 110	860 115	860 130
Material	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404
Length	1000 mm	1500 mm	3000 mm
Dimension	Ø10 mm	Ø10 mm	Ø10 mm
Cross-section	78 mm ²	78 mm ²	78 mm ²
Standard	EN 62561-2	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)	5 pc(s)

MV Clamp

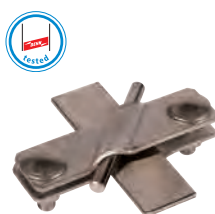
Multipurpose connecting clamp (Mehrzweck Verbindungs-Klemme) for universal use as cross, T and parallel clamp; two-piece.



Part No.	390 079
Material of clamp	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
Clamping range Rd	8-10 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	4.7 kA
PU	50 pc(s)

SV Clamp

Diagonal connecting clamp (Schräg-Verbinder-Klemme) for cross and T connections with anti-rotation screws.



Part No.	308 329
Material of clamp	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
Clamping range Rd / Rd	7-10 / 7-10 mm
Clamping range Rd / FI	7-10 / 30-40 mm
Clamping range FI / FI	30-40 / 30-40 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14.0 kA
PU	25 pc(s)

UNI Disconnecting Clamp

For connecting the down conductors with the earth entry rods.

Part No.	459 129
Material	StSt
Clamping range Rd / Rd	8-10 / 8-10 mm
Distance of screws	40 mm
Standard	EN 62561-1
PU	50 pc(s)



Conductor Holder DEHNhold

Conductor holder for fixing of round conductors with slotted cleat, fixed conductor leading.

Part No.	274 160
Material of conductor holder	StSt
Conductor holder support Rd	8-10 mm
Conductor holder support Fl	20 mm
Height of conductor holder	20 mm
Thread of conductor holder	M8
Screw	⌀ 5 x 50 mm
Standard	EN 62561-4
PU	50 pc(s)



Anti-corrosion Tapes

For coating aboveground and underground connections. For use in soil according to DIN 30672. Reels, length 10 m, UV-stabilised.

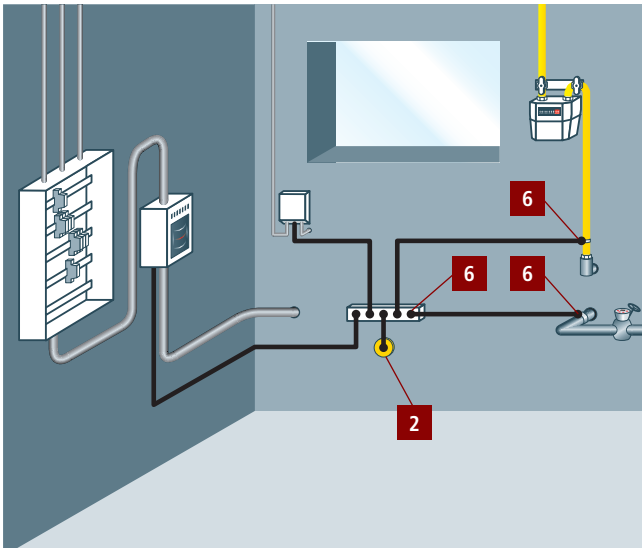
Part No.	556 125	556 130
Material	petrolatum	petrolatum
Width of tape	50 mm	100 mm
PU	24 pc(s)	12 pc(s)



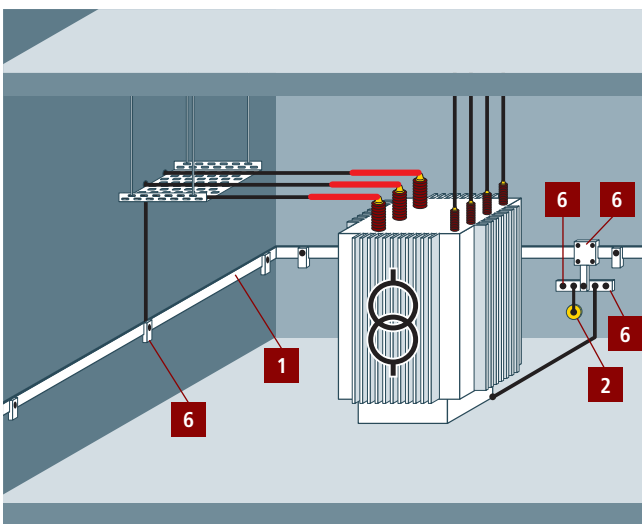


DEHN protects.®

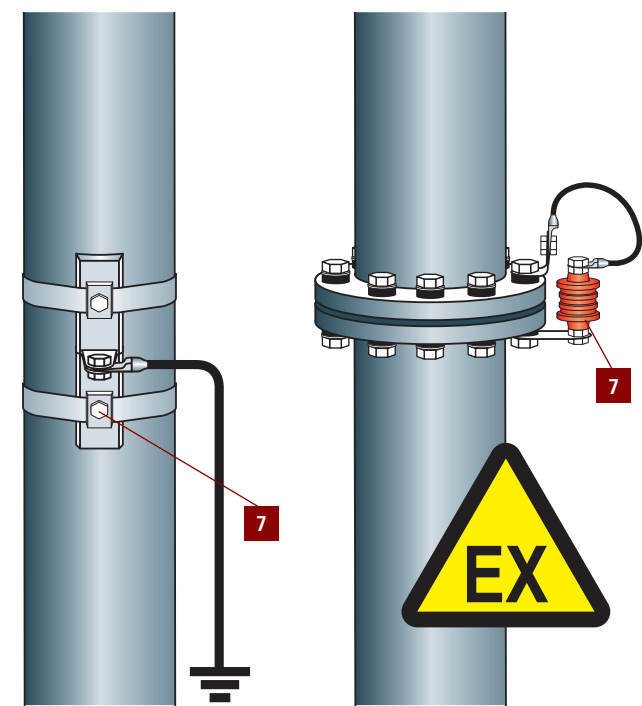
Protective equipotential bonding via main earthing busbar



Protective equipotential bonding in a transformer room



Equipotential bonding in Ex areas

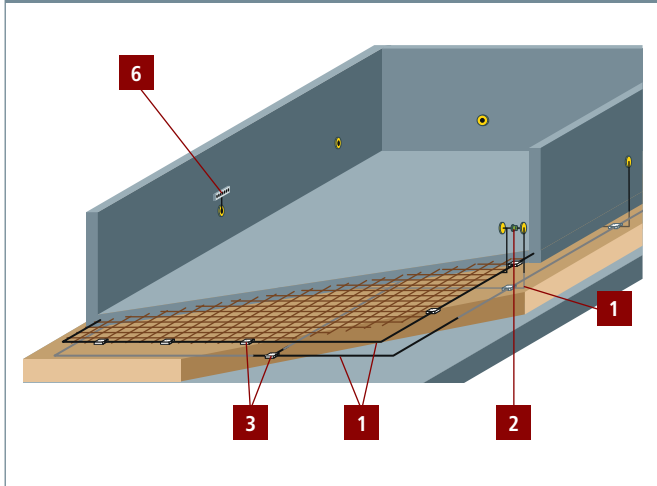


Product	Product name
<p>1</p>	<p>Round Wires Strips Cables Page 217</p>
<p>2</p>	<p>Fixed Earthing Terminals Wall Bushings Page 225</p>
<p>3</p>	<p>Clamps Connector Page 231</p>
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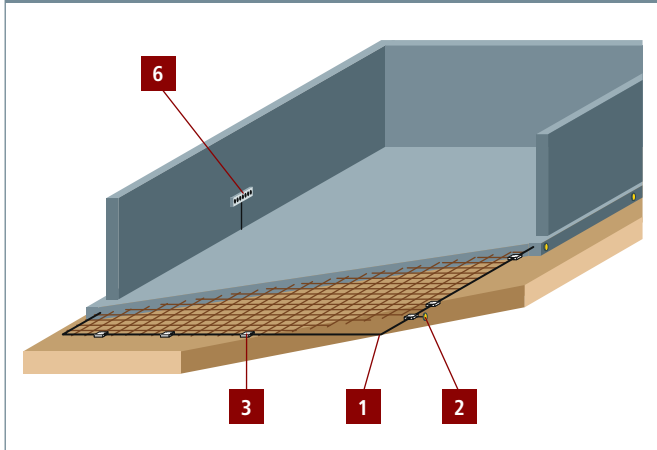
Earthing / Equipotential Bonding

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Foundation earth electrode in accordance with DIN 18014 with lightning protection system. Insulated reinforced floor slab as black or white tank (waterproof concrete) with full perimeter insulation, dimpled membrane



Foundation earth electrode in accordance with DIN 18014 without lightning protection system; reinforced floor slab, not waterproof concrete



Round Wires

According to EN 62561-2, for use in lightning protection and earth-termination systems.

Stainless steel wire

Stainless steel wire (Rd 10 mm) for use in soil has to be made of StSt (V4A) with a molybdenum proportion of > 2 %, e.g. 1.4571 or 1.4404, in accordance with EN 62561-2 and IEC/EN 62305-3, DIN 18014 and DIN VDE 0151.

General technical data:				
Standard	based on EN 62561-2			
Part No.	860 908	860 920	860 950	860 910
Diameter Ø conductor	8 mm	10 mm	10 mm	10 mm
Cross-section	50 mm ²	78 mm ²	78 mm ²	78 mm ²
Material	StSt	StSt	StSt	StSt
Material No.	1.4301 / 1.4303	1.4301 / 1.4303	1.4301 / 1.4303	1.4301 / 1.4303
ASTM / AISI:	—	—	—	—
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	—	—	—	—
Coil weight	approx. 50 kg	approx. 12 kg	approx. 31 kg	approx. 50 kg
PU	125 m	20 m	50 m	80 m
Part No.	860 008	860 010	860 020	860 050
Diameter Ø conductor	8 mm	10 mm	10 mm	10 mm
Cross-section	50 mm ²	78 mm ²	78 mm ²	78 mm ²
Material	StSt (V4A)	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L	316Ti / 316L	316Ti / 316L
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	—	2.9 kA	2.9 kA	2.9 kA
Coil weight	approx. 50 kg	approx. 50 kg	approx. 12 kg	approx. 31 kg
PU	125 m	80 m	20 m	50 m



1 Conductor material

Steel wire

With zinc coating ≥ 50 µm average (approx. 350 g/m²).

Part No.	800 008	800 010	800 310
Diameter Ø conductor	8 mm	10 mm	10 mm
Cross-section	50 mm ²	78 mm ²	78 mm ²
Material	St/tZn	St/tZn	St/tZn
Standard	based on EN 62561-2	based on EN 62561-2	based on EN 62561-2
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	—	5.5 kA	5.5 kA
Coil weight	approx. 50 kg	approx. 50 kg	approx. 18.5 kg
PU	127 m	81 m	30 m



Steel wire straightened, cut to length, bars

With zinc coating ≥ 50 µm average (about 350 g/m²). Suitable for installation in reinforcements (e.g. concrete supports).

Part No.	800 910	800 911 ^{NEW}
Diameter Ø conductor	10 mm	10 mm
Cross-section	78 mm ²	78 mm ²
Material	St/tZn	St/tZn
Standard	based on EN 62561-2	based on EN 62561-2
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	5.5 kA	—
Length	3 m	6 m
PU	10 pc(s)	1 pc(s)



Steel wire with plastic sheath

With plastic sheath as additional mechanical protection / corrosion protection e.g. at connections to the lightning protection system. Suitable for installation on, in and under plaster, mortar or concrete.

Part No.	800 108	800 110
Diameter Ø conductor	8 mm	10 mm
Cross-section	50 mm ²	78 mm ²
Material	St/tZn	St/tZn
Standard	based on EN 62561-2	based on EN 62561-2
Diameter Ø outside	11 mm	13 mm
Material of sheath	plastic	plastic
Sheath thickness	1.5 mm	1.5 mm
Coil weight	approx. 33 kg	approx. 34 kg
PU	75 m	50 m





Copper wire

Part No.	830 008	830 108	830 038
Diameter Ø conductor	8 mm	8 mm	8 mm
Cross-section	50 mm ²	50 mm ²	50 mm ²
Material	Cu	Cu	Cu
Characteristics	soft F20	soft F20	semi-rigid F25
Standard	EN 62561-2	EN 62561-2	EN 62561-2
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.8 kA	9.8 kA	9.8 kA
Coil weight	approx. 45 kg	approx. 9 kg	approx. 45 kg
PU	100 m	20 m	100 m

DEHNalu wire

Part No.	840 008	840 108	840 018
Diameter Ø conductor	8 mm	8 mm	8 mm
Cross-section	50 mm ²	50 mm ²	50 mm ²
Material	AlMgSi	AlMgSi	AlMgSi
Characteristics	semi-rigid	semi-rigid	torsion-soft
Standard	EN 62561-2	EN 62561-2	based on EN 62561-2
Coil weight	approx. 20 kg	approx. 3 kg	approx. 20 kg
PU	148 m	21 m	148 m

Part No.	840 028	840 010
Diameter Ø conductor	8 mm	10 mm
Cross-section	50 mm ²	78 mm ²
Material	AlMgSi	Al
Characteristics	torsion-soft	torsion-soft
Standard	based on EN 62561-2	EN 62561-2
Coil weight	approx. 3 kg	approx. 21 kg
PU	21 m	100 m

Note: Al and AlMgSi must not be installed directly (without distance) on, in, or under plaster, mortar or concrete, and not in soil.

DEHNalu wire with plastic sheath

Wire with plastic sheath (halogen-free, frost-resistant and UV stabilised) as additional mechanical protection / corrosion protection e.g. for installation behind facades.

Part No.	840 118	840 128
Diameter Ø conductor	8 mm	8 mm
Cross-section	50 mm ²	50 mm ²
Material	AlMgSi	Al
Characteristics	soft	soft
Standard	based on EN 62561-2	EN 62561-2
Diameter Ø outside	11 mm	11 mm
Material of sheath	plastic	plastic
Sheath thickness	1.5 mm	1.5 mm
Coil weight	approx. 20 kg	approx. 20 kg
PU	100 m	100 m

DEHNcupal wire

New composite material. Lighter than copper.
For use above ground as air-termination and down conductor, or for equipotential bonding.

Part No.	833 008
Diameter Ø conductor	8 mm
Cross-section	50 mm ²
Material	Al / Cu
Characteristics	torsion-soft
Standard	based on EN 62561-2
Cu sheath	min. 0.26 mm
Coil weight	approx. 20 kg
PU	110 m

Note: DEHNcupal wire can be twisted or straightened with the wire straightening devices.

Conductor materials will be delivered in original coil weights only.
More conductor materials and components as specified in the standard series EN 62561-2 upon request.

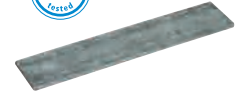
Strips

According to EN 62561-2, for use in earth-termination and lightning protection systems as well as for ring equipotential bonding.

Steel strip

Zinc coating $\geq 70 \mu\text{m}$ average (approx. 500 g/m²).

General technical data:			
Material	St/tZn		
Part No.	810 225	810 335	852 335
Width	20 mm	30 mm	30 mm
Thickness	2.5 mm	3.5 mm	3.5 mm
Cross-section	50 mm ²	105 mm ²	105 mm ²
Standard	based on EN 62561-2	EN 62561-2	EN 62561-2
Short-circuit current (50 Hz) (1 s; $\leq 300 \text{ }^\circ\text{C}$)	—	7.3 kA	7.3 kA
Coil weight	approx. 40 kg	approx. 42 kg	approx. 21 kg
PU	100 m	50 m	25 m
Part No.	810 304	810 404	810 405
Width	30 mm	40 mm	40 mm
Thickness	4 mm	4 mm	5 mm
Cross-section	120 mm ²	160 mm ²	200 mm ²
Standard	EN 62561-2	EN 62561-2	EN 62561-2
Short-circuit current (50 Hz) (1 s; $\leq 300 \text{ }^\circ\text{C}$)	8.4 kA	11.2 kA	14 kA
Coil weight	approx. 50 kg	approx. 50 kg	approx. 50 kg
PU	52 m	40 m	30 m



Copper strip

Part No.	831 225
Width	20 mm
Thickness	2.5 mm
Cross-section	50 mm ²
Material	Cu
Standard	EN 62561-2
Short-circuit current (50 Hz) (1 s; $\leq 300 \text{ }^\circ\text{C}$)	9.8 kA
Coil weight	approx. 45 kg
PU	100 m



Stainless steel strip, printed

Stainless steel strip, ink labelled in increments of one metre.

Stainless steel strip for use in soil has to be made of StSt (V4A) with a molybdenum content of $> 2 \%$ e.g. 1.4571, 1.4404 in accordance with EN 62561-2 and IEC/EN 62305-3, DIN 18014 and DIN VDE 0151.

Part No.	861 325 <small>NEW</small>	861 335 <small>NEW</small>
Width	30 mm	30 mm
Thickness	3.5 mm	3.5 mm
Cross-section	105 mm ²	105 mm ²
Material	StSt (V4A)	StSt (V4A)
Material No.	1.4404	1.4404
ASTM / AISI:	316L	316L
Type	ink labelled	ink labelled
Standard	based on EN 62561-2	based on EN 62561-2
Short-circuit current (50 Hz) (1 s; $\leq 300 \text{ }^\circ\text{C}$)	3.9 kA	3.9 kA
Coil weight	approx. 21 kg	approx. 49 kg
PU	25 m	60 m





Stainless steel strip

General technical data:			
Standard	EN 62561-2		
Part No.	860 925	860 900	860 325
Width	30 mm	30 mm	30 mm
Thickness	3.5 mm	3.5 mm	3.5 mm
Cross-section	105 mm ²	105 mm ²	105 mm ²
Material	StSt	StSt	StSt (V4A)
Material No.	1.4301 / 1.4303	1.4301 / 1.4303	1.4571 / 1.4404
ASTM / AISI:	—	—	316Ti / 316L
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	—	—	3.9 kA
Coil weight	approx. 21 kg	approx. 49 kg	approx. 21 kg
PU	25 m	60 m	25 m



Part No.	860 335	860 404	860 405
Width	30 mm	40 mm	40 mm
Thickness	3.5 mm	4 mm	5 mm
Cross-section	105 mm ²	160 mm ²	200 mm ²
Material	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L	316Ti / 316L
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	3.9 kA	—	—
Coil weight	approx. 49 kg	approx. 50 kg	approx. 50 kg
PU	60 m	43 m	34 m

Other dimensions and materials upon request.

Cables

For use in lightning protection and earth-termination systems.



Aluminium cable

E.g. for spanning in case of isolated air-termination systems (DEHNiso Combi).

Part No.	840 050
Cross-section	50 mm ²
Cable structure qty x Ø wire	19 x 1.8 mm
Material	Al
Standard	EN 62561-2
Diameter Ø outside	9 mm
Coil weight	approx. 13.5 kg
PU	100 m

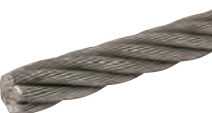


Note: Al must not be installed directly (without distance) on, in or under plaster, mortar or concrete, and not in soil.

Steel cable

E.g. for equipotential bonding.

Part No.	801 050
Cross-section	42 mm ²
Cable structure qty x Ø wire	[6x] 19 x 0.65 mm
Material	St/gal Zn
Diameter Ø outside	10 mm
Coil weight	approx. 33 kg
PU	100 m



Stainless steel cable

E.g. for equipotential bonding.

Part No.	850 008	850 010
Cross-section	27 mm ²	42 mm ²
Cable structure qty x Ø wire	[7x] 19 x ca. 0.59 mm	[7x] 19 x ca. 0.68 mm
Material	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L
Diameter Ø outside	8 mm	10 mm
Coil weight	approx. 23.5 kg	approx. 39.5 kg
PU	100 m	100 m



Round Wires, Strips, Cables

Copper cable

General technical data:			
Material	Cu		
Standard	EN 62561-2		
Part No.	832 739	832 740	832 192
Cross-section	50 mm ²	50 mm ²	70 mm ²
Cable structure qty x Ø wire	19 x 1.8 mm	19 x 1.8 mm	19 x 2.1 mm
Diameter Ø outside	9 mm	9 mm	10.5 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.8 kA	9.8 kA	13.7 kA
Coil weight	approx. 22 kg	approx. 44 kg	approx. 30 kg
PU	50 m	100 m	50 m
Part No.	832 193	832 095	832 120
Cross-section	70 mm ²	95 mm ²	120 mm ²
Cable structure qty x Ø wire	19 x 2.1 mm	19 x 2.5 mm	19 x 2.8 mm
Diameter Ø outside	10.5 mm	12.5 mm	14.5 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	13.7 kA	18.5 kA	23.4 kA
Coil weight	approx. 60 kg	approx. 42 kg	approx. 53 kg
PU	100 m	50 m	50 m



1 Conductor material

Copper cable tinned

General technical data:			
Material	Cu/gal Sn		
Standard	EN 62561-2		
Part No.	832 839	832 202	832 292
Cross-section	50 mm ²	70 mm ²	70 mm ²
Cable structure qty x Ø wire	19 x 1.8 mm	19 x 2.1 mm	19 x 2.1 mm
Diameter Ø outside	9 mm	10.5 mm	10.5 mm
Short-circuit current (50 Hz) (1 s; ≤ 150 °C)	7.2 kA	10.1 kA	10.1 kA
Coil weight	approx. 44 kg	approx. 30 kg	approx. 60 kg
PU	100 m	50 m	100 m
Part No.	832 295	832 320	
Cross-section	95 mm ²	120 mm ²	
Cable structure qty x Ø wire	19 x 2.5 mm	19 x 2.8 mm	
Diameter Ø outside	12.5 mm	14.5 mm	
Short-circuit current (50 Hz) (1 s; ≤ 150 °C)	13.8 kA	17.3 kA	
Coil weight	approx. 42 kg	approx. 53 kg	
PU	50 m	50 m	



Other dimensions and materials upon request.

DEHNIT Earthing Method

For improving and stabilising the earth electrode resistance.

Highly swellable, powdery and extremely moisture retaining special clay provides a conductive earth electrode enclosure and reduces the soil resistivity.

More information at www.dehn-international.com/.

Part No.	573 000
Material	special clay
Mixing ratio	5 parts sand / 1 part DEHNIT / 0.5 parts water
PU	25 kg



Earth Entry Rods – Kit

Complete with disconnecting sleeve and connection clamps (KS screws).

Type St/tZn

With disconnecting sleeve (Part No. 450 000) and KS screws (Part No. 300 000).



Part No.	480 150
Material	St/tZn
Standard	EN 62561-(1+2)
Length	1500 mm
Connection KS screw Rd	7-10 mm
Connection sleeve Rd / Rd	7-10 / 16 mm
PU	1 pc(s)

Type Cu

With disconnecting sleeve (Part No. 450 007) and KS screws (Part No. 300 007).



Part No.	480 157
Material	Cu
Standard	EN 62561-(1+2)
Length	1500 mm
Connection KS screw Rd	6-10 mm
Connection sleeve Rd / Rd	7-10 / 16 mm
PU	1 pc(s)

Earth Entry Rods

For connection of down conductors to the earth-termination system.

Chamfered

General technical data:	
Standard	EN 62561-2
Diameter Ø	16 mm

Part No.	483 150	483 200	104 903
Material	St/tZn	St/tZn	StSt (V4A)
Material No.	—	—	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	—	—	316Ti / 316L / 316
Length	1500 mm	2000 mm	1000 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)

Part No.	104 905	104 906
Material	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316
Length	1500 mm	2000 mm
PU	10 pc(s)	10 pc(s)

With forged flat lug

Bore Ø11 mm, bore distance 22 mm.

Part No.	101 150
Material	St/tZn
Standard	EN 62561-2
Diameter Ø	16 mm
Length	1500 mm
Bore distance	22 mm
PU	10 pc(s)

Tapered

Notched conductor Ø10 mm, partly insulated (length approx. 700 mm).

Part No.	480 018	480 019	480 020	480 021
Material	St/tZn	St/tZn	St/tZn	St/tZn
Standard	EN 62561-2	EN 62561-2	EN 62561-2	EN 62561-2
Diameter Ø	16 / 10 mm	16 / 10 mm	16 / 10 mm	16 / 10 mm
Total length	1500 mm	1750 mm	2000 mm	2500 mm
Partial length Ø16 mm	1000 mm	750 mm	1000 mm	1500 mm
Partial length Ø10 mm	500 mm	1000 mm	1000 mm	1000 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)	10 pc(s)

Connection Lugs Straightened / Angled

For the connection of down conductors with the earth-termination system; made of corrosion-resistant stainless steel StSt (V4A).

Round wires

Part No.	860 110	860 115	860 130
Material	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L	316Ti / 316L
Length	1000 mm	1500 mm	3000 mm
Dimension	Ø10 mm	Ø10 mm	Ø10 mm
Cross-section	78 mm ²	78 mm ²	78 mm ²
Standard	EN 62561-2	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)	5 pc(s)



1 Conductor material

Flat strips

Part No.	860 210	860 215	860 230
Material	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L	316Ti / 316L
Length	1000 mm	1500 mm	3000 mm
Dimension	30 x 3.5 mm	30 x 3.5 mm	30 x 3.5 mm
Cross-section	105 mm ²	105 mm ²	105 mm ²
Standard	EN 62561-2	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)	5 pc(s)



Flat strips with slotted holes

Slot-to-slot gap 500 mm.

Part No.	860 425	860 430
Material	StSt	StSt (V4A)
Material No.	1.4301	1.4571 / 1.4404
ASTM / AISI:	—	316Ti / 316L
Length	3000 mm	3000 mm
Dimension	30 x 3.5 mm	30 x 3.5 mm
Fixing	[6x] 6.5 x 12 mm	[6x] 6.5 x 12 mm
Bore distance	500 mm	500 mm
Cross-section	105 mm ²	105 mm ²
Standard	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)



Flat strips angled

For direct wall mounting (without distance) with bores for countersunk head screws.

Part No.	860 315	860 330
Material	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404	1.4571 / 1.4404
ASTM / AISI:	316Ti / 316L	316Ti / 316L
Length	1500 mm	3000 mm
Dimension	30 x 3.5 mm	30 x 3.5 mm
Connection	isolating clamp or clamping screw connector	isolating clamp or clamping screw connector
Fixing	[3x] Ø6.5 mm	[6x] Ø6.5 mm
Bore distance	500 mm	500 mm
Cross-section	105 mm ²	105 mm ²
Standard	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)



Other dimensions available upon request.

Identification for Terminal Lugs

For attaching to round wires or strips as striking marker (as required according to DIN 18014) during the construction phase.

Part No.	478 099
Material	PVC
Diameter Ø	70 mm
Attach to Fl	30 x 3.5 mm
Attach to Rd	10 mm
Colour	green ● / yellow ●
PU	20 pc(s)





DEHN protects.®

Fixed Earthing Terminals



For installation into concrete as corrosion-free connection to the earth-termination system for protective equipotential bonding and / or functional equipotential bonding of the down conductor e.g. to the reinforcement of buildings.

For the double thread M10 and M12 mind the following minimum lengths of the screws:

35 mm of M10 (thread length 40 mm)

15 mm of M12 (thread length 20 mm)

Type M

With connection axis (l = 180 mm, Ø10 mm).

Part No.	478 011	478 019
Connection thread	M10 / M12	M10 / M12
Material of plate	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316
Material of axis	St/tZn	StSt
Connection plate Ø	80 mm	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.5 kA	3.9 kA
Standard	EN 62561-1	EN 62561-1
PU	10 pc(s)	10 pc(s)



Type M without connection axis

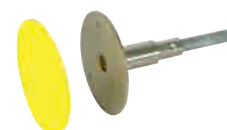
Part No.	478 012
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Connection plate Ø	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.3 kA (with copper cable lug)
Standard	EN 62561-1
PU	10 pc(s)



Type M press-fitted

Connection axis (l = 180 mm, Ø10 mm).

Part No.	478 041	478 049
Connection thread	M10 / M12	M10 / M12
Material of plate	NIRO (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316
Material of axis	St/tZn	StSt
Connection plate Ø	80 mm	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	3.7 kA	3.3 kA
Standard	EN 62561-1	EN 62561-1
PU	10 pc(s)	10 pc(s)



Part No. 478 049 with UL approval.

Type M press-fitted with additional water barrier

Against penetration of water along the axis into the wall (tested with 5 bar compressed air according to EN 62561-5 and 1 bar pressure water).

Part No.	478 051
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Material of axis	St/tZn
Connection plate Ø	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	3.7 kA
Material of water barrier	PVC
Standard	EN 62561-1
PU	1 pc(s)



Fixed Earthing Terminal / Wall Bushings

Type M with MV clamp

For round conductors 8-10 mm, space saving installation in the formwork.



Part No.	478 112
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Connection plate Ø	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.3 kA
Standard	EN 62561-1
PU	10 pc(s)

Type K

With plastic ring and connection axis (l = 180 mm, Ø10 mm).



Part No.	478 200
Connection thread	M10 / M12
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Material of axis	St/tZn
Connection plate Ø	46 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.5 kA
Standard	EN 62561-1
PU	10 pc(s)

Fixed Earthing Terminal M16



With connection thread M16 for higher current loadings (50 Hz), e.g. for connecting the ring equipotential bonding system with the earth-termination systems of power installations with nominal a.c. voltages over 1 kV (transformer earthing).



Part No.	478 027
Connection thread	M16
Material of plate	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Material of cable	Cu/gal Sn
Cross-section of connecting cable	70 mm ²
Length of connecting cable	400 mm
Diameter Ø connecting cable	10.5 mm
Connection plate Ø	80 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	11 kA
PU	1 pc(s)

Connecting Clamps for Fixed Earthing Terminals and Reinforcement

For connecting the reinforcement with clamping frame.

For round conductors or fixed earthing terminals and concurrent fixing in the formwork.

Arrangement:

(//) = parallel

(+) = cross

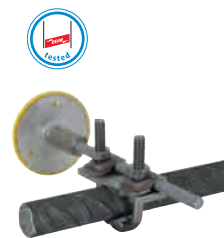


For small diameters

Part No.	308 035
Material	St/bare
Clamping range Rd / Rd	(+//) 6-22 / 6-10 mm
Clamping range Rd / Fl	(+) 6-22 / 40 mm
Screw	☛ M10 x 60 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	1.0 kA
PU	25 pc(s)

U-clamp for large diameters

Part No.	308 046
Material	St/bare
Clamping range Rd / Rd	(+//II) 16-48 / 6-10 mm
Clamping range Rd / Fl	(II) 16-48 / 30-40 mm
Screw	stirrup bolt M10 x 48 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.9 kA
PU	25 pc(s)



End Pieces

For screwing to the fixed earthing terminal to connect e.g. an equipotential bonding bar or construction elements such as steel girders etc.

Basic design

Universally usable for connections M10 and M12, e.g. at the fixed earthing terminal.
For connection of Rd e.g. with KS connector (Part No. 301 019), or for connection of Fl with screws and nuts M10 or M12.

Part No.	390 499
Material	StSt
Bore Ø	10.5 / 12.5 mm
PU	50 pc(s)



Design with square holes

Dimension 11x11 mm, for connection of Rd e.g. with KS connector (Part No. 301 019) or for connection of Fl with screws and nuts M10.

Part No.	390 479
Material	StSt
Distance of bores	30 mm
Bore Ø	13 mm
PU	50 pc(s)



Design with bores and KS connector

With bores Ø11 mm.

Part No.	363 010
Material	St/tZn
Distance of bores	22 mm
Bore Ø	11 mm
Clamping range Rd	7-10 mm
Standard	EN 62561-1
PU	50 pc(s)



Design with bores

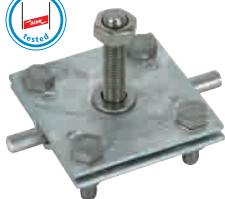
With bores Ø11 mm.

Part No.	363 000
Material	St/tZn
Distance of bores	22 mm
Bore Ø	11 mm
PU	50 pc(s)



Connection Clamps with Threaded Bolt

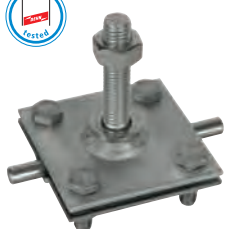
For connection of round and flat conductors to fixed earthing terminals with thread M10 / M12 (e.g. Part Nos. 478 011, 478 200). Clamps with thread M10 are also suitable for installation on the back side of the fixed earthing terminal (without connection axis) e.g. to connect flat strip.



Heavy design M10

Part No.	478 141
Material of clamp	St/tZn
Clamping range Rd / Fl	7-10 / 30-40 mm
Dimension	70 x 70 x 3 mm
Standard	EN 62561-1
PU	10 pc(s)

Heavy design M12



Part No.	478 149
Material of clamp	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Clamping range Rd / Fl	7-10 / 30-40 mm
Dimension	70 x 70 x 3 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	3.3 kA
PU	10 pc(s)



Light design M10

Part No.	478 129
Material of clamp	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Clamping range Rd / Fl	8-10 / 30 mm
Dimension	58 x 30 x 2.5 mm
Standard	EN 62561-1
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	2.7 kA
PU	10 pc(s)

Threaded Adapter

For connection to fixed earthing terminals with thread M10, lock nut and spring washer, for use in case of perimeter insulation or thermal insulation composite systems.



Part No.	478 699
Material	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Female thread	M10 x 25 mm
Male thread	M10 x 80 mm
Total length	130 mm
Standard	EN 62561-1
PU	10 pc(s)

Earth Electrode and Wall Bushings

With MV clamp made of StSt (V4A) for round conductors 8-10 mm. For water pressure-tight ducting of the earthing conductor / equipotential bonding conductor through walls and brickwork with StSt threaded rod M10.

For subsequent installation through borehole (Ø14 mm) or through the formwork spreader.
Test for water pressure-tightness up to 1 bar features an installation depth of 10 m in stagnant water.

Part No.	478 410	478 430	478 450
Length of bushing	100-300 mm	300-500 mm	500-700 mm
Length of threaded rod	308 mm	508 mm	708 mm
Sealings	Neopren	Neopren	Neopren
Sealing disc Ø	80 mm	80 mm	80 mm
Material of disc	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316	316Ti / 316L / 316
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	2.7 kA	2.7 kA	2.7 kA
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)	1 pc(s)



Water Pressure-tight Wall Bushings for White Tank

For installation in the formwork.

For water pressure-tight bushing of walls, e.g. for connecting the ring earth electrode with the equipotential bonding bar or the equipotential bonding conductor in the foundation.

Test for water pressure-tightness up to 1 bar features an installation depth of 10 m in stagnant water.
Tested with 5 bar compressed air in accordance with EN 62561-5.

Part No.	478 530	478 540	478 550
Material of plate	StSt (V4A)	StSt (V4A)	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316	316Ti / 316L / 316	316Ti / 316L / 316
Material of axis	St/tZn	St/tZn	St/tZn
Wall thickness	220-300 mm	300-400 mm	400-500 mm
Terminal thread	M10 / 12	M10 / 12	M10 / 12
Terminal plate Ø	80 mm	80 mm	80 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	4.1 kA	4.1 kA	4.1 kA
Standard	EN 62561-(1+5)	EN 62561-(1+5)	EN 62561-(1+5)
PU	1 pc(s)	1 pc(s)	1 pc(s)



Sealing Collar for Connection Lug

Sealing collar for bushings of watertight foundation slabs / walls (e.g. white tank).

Water pressure-tight for pushing on round / flat conductors with StSt tensioning straps.

Test for water pressure-tightness up to 1 bar features an installation depth of 10 m in stagnant water, additionally tested with 5 bar compressed air according to EN 62561-5.

For round conductors

Part No.	478 598
Material	thermoplast elastomer
Diameter Ø	105 mm
Bushing Rd	10 mm
Standard	EN 62561-5
PU	10 pc(s)



For flat conductors

Part No.	478 599
Material	thermoplast elastomer
Diameter Ø	119 mm
Bushing Fl	30 x 3,5 mm
Standard	EN 62561-5
PU	10 pc(s)





DEHN protects.®

Connecting Clamps for Reinforcements

In accordance with the German standard DIN 18014: 2014-03 Fundamenteerder – Planung, Ausführung und Dokumentation (Title English: Foundation earth electrode - Planning, execution and documentation), foundation earth electrodes have to be connected every two meters with the reinforcement of the foundation plate. Among the various connection possibilities the clamping connection has turned out to be the most economic, as it can be realised fast and easily on site.

Among others also reinforcing steels shall be used as natural components of the down conductor system according to the current lightning protection standards. In the following a survey of the nominal and outer diameters as well as cross sections of the reinforcing steels DIN EN 10080: 2005.

For connecting concrete reinforcing mats or reinforcements with round and flat conductors. Arrangement: (||) = parallel (+) = cross



The outer diameter including corrugation is approx. $d_A = 1.15 \times d_s$.

Nominal diameter d_s (mm)	6	8	10	12	14	16	20	25	28	32	40
Average outer diameter incl. corrugation d_A (mm)	7.1	9.4	11.8	14.2	16.5	18.9	23.6	29.5	33.1	37.8	47.2
Nominal cross section (mm ²)	28.3	50.3	78.5	113.1	154	201	314	491	616	804	1257

DEHNclip® Rebar Clamp

Quick and safe:

Without tools the new DEHNclip® rebar clamp allows to connect the earth electrode quick and safely with the reinforcing structure. DEHNclip® is tested for a lightning current carrying capability of 50 kA (10/350 µs) in accordance with EN 62561-1.



For connecting round conductors with the reinforcement

Part No.	308 130 ^{NEW}	308 131 ^{NEW}	308 132 ^{NEW}	308 133 ^{NEW}
Material	St/bare	St/bare	St/bare	St/bare
Clamping range Rd^* / Rd	6-7 / 10 mm	8-9 / 10 mm	10 / 10 mm	12 / 10 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	2.5 kA	2.7 kA	2.4 kA	2.7 kA
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

^{*)} Nominal diameter d_s of the reinforcement



For connecting flat conductors with the reinforcement

Part No.	308 140 ^{NEW}	308 141 ^{NEW}	308 142 ^{NEW}	308 143 ^{NEW}
Material	St/bare	St/bare	St/bare	St/bare
Clamping range Rd^* / Fl	6-7 / 30 mm	8-9 / 30 mm	10 / 30 mm	12 / 30 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	2.0 kA	2.3 kA	2.3 kA	2.3 kA
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

^{*)} Nominal diameter d_s of the reinforcement



For connecting the reinforcing steel

Part No.	308 134 ^{NEW}	308 135 ^{NEW}	308 132 ^{NEW}	308 136 ^{NEW}
Material	St/bare	St/bare	St/bare	St/bare
Clamping range Rd^* / Rd	6 / 6 mm	8 / 8 mm	10 / 10 mm	12 / 12 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	2.2 kA	2.4 kA	2.4 kA	2.6 kA
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

^{*)} Nominal diameter d_s of the reinforcement



Connecting Clamps for Reinforcements

For T, cross and parallel connections



Part No.	308 025
Material	St/tZn
Clamping range Rd / Rd	(+) 6-10 / 6-10 mm
Clamping range Rd / Fl	(+) 6-10 / 30 mm
Clamping range Fl / Fl	(II) 30 / 30 mm
Screw	☒ ● M10 x 25 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9 kA
Standard	EN 62561-1
PU	50 pc(s)

For T, cross and parallel connections



Part No.	308 026
Material	St/tZn
Clamping range Rd / Fl	(+) 6-10 / 30 mm
Clamping range Fl / Fl	(+ / II) 30 / 30 mm
Screw	☒ ● M10 x 25 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	13 kA
Standard	EN 62561-1
PU	25 pc(s)

For T and cross connections



Part No.	308 030
Material	St/bare
Clamping range Rd / Fl	(+) 6-22 / 40 mm
Screw	☒ ● M10 x 40 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	1.0 kA
Standard	EN 62561-1
PU	25 pc(s)

For T, cross and parallel connections with clamping frame

For flexible connection of round conductors or for fixed earthing terminals and simultaneous fixing in the formwork.



Part No.	308 035
Material	St/bare
Clamping range Rd / Rd	(+/II) 6-22 / 6-10 mm
Clamping range Rd / Fl	(+) 6-22 / 40 mm
Screw	☒ ● M10 x 60 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	1.0 kA
Standard	EN 62561-1
PU	25 pc(s)

U-bolt clamp for large diameters



Part No.	308 045
Material	St/bare
Clamping range Rd / Rd	(II) 16-48 / 6-10 mm
Clamping range Rd / Fl	(II) 16-48 / 30-40 mm
Screw	stirrup bolt M10 x 48 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	16 kA
Standard	EN 62561-1
PU	25 pc(s)

U-bolt clamp for large diameters with two additional clamping frames

For cross connections of round conductors (6-10 mm) or for the fixing and simultaneous connection of fixed earthing terminals.

Part No.	308 046
Material	St/bare
Clamping range Rd / Rd	(+//II) 16-48 / 6-10 mm
Clamping range Rd / Fl	(II) 16-48 / 30-40 mm
Screw	stirrup bolt M10 x 48 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	9.9 kA
Standard	EN 62561-1
PU	25 pc(s)



MAXI MV clamps

For T, cross and parallel connections.

Part No.	308 041	308 040
Material	St/tZn	St/bare
Clamping range Rd / Rd	(+//II) 8-16 / 15-25 mm	(+//II) 8-16 / 15-25 mm
Screw	☒ M12 x 65 mm	☒ M12 x 65 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.2 kA	10.2 kA
Standard	EN 62561-1	EN 62561-1
UL certification	—	UL467B
Stock No.	5999-12-362-1557	—
PU	20 pc(s)	20 pc(s)



MV clamps with hexagon screw

Threaded base part.

Part No.	390 050	391 050
Material	St/tZn	St/tZn
Clamping range Rd	8-10 mm	10 mm
Screw	☒ M10 x 30 mm	☒ M10 x 35 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	5.5 kA	—
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



MV clamps with hexagon screw and spring washer

Threaded base part.

Part No.	390 550
Material	St/tZn
Clamping range Rd	8-10 mm
Screw	☒ M10 x 30 mm
Standard	EN 62561-1
PU	50 pc(s)



Parallel connectors with truss head screw

Part No.	306 121 <small>NEW</small>	306 122 <small>NEW</small>
Material	St/bare	St/tZn
Clamping range Rd / Rd	6-22 / 6-22 mm	6-22 / 6-22 mm
Screw	☒ M10 x 40 mm	☒ M10 x 40 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6.1 kA	6.1 kA
Standard	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)



Connecting Clamps for Foundation Earth Electrodes

For connecting round and flat conductors in the concrete foundation.
For T, cross and parallel connections, no need of threading the conductors.

Arrangement:
(II) = parallel
(+) = crosswise



Part No.	308 120	308 129
Material	St/tZn	StSt
Clamping range Rd / Fl	(+) 10 / 30 mm	(+) 10 / 30 mm
Clamping range Fl / Fl	(+//II) 30 / 30 mm	(+//II) 30 / 30 mm
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)

Connecting Clamps for Foundation Earth Electrodes and Reinforcements

For connecting round and flat conductors in the concrete foundation or the concrete reinforcing mats and the reinforcements with round and flat conductors.

Arrangement:
(II) = parallel (+) = cross



Connecting clamp with thrust bracket

For T, cross and parallel connections.

Part No.	308 031
Material	St/bare
Clamping range Rd / Rd	(+//II) 6-20 / 6-10 mm
Clamping range Rd / Fl	(+//II) 6-20 / 30 x 3-4 mm
Clamping range Fl / Fl	(+//II) 30 x 3-4 / 30 x 3-4 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	8.4 kA
Standard	EN 62561-1
PU	25 pc(s)



Connecting clamp MAXI with thrust bracket

For T, cross and parallel connections.

Part No.	308 036
Material	St/bare
Clamping range Rd / Rd	(+//II) 20-32 / 6-10 mm
Clamping range Rd / Fl	(+//II) 20-32 / 40 x 4-5 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	14.0 kA
Standard	EN 62561-1
PU	25 pc(s)



Connecting clamp without thrust bracket

For cross connections.

Part No.	308 032
Material	St/bare
Clamping range Rd / Fl	(+) 6-20 / 30 x 3-4 mm
Clamping range Fl / Fl	(+) 30 x 3-4 / 30 x 3-4 mm
Standard	EN 62561-1
PU	25 pc(s)



Connecting clamp MAXI without thrust bracket

For cross connections.

Part No.	308 037
Material	St/bare
Clamping range Rd / Fl	(+) 20-32 / 30 x 3-40 x 5 mm
Standard	EN 62561-1
PU	25 pc(s)



Wedge Connector

For T, cross and parallel connections for use in concrete foundations.

Part No.	308 001
Material	St/tZn
Clamping range Rd / Fl	10 / 30 x 3.5-40 x 4 mm
Clamping range Fl / Fl	30 x 3.5-40 x 4 / 30 x 3.5-40 x 4 mm
PU	25 pc(s)



Expansion Strap for Foundation Earth Electrodes

For leading the foundation earth electrode through the expansion joints of large foundations (several sections). It is not necessary to lead the earth electrode out of the base plate.

Part No.	308 150
Material of strap	StSt
Dimension of strap (l x w x d)	approx. 700 x 30 x (4 x 1) mm
Cross-section	120 mm ²
Material of block	polystyrene
Dimension of block (l x w x d)	180 x 85 x 45 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	6 kA
Standard	EN 62561-2
PU	1 pc(s)



Spacers

For the installation of earthing conductors in the foundation slab.
With catch lug to avoid loosening of the conductor.

Angled and reinforced design

Part No.	290 001
Material	St/tZn
Support Fl	40 mm
Support Rd	8-10 mm
Length	300 mm
PU	25 pc(s)



Straight design

Part No.	290 002
Material	St/tZn
Support Fl	40 mm
Support Rd	8-10 mm
Length	280 mm
PU	50 pc(s)





DEHN protects.®

Earth Rods



For implementing earth-termination systems for down conductors or transformer stations.

Features:

- No cross section thickening at the coupling point
- Self-locking coupling
- Corrosion resistance
- Easier storage and transport
- Universal application according to local soil conditions
- Constant resistance values
- Easy driving-in by vibration hammer

Type S

With lead ball in the coupling.

Part No.	620 150	619 157	625 150
Material	St/tZn	St / Cu	St/tZn
Rod length	1500 mm	1500 mm	1500 mm
Diameter Ø	20 mm	20 mm	25 mm
Cu layer	—	min 0.25 mm	—
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	7.9 kA	7.9 kA	12.3 kA
Standard	EN 62561-2	—	EN 62561-2
PU	6 pc(s)	6 pc(s)	6 pc(s)



Type Z

With triple knurled pin (coupling with especially high tensile strength).

Part No.	620 101	620 151	625 101	625 151
Material	St/tZn	St/tZn	St/tZn	St/tZn
Rod length	1000 mm	1500 mm	1000 mm	1500 mm
Diameter Ø	20 mm	20 mm	25 mm	25 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	7.9 kA	7.9 kA	12.3 kA	12.3 kA
Standard	EN 62561-2	EN 62561-2	EN 62561-2	EN 62561-2
PU	6 pc(s)	6 pc(s)	6 pc(s)	6 pc(s)



Type AZ

With offset knurled pin.

Part No.	620 902
Material	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Rod length	1500 mm
Diameter Ø	20 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	4.2 kA
Standard	EN 62561-2
PU	6 pc(s)



Driving Spikes

For driving in the first earth rod.

The driving spikes can be used for earth rods made of steel as well as StSt and they are also applicable for tubular earth rods.

Part No.	620 001	625 001
Material	MCI/tZn	MCI/tZn
Type	for earth rods Ø20 mm or tubular earth rods St/tZn Ø27 mm	for earth rods Ø25 mm or tubular earth rods StSt (V4A) Ø25 mm
PU	100 pc(s)	50 pc(s)





Tubular Earth Rods

Light design, for implementing earth-termination systems for down conductors.

Type Steel

Part No.	640 150
Material	St/tZn
Rod length	1500 mm
Diameter Ø	27 mm
Standard	EN 62561-2
PU	6 pc(s)

Type StSt

Part No.	649 150
Material	StSt (V4A)
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Rod length	1500 mm
Diameter Ø	25 mm
Standard	EN 62561-2
PU	6 pc(s)

Earthing Pipe with Drive Spike

With drive spike for earthing mobile objects such as vehicles, power generators, etc.



Part No.	646 000
Material	St/tZn
Pipe Ø	34 mm
Length	600 mm
Screw	wing nut M8
Military Name	VG 96953 T010 B0001
Stock No.	5975-12-133-4342
PU	1 pc(s)

DEHNIT Earthing Method

For improving and stabilising the earth electrode resistance.

Highly swellable, powdery and extremely moisture retaining special clay provides a conductive earth electrode enclosure and reduces the soil resistivity.

More information at www.dehn-international.com.



Part No.	573 000
Material	special clay
Mixing ratio	5 parts sand / 1 part DEHNIT / 0.5 parts water
PU	25 kg

Profiled Earth Rods

For the installation of earth-termination systems e.g. for antennas or construction site distribution cabinets.

Profile 50 x 50 x 3 mm

With connection lug and bores e.g. for KS connector.

Part No.	635 100	635 150	635 200	635 250
Material	St/tZn	St/tZn	St/tZn	St/tZn
Length	1000 mm	1500 mm	2000 mm	2500 mm
Bores Ø	[2x] 11 / [1x] 13 mm	[2x] 11 / [1x] 13 mm	[2x] 11 / [1x] 13 mm	[2x] 11 / [1x] 13 mm
Standard	EN 62561-2	EN 62561-2	EN 62561-2	EN 62561-2
PU	5 pc(s)	5 pc(s)	5 pc(s)	3 pc(s)



Single-screw Connection Clamps

For connecting round conductors, flat strips or cables to earth rods.
For cross and parallel connection.

Part No.	630 120	630 129
Material	St/tZn	StSt (V4A)
Clamping range Rd / Fl	10 / -30 x 4 mm	10 / -30 x 4 mm
Clamping range of cable	70 mm ²	70 mm ²
Type for earth rods	Ø20 mm	Ø20 mm
Material No.	—	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	—	316Ti / 316L / 316
Standard	EN 62561-1	EN 62561-1
PU	25 pc(s)	25 pc(s)



Connection Brackets

For connecting round conductors, cables and flat strips to earth rods.

Diagonal design

Also for use with uncut earth conductors.

Part No.	620 015	620 017	620 915
Material	St/tZn	Cu	StSt (V4A)
Clamping range Rd / Fl	7-10 / -40 mm	7-10 / -40 mm	7-10 / -40 mm
Clamping range (stranded / cable)	—	35-95 mm ²	35-95 mm ²
Type for earth rods	Ø20 mm	Ø20 mm	Ø20 mm
Material No.	—	—	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	—	—	316Ti / 316L / 316
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	21.0 kA	29.0 kA	7.3 kA
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	20 pc(s)	20 pc(s)	20 pc(s)



Part No.	625 015	649 015
Material	St/tZn	StSt (V4A)
Clamping range Rd / Fl	7-10 / -40 mm	—
Clamping range (stranded / cable)	—	35-95 mm ²
Type for earth rods	Ø25 mm	Ø25 mm
Material No.	—	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	—	316Ti / 316L / 316
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	18 kA	8 kA
Standard	EN 62561-1	—
PU	20 pc(s)	20 pc(s)

Diagonal design – especially for tubular earth rods St/tZn

Also for use with uncut earth electrodes.

Part No.	640 015
Material	St/tZn
Clamping range Rd / Fl	7-10 / -40 mm
Type for earth rods	Ø27 mm
Standard	EN 62561-1
PU	20 pc(s)



One side connection with KS connector

Part No.	620 011	625 011
Material	St/tZn	St/tZn
Clamping range Rd	7-10 mm	7-10 mm
Type for earth rods	Ø20 mm	Ø25 mm
Standard	EN 62561-1	EN 62561-1
PU	20 pc(s)	20 pc(s)





Both sides connection with KS connectors (St/tZn)

Part No.	620 012	625 012
Material	St/tZn	St/tZn
Clamping range Rd	7-10 mm	7-10 mm
Type for earth rods	Ø20 mm	Ø25 mm
Standard	EN 62561-1	EN 62561-1
PU	10 pc(s)	10 pc(s)



One side connection with screw M10

Part No.	620 021	625 021
Material	St/tZn	St/tZn
Clamping range Fl	-40 mm	-40 mm
Type for earth rods	Ø20 mm	Ø25 mm
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	8.4 kA	8.4 kA
Standard	EN 62561-1	EN 62561-1
PU	20 pc(s)	20 pc(s)

Connection Clamps

For cross and parallel connection of round conductors, flat strips or cables to earth rods.

For earth rods Ø20-30 mm



Part No.	610 010
Material	St/tZn
Clamping range Rd / Fl	8-12.5 / -40 mm
Clamping range (stranded / cable)	50-95 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	18 kA
Standard	EN 62561-1
PU	1 pc(s)

For earth rods Ø20 mm



Part No.	610 020
Material	StSt (V4A)
Clamping range Rd / Fl	7-10 / -40 mm
Clamping range (stranded / cable)	35-70 mm ²
Material No.	1.4571 / 1.4404 / 1.4401
ASTM / AISI:	316Ti / 316L / 316
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	8 kA
Standard	EN 62561-1
PU	25 pc(s)

Hammer Inserts for Earth Rods



For driving in earth rods by vibration hammer. For earth rods type S and Z. Ø20 mm (pin Ø12 mm Part No. 620...) or Ø25 mm (pin Ø15 mm Part No. 625...). With the Atlas Copco equipment different support types can be used. Please note when placing your order.

Product	Type		Connection	Weight (without tool)	Blow count (per min.)	Blow power	Hammer Insert Part No.
	new	old					
Wacker Neuson	BH 55 petrol engine	BH 23 petrol engine	round Ø27x80 mm	24.0 kg	1300	55 J	620 009 625 009
	BH 65 petrol engine	BH 24 petrol engine		25.0 kg	1250	65 J	620 009 625 009
	BH 55rw petrol engine	BH 24 Low Vib petrol engine		25.0 kg	1350	55 J	620 009 625 009
	BHF 30 petrol engine (no longer available)			27.4 kg	1270	47 J	620 005 625 005
	EH 50 universal engine 230 V	EH 23 Low Vib universal engine 230 V		22.0 kg	1300	50 J	620 009 625 009
	EH 75 asynchronous engine 230 V	EH 25 asynchronous engine 230 V		25.0 kg	1300	70 J	620 009 625 009
	EH 22/400 electric engine 400 V (no longer available)			22.0 kg	1250	40 J	620 009 625 009
Atlas Copco	Cobra Combi petrol engine	Cobra 149 petrol engine	hexagon SW22x108 mm	25.0 kg	2700	24 J	620 007 625 007
	CP Red Hawk petrol engine	Cobra Standard petrol engine	hexagon SW32x160 mm	23.0 kg	2600	24 J	620 007 625 007
	Cobra TT petrol engine		hexagon SW32x160 mm	25.0 kg	1620	40 J	620 010 625 010
	Cobra PRO petrol engine	Cobra MK1 petrol engine	hexagon SW32x160 mm	25.0 kg	1440	60 J	620 010 625 010

Note: The details of the installation instructions Nr. 1014 for earth rods have to be considered!

Design for Wacker Neuson

Part No.	620 005	625 005
Type	BHF 30	BHF 30
Adapter	round Ø27 x 80 mm	round Ø27 x 80 mm
Material	St/bare	St/bare
Bore (d x l)	13 x 50 mm	16 x 55 mm
Length	200 mm	200 mm
Earth rod diameter	20 mm	25 mm
Earth rod type	S, Z, AZ	S, Z
PU	1 pc(s)	1 pc(s)



Special hammer insert for earth rods d=20 mm, StSt for Wacker equipment Part No. 620 005/S Id. No. 046377 upon request.

Heavy design for Wacker Neuson

Part No.	620 009	625 009
Type	BH 55, BH 65, BH 55rw, EH 50, EH 75 and EH 22/400	BH 55, BH 65, BH 55rw, EH 50, EH 75 and EH 22/400
Adapter	round Ø27 x 80 mm	round Ø27 x 80 mm
Material	St/bare	St/bare
Bore (d x l)	13 x 50 mm	16 x 55 mm
Length	260 mm	260 mm
Earth rod diameter	20 mm	25 mm
Earth rod type	S, Z, AZ	S, Z
PU	1 pc(s)	1 pc(s)





Design for Atlas Copco SW 22

Part No.	620 007	625 007
Type	Cobra Combi, CP Red Hawk (Cobra Standard)	Cobra Combi, CP Red Hawk (Cobra Standard)
Adapter	hexagon SW22 x 108 mm	hexagon SW22 x 108 mm
Material	St/bare	St/bare
Bore (d x l)	13 x 50 mm	16 x 55 mm
Length	240 mm	240 mm
Earth rod diameter	20 mm	25 mm
Earth rod type	S, Z, AZ	S, Z
PU	1 pc(s)	1 pc(s)



Design for Atlas Copco SW 25

Part No.	620 008	625 008
Type	TEX 15 PE, 19 PE, 23 PE	TEX 15 PE, 19 PE, 23 PE
Adapter	hexagon SW25 x 108 mm	hexagon SW25 x 108 mm
Material	St/bare	St/bare
Bore (d x l)	13 x 50 mm	16 x 55 mm
Length	240 mm	240 mm
Earth rod diameter	20 mm	25 mm
Earth rod type	S, Z, AZ	S, Z
PU	1 pc(s)	1 pc(s)



Design for Atlas Copco SW 28

Part No.	620 019	625 019
Type	TEX 28 HE, 27 H, 15 PE, 19 PE, 23 PE, 22 PS	TEX 28 HE, 27 H, 15 PE, 19 PE, 23 PE, 22 PS
Adapter	hexagon SW28 x 160 mm	hexagon SW28 x 160 mm
Material	St/bare	St/bare
Bore (d x l)	13 x 50 mm	16 x 55 mm
Length	350 mm	350 mm
Earth rod diameter	20 mm	25 mm
Earth rod type	S, Z, AZ	S, Z
PU	1 pc(s)	1 pc(s)



Design for Atlas Copco SW 32

Part No.	620 010
Type	TT, PRO, MK1
Adapter	hexagon SW32 x 160 mm
Material	St/bare
Bore (d x l)	13 x 50 mm
Length	350 mm
Earth rod diameter	20 mm
Earth rod type	S, Z, AZ
PU	1 pc(s)



Design for Bosch / Hilti

Part No.	620 029	625 029
Type	GSH 27 / TE 3000 AVR	GSH 27 / TE 3000 AVR
Adapter	hexagon SW28 (1 1/8")	hexagon SW28 (1 1/8")
Material	St/bare	St/bare
Bore (d x l)	13 x 50 mm	16 x 55 mm
Length	250 mm	250 mm
Earth rod diameter	20 mm	25 mm
Earth rod type	S, Z, AZ	S, Z
PU	1 pc(s)	1 pc(s)

Design for Hilti TE-S

Part No.	620 031	625 031
Type	vibration / impact hammer with TE-S adapter	vibration / impact hammer with TE-S adapter
Adapter	hexagon SW22	hexagon SW22
Material	St/bare	St/bare
Bore (d x l)	13 x 50 mm	16 x 55 mm
Length	280 mm	280 mm
Earth rod diameter	20 mm	25 mm
Earth rod type	S, Z, AZ	S, Z
PU	1 pc(s)	1 pc(s)



Design for SDS-max

Part No.	620 030	625 030
Type	vibration / impact hammer with SDS-max adapter	vibration / impact hammer with SDS-max adapter
Adapter	round Ø18 x 175 mm	round Ø18 x 175 mm
Material	St/bare	St/bare
Bore (d x l)	13 x 50 mm	16 x 55 mm
Length	260 mm	260 mm
Earth rod diameter	20 mm	25 mm
Earth rod type	S, Z, AZ	S, Z
PU	1 pc(s)	1 pc(s)



Note: It is recommended to use a hammer with a minimum striking force of 26 joules. The maximum drive-in depth depends on the soil conditions.

Design for other types of hammer available upon request.

Hammer Inserts for Tubular Earth Rods

For driving in tubular earth rods by vibration hammer.



Design for tubular earth rods Ø27 mm (St/tZn) Wacker Neuson

Part No.	649 005
Type	EH 22/400, EH 23/230, EH 24/042/200, BH 23 and BHF 30
Support	round Ø27 x 80 mm
Material	St/bare
Length	246 mm
PU	1 pc(s)



Design for tubular earth rods Ø27 mm (St/tZn) Atlas Copco

Part No.	649 007
Type	Cobra 149+248 and Cobra 120+130
Support	hexagon SW22 x 108 mm
Material	St/bare
Length	246 mm
PU	1 pc(s)



Design for tubular earth rods Ø27 mm (St/tZn) SDS-max

Part No.	649 009 ^{NEW}
Type	vibration / impact hammer with SDS-max adapter
Support	round Ø18 x 175 mm
Material	St/bare
Length	260 mm
PU	1 pc(s)

NEW



Note: It is recommended to use a hammer with a minimum striking force of 26 joules. The maximum drive-in depth depends on the soil conditions.



Design for tubular earth rods Ø25 mm StSt (V4A) Wacker Neuson

Part No.	648 005
Type	EH 22/400, EH 23/230, EH 24/042/200, BH 23 and BHF 30
Support	round Ø27 x 80 mm
Material	St/bare
Length	246 mm
PU	1 pc(s)



Design for tubular earth rods Ø25 mm StSt (V4A) Atlas Copco

Part No.	648 007
Type	Cobra 149+248 and Cobra 120+130
Support	hexagon SW22 x 108 mm
Material	St/bare
Length	246 mm
PU	1 pc(s)

NEW



Design for tubular earth rods Ø25 mm StSt (V4A) SDS-max

Design for tubular earth rods Ø25 mm StSt (V4A) SDS-max

Part No.	648 009 <small>NEW</small>
Type	vibration / impact hammer with SDS-max adapter
Support	round Ø18 x 175 mm
Material	St/bare
Length	260 mm
PU	1 pc(s)

Note: It is recommended to use a hammer with a minimum striking force of 26 joules. The maximum drive-in depth depends on the soil conditions.

Design for other types of hammer upon request.

Driving Heads

For driving in earth rods with a mallet.



Part No.	620 002	625 002
Type of earth rod	types S + Z + AZ (Ø20 mm)	types S + Z (Ø25 mm)
Material	St/bare	St/bare
PU	1 pc(s)	1 pc(s)

Hammer Frame

For driving in earth rods with a length of 1000 mm and 1500 mm by vibration hammer.

The hammer frame will be delivered with hammer guiding rider.

Part No.	600 003
Material	St/tZn
Height	2550 mm
PU	1 pc(s)



Hammer Support

For vibration hammers of the following manufacturers.

Design for Wacker Neuson

Part No.	600 035
Types	EH 23 Low Vib, EH 22/400, EH 25, BH 24 Low Vib, BH 23, BHF 30, BH 55, BH 65, BH 55 rw, EH 50, EH 75
Material	St/tZn
PU	1 pc(s)

Design for Atlas Copco

Part No.	600 029
Types	Cobra Combi, CP Red Hawk (Cobra Standard)
Material	St/tZn
PU	1 pc(s)

Design for Bosch

Part No.	600 050
Types	GSH 27
Material	St/tZn
PU	1 pc(s)





DEHN protects.®

Earthing Cables with Cable Lugs open

Highly flexible copper conductor, frost-resistant, UV stabilised.
Packing in accordance with VG 96927-11.

Cable lug, 2x open, 2x M8 / M10

General technical data:	
Cable cross section	10 mm ²
Cable lug open	2x M8 / M10
Colour	black ●

Part No.	410 003	410 005	410 006	410 010
Cable length	0.35 m	0.55 m	0.65 m	1.05 m
Military Name	VG 96927 T011 A044	VG 96927 T011 A045	VG 96927 T011 A046	VG 96927 T011 A047
Stock No.	6150-12-156-9107	6150-12-156-8386	6150-12-156-9108	6150-12-156-8387
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	410 015	410 020	410 025	410 030
Cable length	1.55 m	2.05 m	2.55 m	3.05 m
Military Name	VG 96927 T011 A048	VG 96927 T011 A049	VG 96927 T011 A050	VG 96927 T011 A051
Stock No.	6150-12-156-9069	6150-12-156-9073	6150-12-156-9072	6150-12-156-9109
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	410 035	410 040	410 050	410 060
Cable length	3.55 m	4.05 m	5.05 m	6.05 m
Military Name	VG 96927 T011 A052	VG 96927 T011 A053	VG 96927 T011 A054	VG 96927 T011 A055
Stock No.	6150-12-156-9071	6150-12-156-9070	6150-12-156-6051	6150-12-156-9110
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	410 070	410 099	410 140
Cable length	7.05 m	10.0 m	14.0 m
Military Name	VG 96927 T011 A056	VG 96927 T011 A057	VG 96927 T011 A058
Stock No.	6150-12-156-9111	6150-12-156-9112	6150-12-156-6207
PU	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	410 150	410 199	410 299
Cable length	15.0 m	20.0 m	30.0 m
Military Name	VG 96927 T011 A059	VG 96927 T011 A060	VG 96927 T011 A061
Stock No.	6150-12-161-4272	6150-12-156-9113	6150-12-156-9114
PU	1 pc(s)	1 pc(s)	1 pc(s)



Cable lug, 2x open, 1x M8 / M10 and 1x M5 / M6

General technical data:	
Cable cross section	10 mm ²
Cable lug open	1x M8 / M10 1x M5 / M6
Colour	black ●

Part No.	410 603	410 605	410 610	410 615
Cable length	0.35 m	0.55 m	1.05 m	1.55 m
Military Name	—	—	—	VG 96927 T011 A123
Stock No.	—	—	—	6150-12-308-6928
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	410 620	410 625	410 630
Cable length	2.05 m	2.55 m	3.05 m
Military Name	—	—	—
Stock No.	—	—	6150-12-353-5887
PU	1 pc(s)	1 pc(s)	1 pc(s)



Cable lug, 2x open, 2x M8 / M10

General technical data:	
Cable cross section	16 mm ²
Cable lug open	2x M8 / M10
Colour	black ●

Part No.	416 003	416 005	416 006	416 010
Cable length	0.35 m	0.55 m	0.65 m	1.05 m
Military Name	VG 96927 T011 A062	VG 96927 T011 A063	VG 96927 T011 A064	VG 96927 T011 A065
Stock No.	6150-12-156-9115	6150-12-156-9085	6150-12-156-9116	6150-12-156-9084
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	416 015	416 020	416 025	416 030
Cable length	1.55 m	2.05 m	2.55 m	3.05 m
Military Name	VG 96927 T011 A066	VG 96927 T011 A067	VG 96927 T011 A068	VG 96927 T011 A069
Stock No.	6150-12-156-9117	6150-12-156-9118	6150-12-156-9119	6150-12-156-9083
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	416 035	416 040	416 050	416 060
Cable length	3.55 m	4.05 m	5.05 m	6.05 m
Military Name	VG 96927 T011 A070	VG 96927 T011 A071	VG 96927 T011 A072	VG 96927 T011 A073
Stock No.	6150-12-156-6208	6150-12-156-8388	6150-12-156-9120	6150-12-156-9082
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	416 070	416 080	416 100	416 120
Cable length	7.05 m	8.05 m	10.05 m	12.05 m
Military Name	VG 96927 T011 A074	VG 96927 T011 A075	VG 96927 T011 A076	VG 96927 T011 A077
Stock No.	6150-12-156-9121	6150-12-188-4475	6150-12-156-9122	6150-12-188-4476
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	416 140	416 150	416 200
Cable length	14.05 m	15.05 m	20.05 m
Military Name	VG 96927 T011 A078	VG 96927 T011 A079	VG 96927 T011 A080
Stock No.	6150-12-156-9123	6150-12-161-4273	6150-12-156-9124
PU	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	416 220	416 280	416 300
Cable length	22.05 m	28.05 m	30.05 m
Military Name	VG 96927 T011 A081	VG 96927 T011 A082	VG 96927 T011 A083
Stock No.	6150-12-188-4477	6150-12-188-4478	6150-12-156-9125
PU	1 pc(s)	1 pc(s)	1 pc(s)



Cable lug, 2x open, 1x M8 / M10 and 1x M5 / M6

Part No.	416 516
Cable cross section	16 mm ²
Cable length	1.55 m
Cable lug open	1x M8 / M10 1x M5 / M6
Colour	black ●
Military Name	VG 96927 T011 A125
Stock No.	6150-12-308-6607
PU	1 pc(s)

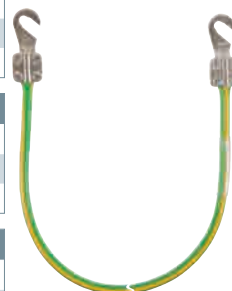


Earthing Material for Telecommunications

Cable lug, 2x open, 2x M8 / M10 green / yellow

Highly flexible copper conductor (ESY), frost-proof.

General technical data:				
Cable cross section	16 mm ²			
Cable lug open	2x M8 / M10			
Colour	green ● / yellow ●			
Part No.	417 005	417 010	417 015	417 020
Cable length	0.55 m	1.05 m	1.55 m	2.05 m
Stock No.	6150-12-313-5059	6150-12-313-5060	6150-12-313-5061	6150-12-313-5062
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	417 030	417 050	417 100	417 115
Cable length	3.05 m	5.05 m	10.05 m	15.05 m
Stock No.	6150-12-313-5063	6150-12-313-5064	6150-12-313-5065	6150-12-313-5066
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	417 120	417 125	417 130	417 150
Cable length	20.05 m	25.05 m	30.05 m	50.05 m
Stock No.	6150-12-313-5067	6150-12-185-8587	6150-12-313-5068	6150-12-174-2744
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



Packing in accordance with specifications of the VG standards has to be explicitly indicated when ordering.

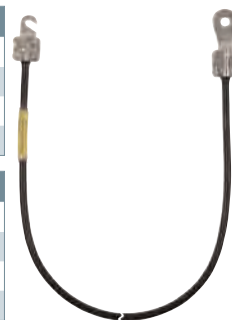
Earthing Cables with Cable Lugs open / closed

Highly flexible copper cable, frost-resistant, UV stabilised.

Packing in accordance with VG 96927-11.

Cable lug, 1x open M5 / M6 and 1x closed M8

General technical data:				
Cable cross section	10 mm ²			
Cable lug open	M5 / M6			
Cable lug closed	M8			
Bore Ø	8.5 mm			
Colour	black ●			
Part No.	410 503	410 506	410 510	410 515
Cable length	0.35 m	0.65 m	1.05 m	1.55 m
Military Name	VG 96927 T011 A116	VG 96927 T011 A117	VG 96927 T011 A118	VG 96927 T011 A119
Stock No.	6150-12-196-7302	6150-12-195-9694	6150-12-196-7304	6150-12-196-7303
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)
Part No.	410 520	410 525	410 530	
Cable length	2.05 m	2.55 m	3.05 m	
Military Name	VG 96927 T011 A120	VG 96927 T011 A121	VG 96927 T011 A122	
Stock No.	6150-12-196-7606	6150-12-198-6807	6150-12-198-6808	
PU	1 pc(s)	1 pc(s)	1 pc(s)	



Cable lug, 1x open M8 / M10 and 1x closed M8



General technical data:	
Cable cross section	10 mm ²
Cable lug open	M8 / M10
Cable lug closed	M8
Bore Ø	8.5 mm
Colour	black ●

Part No.	410 401	410 403	410 404	410 450
Cable length	0.20 m	0.35 m	0.45 m	0.55 m
Military Name	VG 96927 T011 A092	VG 96927 T011 A093	VG 96927 T011 A094	VG 96927 T011 A095
Stock No.	6150-12-300-9132	6150-12-195-9490	6150-12-192-5455	6150-12-197-0088
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	410 406	410 411	410 415
Cable length	0.65 m	1.05 m	1.55 m
Military Name	VG 96927 T011 A096	VG 96927 T011 A097	VG 96927 T011 A098
Stock No.	6150-12-192-5456	6150-12-192-5457	6150-12-192-5458
PU	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	410 420	410 425	410 430
Cable length	2.05 m	2.55 m	3.05 m
Military Name	VG 96927 T011 A099	VG 96927 T011 A100	VG 96927 T011 A101
Stock No.	6150-12-198-1217	6150-12-198-6803	6150-12-198-6805
PU	1 pc(s)	1 pc(s)	1 pc(s)

Cable lug, 1x open M8 / M10 and 1x closed M10



General technical data:	
Cable cross section	10 mm ²
Cable lug open	M8 / M10
Cable lug closed	M10
Bore Ø	10.5 mm
Colour	black ●

Part No.	410 413	410 405	410 407	410 410
Cable length	0.35 m	0.55 m	0.65 m	1.05 m
Military Name	VG 96927 T011 A084	VG 96927 T011 A085	VG 96927 T011 A086	VG 96927 T011 A087
Stock No.	6150-12-196-7301	6150-12-196-6346	6150-12-198-7027	6150-12-171-2783
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	410 416	410 421	410 426	410 431
Cable length	1.55 m	2.05 m	2.55 m	3.05 m
Military Name	VG 96927 T011 A088	VG 96927 T011 A089	VG 96927 T011 A090	VG 96927 T011 A091
Stock No.	6150-12-198-1216	6150-12-198-1218	6150-12-198-6804	6150-12-198-6806
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Cable lug, 1x open M5 / M6 and 1x closed M8



Part No.	416 505
Cable cross section	16 mm ²
Cable length	0.55 m
Cable lug open	M5 / M6
Cable lug closed	M8
Bore Ø	8.5 mm
Colour	black ●
Military Name	VG 96927 T011 A124
Stock No.	6150-12-300-9131
PU	1 pc(s)

Earthing Material for Telecommunications

Cable lug, 1x open M8 / M10 and 1x closed M8

General technical data:	
Cable cross section	16 mm ²
Cable lug open	M8 / M10
Cable lug closed	M8
Bore Ø	8.5 mm
Colour	black ●

Part No.	416 411	416 415	416 420	416 425
Cable length	1.05 m	1.55 m	2.05 m	2.55 m
Military Name	VG 96927 T011 A109	VG 96927 T011 A110	VG 96927 T011 A111	VG 96927 T011 A112
Stock No.	6150-12-308-6934	6150-12-308-6981	6150-12-308-6933	6150-12-308-6932
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	416 430	416 440	416 450
Cable length	3.05 m	4.05 m	5.05 m
Military Name	VG 96927 T011 A113	VG 96927 T011 A114	VG 96927 T011 A115
Stock No.	6150-12-308-6931	6150-12-308-6930	6150-12-308-6929
PU	1 pc(s)	1 pc(s)	1 pc(s)

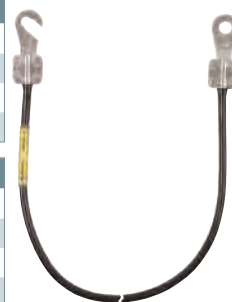


Cable lug, 1x open M8 / M10 and 1x closed M10

General technical data:	
Cable cross section	16 mm ²
Cable lug open	M8 / M10
Cable lug closed	M10
Bore Ø	10.5 mm
Colour	black ●

Part No.	416 403	416 410	416 416	416 421
Cable length	0.35 m	1.05 m	1.55 m	2.05 m
Military Name	—	VG 96927 T011 A102	VG 96927 T011 A103	VG 96927 T011 A104
Stock No.	—	6150-12-308-6941	6150-12-308-6940	6150-12-308-6939
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	416 426	416 431	416 441	416 451
Cable length	2.55 m	3.05 m	4.05 m	5.05 m
Military Name	VG 96927 T011 A105	VG 96927 T011 A106	VG 96927 T011 A107	VG 96927 T011 A108
Stock No.	6150-12-309-6938	6150-12-308-6937	6150-12-308-6936	6150-12-308-6935
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



Packing in accordance with specifications of the VG standards has to be explicitly indicated when ordering.

Earthing Conductors with Cable Lugs closed

Highly flexible copper conductor, frost-resistant, UV stabilised. Packing in accordance with VG 96927-11.

Cable lug, 2x closed M10

General technical data:	
Cable cross section	10 mm ²
Cable lug closed	2x M10
Bore Ø	10.5 mm
Colour	black ●

Part No.	410 903	410 905	410 906	410 910
Cable length	0.35 m	0.55 m	0.65 m	1.05 m
Military Name	VG 96927 T011 A027	VG 96927 T011 A028	VG 96927 T011 A029	VG 96927 T011 A030
Stock No.	6150-12-198-1948	6150-12-198-6809	6150-12-198-6810	6150-12-198-1482
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	410 915	410 920	410 925	410 930
Cable length	1.55 m	2.05 m	2.55 m	3.05 m
Military Name	VG 96927 T011 A031	VG 96927 T011 A032	VG 96927 T011 A033	VG 96927 T011 A034
Stock No.	6150-12-168-2696	6150-12-168-2695	6150-12-168-2694	—
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



Cable lug, 2x closed M10

General technical data:	
Cable cross section	16 mm ²
Cable lug closed	2x M10
Bore Ø	10.5 mm
Colour	black ●

Part No.	416 903	416 905	416 906
Cable length	0.35 m	0.55 m	0.65 m
Military Name	VG 96927 T011 A035	VG 96927 T011 A036	VG 96927 T011 A037
Stock No.	6150-12-198-6812	6150-12-198-6813	6150-12-198-6814
PU	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	416 910	416 915	416 920
Cable length	1.05 m	1.55 m	2.05 m
Military Name	VG 96927 T011 A038	VG 96927 T011 A039	VG 96927 T011 A040
Stock No.	6150-12-168-9942	6150-12-168-2693	6150-12-198-6815
PU	1 pc(s)	1 pc(s)	1 pc(s)

Part No.	416 925	416 930	416 970
Cable length	2.55 m	3.05 m	7.05 m
Military Name	VG 96927 T011 A041	VG 96927 T011 A042	VG 96927 T011 A043
Stock No.	6150-12-198-6816	6150-12-198-1483	6150-12-168-2692
PU	1 pc(s)	1 pc(s)	1 pc(s)



Packing in accordance with specifications of the VG standards has to be explicitly indicated when ordering.

Earthing Conductors with Cable Lug / Pin Cable Lug

Made of highly flexible copper line, frost-resistant, UV stabilised. Packing in accordance with VG 96927-11.

Cable lug, 1x open and pin cable lug size 10

Part No.	410 720
Cable cross section	10 mm ²
Cable length	2.05 m
Cable lug open	M8 / M10
Pin terminal	size 10 (w = 4.3)
Colour	black ●
Military Name	VG 96927 T011 A127
Stock No.	6150-12-308-6979
PU	1 pc(s)



Cable lug, 1x open and pin cable lug size 16

Part No.	416 016
Cable cross section	16 mm ²
Cable length	1.55 m
Cable lug open	M8 / M10
Pin terminal	size 16 (w = 5.8)
Colour	black ●
Military Name	VG 96927 T011 A128
Stock No.	6150-12-178-9673
PU	1 pc(s)



Cable lug, 1x closed and pin cable lug size 10

Part No.	410 606
Cable cross section	10 mm ²
Cable length	0.65 m
Cable lug closed	M8
Pin terminal	size 10 (w = 4.3)
Colour	black ●
Military Name	VG 96927 T011 A126
Stock No.	6150-12-304-4604
PU	1 pc(s)



Packing in accordance with specifications of the VG standards has to be explicitly indicated when ordering.

Earthing Cable Lugs

For mounting on site with integrated strain relief (second half of clamping part).

Mind the following parameters for mounting:

- Stripping approx. 15 mm
- Core end-sleeve acc. to DIN 46228
- Tightening torque of the locking nut screws ≥ 3 Nm

Open M5 / M6

Part No.	444 006
Cable cross section	6-16 mm ²
Cable lug fitting	M5 / M6
Material	Cu/gal Sn
Military Name	VG 96933 T14 A002A
Stock No.	5940-12-156-9126
PU	100 pc(s)



Open M8 / M10

Part No.	444 010
Cable cross section	6-16 mm ²
Cable lug fitting	M8 / M10
Material	Cu/gal Sn
Military Name	VG 96933 T14 A001A
Stock No.	5940-12-152-3867
PU	100 pc(s)



Closed M8

Part No.	444 008
Cable cross section	6-16 mm ²
Cable lug fitting	M8
Material	Cu/gal Sn
Military Name	VG 96933 T14 B001A
Stock No.	5940-12-156-9128
PU	100 pc(s)



Closed M10

Part No.	444 009
Cable cross section	6-16 mm ²
Cable lug fitting	M10
Material	Cu/gal Sn
Military Name	VG 96933 T14 B002A
Stock No.	5940-12-156-9127
PU	100 pc(s)



Packing in accordance with specifications of the VG standards has to be explicitly indicated when ordering.

Earthing Clamps

For connecting earthing conductors to pipes.

Small design

Part No.	435 805
Material of clamping body	MCl/tZn
Material of spindle	St/gal Zn
Clamping range pipe Ø	4-45 mm (3/8-1 1/4")
Connection cross-section	6-16 mm ²
Military Name	VG 96953 T06 A0001
Stock No.	5999-12-156-9129
PU	1 pc(s)





Large design

Part No.	435 803
Material of clamping body	MCl/tZn
Material of spindle	St/gal Zn
Clamping range pipe Ø	12-60 mm (1/2-2")
Connection cross-section	6-16 mm ²
Military Name	VG 96953 T06 B0001
Stock No.	5999-12-156-2656
PU	1 pc(s)

Packing in accordance with specifications of the VG standards has to be explicitly indicated when ordering.

Pipe Clamps for Antennas

Pipe clamp for lightning equipotential bonding of pipes (e.g. antenna poles) according to IEC/EN 62305-3. With continuously adjustable tensioning strap, to connect one or two conductors and suitable for through-wiring.

Pipe clamps for antennas – complete

Connection for: 1 conductor Rd Ø10 mm or 1-2 conductors Rd Ø6-8 mm or 4-50 mm² (solid / stranded).

Part No.	540 103	540 100
Material	StSt	StSt
Clamping range pipe Ø	27-89 mm (3/4-3")	27-168 mm (3/4-6")
Dimension of strap (l1 x w x d)	330 x 25 x 0.3 mm	570 x 25 x 0.3 mm
Standard	EN 62561-1	EN 62561-1
Military Name	VG 96953 T05 B0001	VG 96953 T05 B0002
Stock No.	—	5975-12-120-7744
PU	10 pc(s)	10 pc(s)

Separate grip head

For combination with endless tensioning strap (Part No. 540 901).

Connection for: 1 conductor Rd Ø10 mm or 1-2 conductors Rd Ø6-8 mm or 4-50 mm² (solid / stranded).

Part No.	540 110
Material	StSt
Standard	EN 62561-1
Military Name	VG 96953 T05 BA001
PU	50 pc(s)

Endless tensioning strap

For cutting to length e.g. by means of a sheet shear.

Part No.	540 901
Material	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length	100 m
Military Name	VG 96953 T05 BB001
PU	1 pc(s)

Earthing Busbars

With slot and anti-rotation feature, for fixing at the earthing pipe.

Three-pole design

Part No.	465 801
Material of busbar	St/tZn
Length	181 mm
Screw	⚙ M10 x 35 mm
Military Name	VG 96953 T07 A0001
Stock No.	5940-12-156-8385
PU	1 pc(s)

Five-pole design

Part No.	466 192
Material of busbar	St/tZn
Length	290 mm
Screw	⚙ M10 x 35 mm
Military Name	VG 96953 T07 B0001
Stock No.	5940-12-188-4931
PU	1 pc(s)

Packing in accordance with specifications of the VG standards has to be explicitly indicated when ordering.



Earthing Spikes

For earthing mobile objects such as vehicles, power generators, etc.

Part No.	634 145	634 160
Material of profile	St/tZn	St/tZn
Profile	50 x 50 x 3 mm	50 x 50 x 3 mm
Length	450 mm	600 mm
Screw	☒ M8 x 40 mm	☒ M8 x 40 mm
Nut	wing nut M8	wing nut M8
Military Name	VG 96953 T10 D0003	VG 96953 T10 D0004
Stock No.	5975-12-382-6412	—
PU	1 pc(s)	1 pc(s)



Anchoring Pole

For guying rod sections and batten shears e.g. in case of an elevated spanning of telecommunication cables.

Part No.	466 203
Material of profile	MCl/tZn
Profile	25 x 25 x 3.6 mm
Length	405 mm
Design	bore Ø28 mm
Military Name	VG 96953 T10 E0001
Stock No.	4030-12-320-9037
PU	1 pc(s)



Earthing Pipe with Drilling Spiral

For earthing mobile objects such as vehicles, power generators, etc. Detachable turning handle.

Consisting of:

- Turning handle (Part No. 462 058
Military name VG 96953 T10 AB001
Stock No. 5975-12-133-7084)
- Earthing pipe (Part No. 462 060
Military name VG 96953 T10 AA001
Stock No. 5975-12-133-7271)
- Clamping body with knurled screw (Part No. 644 099)
Military name VG 96953 T10 AC)

Part No.	644 000
Material	St/tZn
Length	1000 mm
Screw	☒ M10 x 35 mm
Military Name	VG 96953 T10 A0001
Stock No.	5975-12-120-0006
PU	1 pc(s)



DEHN protects.®



Equipotential Busbars K12 with Snap-on Terminals

Equipotential busbars for protective and functional equipotential bonding according to IEC 60364-4-41/60364-5-54 and lightning equipotential bonding according to IEC/EN 62305-3.

- Tested according to DIN VDE 0618-1
- VDE sign
- CE sign
- Fixing frames and plastic cover grey or black (halogen-free)
- Sealable / labelable cover
- Snap-on terminals, St/gal Zn
- With 12 contact studs

Assignment:

- For Rd one contact stud each
- For FI two contact studs each

Standard design

Terminals for:

10 conductors 2.5-95 mm² (solid / stranded) or Rd Ø10 mm

1 conductor FI up to 30 x 4 mm.

Part No.	563 200
Contact bar	Cu/gal Sn
Cross section	30 mm ²
Fixing	[2x] 6 x 8 mm
Standard	EN 62561-1
PU	1 pc(s)



UV stabilised design

Terminals for:

10 conductors 2.5-95 mm² (solid / stranded) or Rd Ø10 mm.

1 conductor FI up to 30 x 4 mm.

Part No.	563 201
Contact bar	Cu/gal Sn
Cross section	30 mm ²
Fixing	[2x] 6 x 8 mm
Standard	EN 62561-1
PU	1 pc(s)



Equipotential Busbar MS

For equipotential bonding.

Terminals for:

7 conductors 2.5-25 mm² (solid / stranded).

1 conductor Rd Ø7-10 mm.

1 conductor FI up to 30 x 3.5 mm or Rd Ø8-10 mm.

With grey plastic cover.

Part No.	563 050
Contact bar	Ms
Cross section	35 mm ²
Fixing	[4x] 6 x 9 mm
PU	1 pc(s)



Equipotential Busbar with Miniature Terminal Block System

Equipotential busbars for protective and functional equipotential bonding according to IEC 60364-4-41/60364-5-54 (DIN VDE 0100-410/540) in small installations.

- Tested according to DIN EN 60999-2
- Terminal block St/gal Zn

Without cover.

Terminals for:

6 conductors 2.5-25 mm² (solid / stranded).

Part No.	563 105
Clamping bar	Ms/gal Sn
Cross section	100 mm ²
Bar frames	plastic
Fixing	[4x] 6 x 12 mm
Standard	EN 62561-1
PU	10 pc(s)



Equipotential Busbars R15 with Terminal Block System / Kit

Equipotential busbars for protective and functional equipotential bonding according to IEC 60364-4-41/60364-5-54 (DIN VDE 0100-410/540) and lightning equipotential bonding according to IEC/EN 62305-3.

- Tested according to DIN VDE 0609
- 15 modules
- Grey plastic bar frames and cover (halogen-free)
- Sealable / labelable cover
- Terminal block St/gal Zn

Type A

Terminals for:

7 conductors 2.5-25 mm² (solid / stranded).

2 conductors 16-95 mm² (solid / stranded) or Rd Ø8-10 mm.

1 conductor FI up to 30 x 4 mm.



Part No.	563 010
Clamping bar	Ms/gal Sn
Cross section	100 mm ²
Fixing	[4x] 6 x 12 mm
Standard	EN 62561-1
PU	1 pc(s)

Type B

Terminals for:

5 conductors 2.5-25 mm² (solid / stranded).

3 conductors 16-95 mm² (solid / stranded) or Rd Ø8-10 mm.

1 conductor FI up to 30 x 4 mm.



Part No.	563 020
Clamping bar	Ms/gal Sn
Cross section	100 mm ²
Fixing	[4x] 6 x 12 mm
Standard	EN 62561-1
PU	1 pc(s)

Type C

Terminals for:

13 conductors 2.5-25 mm² (solid / stranded).

1 conductor 16-95 mm² (solid / stranded) or Rd Ø8-10 mm.



Part No.	563 030
Clamping bar	Ms/gal Sn
Cross section	100 mm ²
Fixing	[4x] 6 x 12 mm
Standard	EN 62561-1
PU	1 pc(s)

Type D

Terminals for:

7 conductors 2.5-25 mm² (solid / stranded).

2 conductors 16-95 mm² (solid / stranded) or Rd Ø8-10 mm.

1 conductor FI up to 40 x 5 mm.



Part No.	563 040
Clamping bar	Ms/gal Sn
Cross section	100 mm ²
Fixing	[4x] 6 x 12 mm
Standard	EN 62561-1
PU	1 pc(s)

Accessories for Equipotential Busbars R15 with Terminal Block System / Kit

Cover

Locking / can be labelled.



Part No.	563 015
Material	plastic
Colour	grey ●
Modules	15
PU	10 pc(s)

Terminal Block

Connection of:
1 conductor 2.5-25 mm² (solid / stranded).

Part No.	563 011
Material	St/gal Zn
Modules	1
Standard	EN 62561-1
PU	200 pc(s)



Terminal Block

Connection of:
1 conductor 16-95 mm² (solid / stranded) or Rd Ø8-10 mm.

Part No.	563 013
Material	St/gal Zn
Modules	2
Standard	EN 62561-1
PU	100 pc(s)



Terminal Block

Connection of:
1 conductor Fl up to 30 x 4 mm.

Part No.	563 012
Material	St/gal Zn
Modules	4
Standard	EN 62561-1
PU	25 pc(s)



Terminal Block

Connection of:
1 conductor Fl up to 40 x 5 mm.

Part No.	563 019
Material	St/gal Zn
Modules	5
Standard	EN 62561-1
PU	25 pc(s)



Clamping Bar

Part No.	563 016	563 017	563 018
Length	198 mm	398 mm	798 mm
Modules	15	30	60
Material	Ms/gal Sn	Ms/gal Sn	Ms/gal Sn
Cross section	100 mm ²	100 mm ²	100 mm ²
Quantity of bar frames	2	4	8
Quantity of covers	1	2	4
PU	10 pc(s)	10 pc(s)	1 pc(s)



Bar Frame

Part No.	563 014
Material	plastic
Colour	grey ●
Fixing	[2x] 6 x 12 mm
Modules	2
PU	50 pc(s)





Equipotential Busbars Industry Design

Equipotential busbars for the protective and functional equipotential bonding according to IEC 60364-4-41/60364-5-54 (DIN VDE 0100-410/540) and lightning equipotential bonding according to IEC/EN 62305-3.
Also for use in potentially explosive atmospheres (secured against self-loosening of screws).



- With spring washer
- Insulator UP (duroplastic, red) with thread M10
- UV stabilised and halogen-free

6 Terminals

Part No.	472 207	472 209
Material	Cu	StSt
Dimension (l x w x d)	295 x 40 x 5 mm	295 x 40 x 6 mm
Cross-section	200 mm ²	240 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	39 kA	8.9 kA
Screw	 M10 x 25 mm	 M10 x 25 mm
Material of screw / nut	StSt	StSt
Design	with spring washer	with spring washer
Material of insulator	UP	UP
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)





8 Terminals

Part No.	472 227	472 229
Material	Cu	StSt
Dimension (l x w x d)	365 x 40 x 5 mm	365 x 40 x 6 mm
Cross-section	200 mm ²	240 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	39 kA	8.9 kA
Screw	 M10 x 25 mm	 M10 x 25 mm
Material of screw / nut	StSt	StSt
Design	with spring washer	with spring washer
Material of insulator	UP	UP
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)





10 Terminals

Part No.	472 217	472 219
Material	Cu	StSt
Dimension (l x w x d)	435 x 40 x 5 mm	435 x 40 x 6 mm
Cross-section	200 mm ²	240 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	39 kA	8.9 kA
Screw	 M10 x 25 mm	 M10 x 25 mm
Material of screw / nut	StSt	StSt
Design	with spring washer	with spring washer
Material of insulator	UP	UP
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)



12 Terminals

Part No.	472 237	472 239
Material	Cu	StSt
Dimension (l x w x d)	505 x 40 x 5 mm	505 x 40 x 6 mm
Cross-section	200 mm ²	240 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	39 kA	8.9 kA
Screw	 M10 x 25 mm	 M10 x 25 mm
Material of screw / nut	StSt	StSt
Design	with spring washer	with spring washer
Material of insulator	UP	UP
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)



Special design on request.

Cover for EBB Industry Design

Covers for EBB with insulators.

Part No.	472 279	472 269	472 289	472 299
Type of EBB	6 terminals	8 terminals	10 terminals	12 terminals
Dimension (l x w x d)	301 x 60 x 0.8 mm	371 x 60 x 0,8 mm	441 x 60 x 0.8 mm	511 x 60 x 0.8 mm
Material	StSt	StSt	StSt	StSt
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



Insulator for EBB Industry Design

Part No.	472 210
Material	UP (thermoset)
Connection thread	M10 (length 12 mm)
Colour	red ●
Dimension (d x h)	32 x 40 mm
PU	1 pc(s)



Fixing Kit for EBB Industry Design

For mounting the insulators e.g. on walls.

Part No.	472 201	472 202
Material of screw	St/tZn	StSt
Screw	45 mm $\frac{1}{4}$ M10 x 20 mm	45 mm $\frac{1}{4}$ M10 x 20 mm
Plastic dowel	Ø12 x 60 mm	Ø12 x 60 mm
Total length	80 mm	80 mm
PU	1 pc(s)	1 pc(s)



Earthing Busbars single-row

Earthing busbars for screwing on steel constructions, distance of bores 35 mm.

Connection possibilities:

- Flat strip with bore by flat head screws M10 (anti-rotation), nuts and spring washer
- Round conductor: with KS connector e.g. Part No. 301 000 / 301 019 or by clamping frame e.g. Part No. 390 150

1x 4 Terminals



Part No.	472 309
Material	StSt
Cross-section	105 mm ²
Connection bores	11 x 11 mm
Dimension (l x w x d)	232 x 30 x 3.5 mm
Fixing	[2x] 12 x 15 mm
Standard	EN 62561-1
PU	1 pc(s)

1x 6 Terminals



Part No.	472 319
Material	StSt
Cross-section	105 mm ²
Connection bores	11 x 11 mm
Dimension (l x w x d)	292 x 30 x 3.5 mm
Fixing	[2x] 12 x 15 mm
Standard	EN 62561-1
PU	1 pc(s)

1x 8 Terminals



Part No.	472 329
Material	StSt
Cross-section	105 mm ²
Connection bores	11 x 11 mm
Dimension (l x w x d)	352 x 30 x 3.5 mm
Fixing	[2x] 12 x 15 mm
Standard	EN 62561-1
PU	1 pc(s)

1x 10 Terminals



Part No.	472 339
Material	StSt
Cross-section	105 mm ²
Connection bores	11 x 11 mm
Dimension (l x w x d)	412 x 30 x 3.5 mm
Fixing	[2x] 12 x 15 mm
Standard	EN 62561-1
PU	1 pc(s)

1x 12 Terminals



Part No.	472 349
Material	StSt
Cross-section	105 mm ²
Connection bores	11 x 11 mm
Dimension (l x w x d)	472 x 30 x 3.5 mm
Fixing	[2x] 12 x 15 mm
Standard	EN 62561-1
PU	1 pc(s)

Special design upon request.

Earthing Busbars two-row

Earthing busbars for screwing on steel constructions, distance of bores 50 mm.

Connection possibilities:

- Flat strip with bore: with hexagon screws M10, nuts and spring washer
- Flat strip (-40 mm) without bore: with cleat of disconnecting clamps e.g. Part No. 454 100
- Round conductor: with KS connector e.g. Part No. 301 000 / 301 019 or with clamping frame e.g. Part No. 390 150

2x 2 Terminals

Part No.	472 023	472 109
Material	St/tZn	StSt
Cross-section	240 mm ²	300 mm ²
Connection bores Ø	11 mm	11 mm
Dimension (l x w x d)	196 x 60 x 4 mm	196 x 60 x 5 mm
Fixing	[2x] 12 x 15 mm	[2x] 12 x 15 mm
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)



2x 3 Terminals

Part No.	472 022	472 119
Material	St/tZn	StSt
Cross-section	240 mm ²	300 mm ²
Connection bores Ø	11 mm	11 mm
Dimension (l x w x d)	242 x 60 x 4 mm	242 x 60 x 5 mm
Fixing	[2x] 12 x 15 mm	[2x] 12 x 15 mm
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)



2x 4 Terminals

Part No.	472 024	472 129
Material	St/tZn	StSt
Cross-section	240 mm ²	300 mm ²
Connection bores Ø	11 mm	11 mm
Dimension (l x w x d)	293 x 60 x 4 mm	293 x 60 x 5 mm
Fixing	[2x] 12 x 15 mm	[2x] 12 x 15 mm
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)



2x 6 Terminals

Part No.	472 021	472 139
Material	St/tZn	StSt
Cross-section	240 mm ²	300 mm ²
Connection bores Ø	11 mm	11 mm
Dimension (l x w x d)	393 x 60 x 4 mm	393 x 60 x 5 mm
Fixing	[2x] 12 x 15 mm	[2x] 12 x 15 mm
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)



Special design upon request.

Earthing Pipe Clamps

Earthing pipe clamps for integrating pipes into the protective and functional equipotential bonding according to IEC 60364-4-41/5-54 (DIN VDE 0100-410/540), with continuously adjustable tensioning strap.

Type BRS17

For connecting 1 or 2 conductors or through-wiring, connection cross-section 2.5-10 mm² (solid).



Part No.	540 920
Material	StSt
Clamping range pipe Ø	10-27 mm (3/8-3/4")
Dimension of strap (l x w x d)	135 x 14 x 0,3 mm
Connection (solid)	2.5-10 mm ²
PU	10 pc(s)

Type Standard

For connecting 1 or 2 conductors or through-wiring, connection cross-section 4-25 mm² (solid / stranded).



Part No.	540 910	540 911	540 912
Material	StSt	StSt	StSt
Clamping range pipe Ø	27-60 mm (3/4-2")	27-114 mm (3/4-4")	27-168 mm (3/4-6")
Dimension of strap (l x w x d)	240 x 25 x 0,3 mm	410 x 25 x 0,3 mm	570 x 25 x 0,3 mm
Connection (solid / stranded)	4-25 mm ²	4-25 mm ²	4-25 mm ²
PU	10 pc(s)	10 pc(s)	10 pc(s)

Separate grip head

For combination with endless tensioning strap (Part No. 540 901), connection cross-section 4-25 mm² (solid / stranded).



Part No.	540 900
Material	StSt
Connection	4-25 mm ²
PU	50 pc(s)

Endless tensioning strap

For cutting to length by means of a sheet shear.



Part No.	540 901
Material	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length	100 m
Military Name	VG 96953 T05 BB001
PU	1 pc(s)

Pipe Clamps for Antennas

Pipe clamp for lightning equipotential bonding of pipes (e.g. antenna poles) according to IEC/EN 62305-3. With continuously adjustable tensioning strap, to connect one or two conductors and suitable for through-wiring.

Pipe clamps for antennas – complete

Connection for:

1 conductor Rd Ø10 mm or 1-2 conductors Rd Ø6-8 mm or 4-50 mm² (solid / stranded).



Part No.	540 103	540 100
Material	StSt	StSt
Clamping range pipe Ø	27-89 mm (3/4-3")	27-168 mm (3/4-6")
Dimension of strap (l x w x d)	330 x 25 x 0.3 mm	570 x 25 x 0.3 mm
Standard	EN 62561-1	EN 62561-1
Military Name	VG 96953 T05 B0001	VG 96953 T05 B0002
Stock No.	—	5975-12-120-7744
PU	10 pc(s)	10 pc(s)

Separate grip head

For combination with endless tensioning strap (Part No. 540 901).

Connection for: 1 conductor Rd Ø10 mm or 1-2 conductors Rd Ø6-8 mm or 4-50 mm² (solid / stranded).



Part No.	540 110
Material	StSt
Standard	EN 62561-1
Military Name	VG 96953 T05 BA001
PU	50 pc(s)

Equipotential Bonding

Endless tensioning strap

For cutting to length e.g. by means of a sheet shear.

Part No.	540 901
Material	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Length	100 m
Military Name	VG 96953 T05 BB001
PU	1 pc(s)



Lightning Protection Pipe Clamp with Tines

Pipe clamp for the integration of pipes with surface protection into the lightning equipotential bonding according to IEC/EN 62305-3. For use e.g. at varnished or powder-coated surfaces up to a layer thickness of 0.2 mm.

The special tines penetrate the surface protection and provide the necessary contact, thus it is not necessary to remove the surface protection.

Lightning Protection Pipe Clamp with Tines, complete

Connection for: 1 conductor Rd Ø10 mm or 1-2 conductors Rd Ø6-8 mm or 4-50 mm² (solid / stranded).

Part No.	540 200
Material	StSt
Clamping range pipe Ø	27-168 mm (3/4-6")
Dimension of strap (l x w x d)	570 x 25 x 0.3 mm
Standard	EN 62561-1
PU	10 pc(s)



Clamping Chuck separately

For combination with endless tensioning strap (Part No. 540 901).

Connection for: 1 conductor Rd Ø10 mm or 1-2 conductors Rd Ø6-8 mm or 4-50 mm² (solid / stranded).

Part No.	540 210
Material	StSt
Standard	EN 62561-1
PU	50 pc(s)



Earthing Pipe Clamps Lightning Protection

Earthing pipe clamps for integrating pipes into the protective and functional equipotential bonding according to IEC 60364-4-41/60364-5-54 (DIN VDE 0100-410/540) and lightning equipotential bonding according to IEC/EN 62305-3.

The clamping range (specified in mm) refers to the outer diameter according to DIN EN ISO 228-1 of the pipes.

With screws M10

Connection for Rd 4-10 mm or connection wire cross-section max. 70 mm².

General technical data:			
Material	MCl / St/tZn		
Standard	EN 62561-1		
Part No.	407 012	407 034	407 100
Clamping range pipe Ø	21 mm	27 mm	34 mm
Dimension (l x r)	80 x 11 mm	83 x 14 mm	85 x 17.5 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)
Part No.	407 114	407 112	407 200
Clamping range pipe Ø	42 mm	48 mm	60 mm
Dimension (l x r)	100 x 24.5 mm	95 x 22 mm	113 x 30.5 mm
PU	10 pc(s)	10 pc(s)	10 pc(s)



Type St/tZn with screws M8

St/tZn material thickness 3 mm.

Connection for FI with screws and nuts M10, for Rd 7-10 mm e.g. KS connector Part No. 301 000 or clamping frame, Part No. 390 150.

General technical data:

Material	St/tZn
Standard	EN 62561-1

Part No.	410 038	410 012	410 034	410 100
Clamping range pipe Ø	17 mm	21 mm	27 mm	34 mm
Dimension (l x r)	110 x 8.5 mm	115 x 10.5 mm	115 x 13.5 mm	124 x 17 mm
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)

Part No.	410 114	410 112	410 134
Clamping range pipe Ø	42 mm	48 mm	55 mm
Dimension (l x r)	132.5 x 21 mm	140.5 x 24 mm	145 x 27.5 mm
PU	25 pc(s)	25 pc(s)	25 pc(s)

Part No.	410 200	410 212	410 300
Clamping range pipe Ø	60 mm	76 mm	89 mm
Dimension (l x r)	151 x 30 mm	169 x 38 mm	182.5 x 44.5 mm
PU	25 pc(s)	20 pc(s)	15 pc(s)

**Type StSt with screws M8**

StSt material thickness 2.5 mm.

Connection for FI with screws and nuts M10, for Rd 7-10 mm e.g. KS connector Part No. 301 000 or clamping frame, Part No. 390 150.

General technical data:

Material	StSt
Standard	EN 62561-1

Part No.	410 309	410 319	410 329	410 339
Clamping range pipe Ø	17 mm	21 mm	27 mm	34 mm
Dimension (l x r)	110.5 x 8.5 mm	114.5 x 10.5 mm	115.5 x 13.5 mm	124 x 17 mm
PU	25 pc(s)	25 pc(s)	25 pc(s)	25 pc(s)

Part No.	410 349	410 359	410 369
Clamping range pipe Ø	42 mm	48 mm	55 mm
Dimension (l x r)	132.5 x 21 mm	140.5 x 24 mm	145 x 27.5 mm
PU	25 pc(s)	25 pc(s)	25 pc(s)

Part No.	410 379	410 389	410 399
Clamping range pipe Ø	60 mm	76 mm	89 mm
Dimension (l x r)	151 x 30 mm	169 x 38 mm	182.5 x 44.5 mm
PU	25 pc(s)	20 pc(s)	15 pc(s)

**UNI Saddle Clamp**

For integrating mounting systems e.g. of PV installations into the functional equipotential bonding / functional earthing (optionally black conductor) and lightning equipotential bonding. The StSt contact plate (intermediate element) allows for different materials of conductors (Cu, Al, St/tZn and StSt) to be connected to the usual mounting systems, e.g. to aluminium, without the risk of contact corrosion. The double cleat design allows for easy and quick interconnection of the profiles, e.g. by feed-through wiring.

With screw M8 and self-locking nut

Part No.	365 250
Clamping range of saddle	0.7-8 mm
Material of clamping bracket	Al
Clamping range Rd	8-10 mm
Connection (solid / stranded)	4-50 mm ²
Material of double cleat	StSt
Standard	EN 62561-1
PU	50 pc(s)



UNI Earthing Clamps

For integrating the mounting systems e.g. of PV installations into the functional equipotential bonding / functional earthing (optionally black conductor colour) and lightning equipotential bonding.

The StSt contact plate (intermediate element) allows for different materials of conductors (Cu, Al, St/tZn and StSt) to be connected to the usual mounting systems, e.g. to aluminium, without the risk of contact corrosion.

With hammer-head bolt M8 and self-locking nut

Part No.	540 250
Material of clamp	StSt
Clamping range Rd	8-10 mm
Connection (solid / stranded)	4-50 mm ²
Screw	hammer-head bolt M8 x 30 mm
Material of screw / nut	StSt
Standard	EN 62561-1
PU	50 pc(s)



With hammer-head bolt M10 and self-locking nut

Part No.	540 260
Material of clamp	StSt
Clamping range Rd	8-10 mm
Connection (solid / stranded)	4-50 mm ²
Screw	hammer-head bolt M10 x 30 mm
Material of screw / nut	StSt
Standard	EN 62561-1
PU	50 pc(s)



Contact plate and double cleat (separate) with square hole for screw M8

Part No.	540 251
Material of clamp	StSt
Clamping range Rd	8-10 mm
Connection (solid / stranded)	4-50 mm ²
Standard	EN 62561-1
PU	10 pc(s)



Contact plate and double cleat (separate) with square hole for screw M10

Part No.	540 261
Material of clamp	StSt
Clamping range Rd	8-10 mm
Connection (solid / stranded)	4-50 mm ²
Standard	EN 62561-1
PU	10 pc(s)



Protective Spark Gap

Protective spark gap in closed design with plastic sheath for indirect connection of an overhead line roof pole to the external lightning protection system.

DSFS

Plastic-insulated protective spark gap for indirect connection of an overhead line roof pole to the external lightning protection system.

Type	DSFS
Part No.	920 000
100% lightning impulse sparkover voltage (1.2/50 μs) (U _{imp})	~ 25 kV
Nominal discharge current (8/20 μs) (I _n)	25 kA
Power frequency sparkover voltage (50 Hz) (U _{aw})	~ 10 kV
PU	1 pc(s)



Pipe Clamps for Roof Poles

For the connection of spark gaps with roof poles.



Part No.	410 212	410 300
Clamping range Ø pipe	76 mm (2 1/2")	89 mm (3")
Material	St/tZn	St/tZn
Bore Ø	11 mm	11 mm
Standard	EN 62561-1	EN 62561-1
PU	20 pc(s)	15 pc(s)

Conductor Holders for Roof Poles

For fixing round conductors at roof poles, insulated clamp bush.



Part No.	425 076	425 089
Clamping range Ø pipe	76 mm	89 mm
Material	St/tZn	St/tZn
Conductor holder support Rd	8-10 mm	8-10 mm
Conductor leading	fixed	fixed
PU	50 pc(s)	20 pc(s)

Isolating Spark Gaps

For lightning equipotential bonding according to IEC 62305 as well as for use in IT installations according to IEC 60364-5-54.



TFS / KFSU

Isolating spark gaps with plastic sheath and two stainless steel connections (Rd 10 mm).



Type	TFS	KFSU
Part No.	923 023	923 021
Isolating spark gap according to EN 62561-3 / IEC 62561-3	yes	yes
Lightning impulse current (10/350 µs) (I _{imp})	100 kA	—
Class (lightning current carrying capability)	H	—
Rated impulse sparkover voltage (U _{r imp})	≤ 4 kV	≤ 4 kV
Degree of protection protection	IP 65	IP 65
PU	1 pc(s)	1 pc(s)

Downpipe Clamps

Pipe clamps for lightning equipotential bonding connection of downpipes according to IEC/EN 62305-3. Connection possibilities for Rd e.g. with KS connector Part No. 301 000 or with clamping frame Part No. 390 150 (according to material).

For fixed pipe diameters

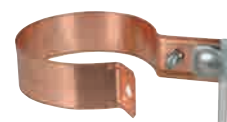
Part No.	420 100	420 120	420 107	420 127
Material	St/tZn	St/tZn	Cu	Cu
Clamping range pipe Ø	100 mm	120 mm	100 mm	120 mm
Bore Ø	11 mm	11 mm	11 mm	11 mm
Standard	EN 62561-1	EN 62561-1	EN 62561-1	EN 62561-1
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



Type bimetallic

For connecting conductors St with downpipes Cu, with clamping frame St/tZn and intermediate plate (Cupal).

Part No.	420 207
Material	Cu / St/tZn
Clamping range pipe Ø	100 mm
Clamping range Rd	6-10 mm
Standard	EN 62561-1
PU	50 pc(s)



Type RV adjustable

With additional anti-rotation locking of the fastening screw and markings, preset bending points as well as punched cutting aids.

General technical data:	
Bore Ø	10.5 mm
Standard	EN 62561-1

Part No.	423 010	423 011	423 017	423 019
Material	St/tZn	Al	Cu	StSt
Clamping range pipe Ø	60-100 mm	60-100 mm	60-100 mm	60-100 mm
Length	337 mm	337 mm	337 mm	337 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)



Part No.	423 020	423 021	423 027	423 029
Material	St/tZn	Al	Cu	StSt
Clamping range pipe Ø	60-150 mm	60-150 mm	60-150 mm	60-150 mm
Length	494 mm	494 mm	494 mm	494 mm
PU	50 pc(s)	50 pc(s)	50 pc(s)	50 pc(s)

Earthing Tong

- For connecting tank vehicles, aircrafts, containers and tanks etc.
- For discharging static charge
- For use in hazardous areas



Small design

Brass jaw with steel tips (Material No. 1.4104) and copper contact clip. Connection: Flat head screw with slot or with enclosed crimped cable lug 25 mm² – M6 (Cu/gal Sn). Part No. 546 002 may also be combined with earthing conductor. See Safety Equipment catalogue Part No. 758 216.

Part No.	546 025	546 002
Material of tongs	St/gal Zn	StSt
Clamping range Rd / Fl	up to Ø16 / up to 13 mm	up to Ø16 / up to 13 mm
Length	140 mm	140 mm
Connection screw	M6 x 12 mm	M6 x 12 mm
PU	1 pc(s)	1 pc(s)



Large design

Brass jaw without steel tips and copper contact clip. Connection: Threaded bolt with nut.

Part No.	546 000	546 001
Material of tongs	St/gal Zn	StSt
Clamping range Rd / Fl	up to Ø55 / up to 45 mm	up to Ø55 / up to 45 mm
Length	205 mm	205 mm
Connection nut	M10	M10
PU	1 pc(s)	1 pc(s)



Flat Strip / Round Conductor Holders with Thrust Piece

For wall mounting.

Thrust piece with screw M8 for the installation of flat strip up to 11 mm and round conductor 6-10 mm.

Wall distance 11 mm



Part No.	277 230	277 237	277 239
Material of conductor holder	St/tZn	Cu	StSt
Fixing	Ø13 and 7 x 20 mm	Ø13 and 7 x 20 mm	Ø13 and 7 x 20 mm
Slot width	12 mm	12 mm	12 mm
Material of screw	StSt	StSt	StSt
Standard	EN 62561-4	EN 62561-4	EN 62561-4
PU	25 pc(s)	25 pc(s)	25 pc(s)

Wall distance 15 mm



Part No.	277 240
Material of conductor holder	St/tZn
Fixing	7 x 15 mm
Slot width	12 mm
Material of screw	StSt
Standard	EN 62561-4
PU	25 pc(s)

Conductor Holder

Conductor holder for installing round and flat conductors for equipotential bonding e.g. in transformer stations, processor rooms.
Insulated conductor holder.



Part No.	277 130
Conductor holder support Rd / Fl	6-13 / 30 x 4 mm
Fixing	Ø10 and 6 x 19 mm
Material	plastic
Colour	grey ●
PU	50 pc(s)

Connection Clamp



For universal connection to the ring equipotential bonding for St/tZn, copper or stainless steel (StSt).

Part No.	563 169
Conductor holder support Rd / Fl	Ø8-10 / 30 x 3 up to 11 mm
Material	StSt
Terminal cross section	2.5-95 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	5.5 kA
PU	50 pc(s)

Pipe Clamps for Hazardous Areas Zone 1/21, 2/22

Pipe clamp for electrical contacting of pipes in explosion-hazardous areas 1 and 2 (gases, vapours, mists) as well as Ex zones 21 and 22 (dusts). Non-sparking lightning equipotential bonding according to IEC/EN 62305-3.



- For use in explosion-hazardous areas Ex zones 1 and 2 (gases, vapours, mists) as well as Ex zones 21 and 22 (dusts)
- Tested according to explosion group IIB
- Time-saving installation – no need to deactivate systems/areas for welding or drilling works

Type EX BRS 27

Clamping range of Ø6-27 mm (3/4")

Part No.	540 821
Lightning impulse current (10/350 µs) Cu Ø6-12 mm (<i>I_{imp}</i>)	10 kA
Lightning impulse current (10/350 µs) Cu Ø12-27 mm (3/4") (<i>I_{imp}</i>)	20 kA
Lightning impulse current (10/350 µs) Cu Ø27 mm (3/4") (<i>I_{imp}</i>)	25 kA
Lightning impulse current (10/350 µs) St/tZn Ø17-27 mm (3/4") (<i>I_{imp}</i>)	25 kA
Lightning impulse current (10/350 µs) StSt Ø6-12 mm (<i>I_{imp}</i>)	10 kA
Lightning impulse current (10/350 µs) StSt Ø12-27 mm (3/4") (<i>I_{imp}</i>)	12 kA
Lightning impulse current (10/350 µs) StSt Ø27 mm (3/4") (<i>I_{imp}</i>)	25 kA
Connection	M8
Clamping range pipe Ø	6-27 mm (3/4")
Material of clamping body	polyamide
Material of grip head / tensioning strap	StSt
Material of contact piece	brass/gal Sn
Standard	based on EN 62561-1
PU	1 pc(s)



Type EX BRS 90 / 300 / 500

Type EX BRS 90 Part No. 540 801 clamping range Ø27 (3/4") to 89 mm (3").

Type EX BRS 300 Part No. 540 803 clamping range Ø89 (3") to 300 mm.

Type EX BRS 500 Part No. 540 805 clamping range Ø300 to 500 mm.

Part No.	540 801	540 803	540 805
Lightning impulse current (10/350 µs) Cu (<i>I_{imp}</i>)	50 kA	50 kA	—
Lightning impulse current (10/350 µs) St/tZn (<i>I_{imp}</i>)	50 kA	50 kA	—
Lightning impulse current (10/350 µs) St/bare (<i>I_{imp}</i>)	—	—	50 kA
Lightning impulse current (10/350 µs) StSt (<i>I_{imp}</i>)	25 kA	50 kA	50 kA
Connection	M10	M10	M10
Clamping range pipe Ø	27-89 mm (3/4"-3")	89 (3")-300 mm	300-500 mm
Material of clamping body	polyamide	polyamide	polyamide
Material of grip head / tensioning strap	StSt	StSt	StSt
Material of contact piece	Cu/gal Sn	Cu/gal Sn	Cu/gal Sn
Standard	EN 62561-1	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)	1 pc(s)



Separate clamping body

For use with endless tensioning strap (Part No. 540 901), clamping ranges Ø27 (3/4") to 500 mm.

Part No.	540 810
Lightning impulse current (10/350 µs) Cu (<i>I_{imp}</i>)	50 kA
Lightning impulse current (10/350 µs) St/tZn (<i>I_{imp}</i>)	50 kA
Lightning impulse current (10/350 µs) StSt (<i>I_{imp}</i>)	25 kA
Connection	M10
Clamping range pipe Ø	27 (3/4")-500 mm
Material of clamping body	polyamide
Material of grip head / tensioning strap	StSt
Material of contact piece	Cu/gal Sn
Standard	EN 62561-1
PU	1 pc(s)



Environmental requirements related to the corrosion resistance of the materials used for the Ex pipe clamps Ex BRS ... (e.g. Cu/galSn, Ms/galSn, StSt, polyamide) have to be taken into account.

Accessories for Pipe Clamps for Hazardous Areas Zone 1/21, 2/22

Tensioning Strap

Part No.	540 901
Material	StSt
Strap dimension (w x d)	25 x 0.3 mm
Length	100 m
Military Name	VG 96953 T05 BB001
PU	1 pc(s)





Parallel Connectors for Hazardous Areas Zone 1/21, 2/22

Parallel connector with spring washer for connecting/linking of round conductors/cables in explosion-hazardous areas zone 1/21, 2/22. The clamps are secured against self-loosening in accordance with DIN EN 62305-3 Supplement 2.

For equal and different cable diameters, small

NEW



Part No.	306 105 <small>NEW</small>
Material of clamp	Cu/gal Sn
Clamping range Rd / Rd	5-12.5 mm
Clamping range (stranded or cable)	16-95 mm ²
Lightning impulse current (10/350 μs) non-sparking	25 kA
Short-circuit current (50 Hz) (0.1 s) non-sparking	1.65 kA
Standard	based on EN 62561-1
PU	1 pc(s)

For equal and different cable diameters, large

NEW



Part No.	306 106 <small>NEW</small>
Material of clamp	Cu/gal Sn
Clamping range Rd / Rd	5-16 mm
Clamping range (stranded or cable)	16-150 mm ²
Lightning impulse current (10/350 μs) non-sparking	25 kA
Short-circuit current (50 Hz) (0.1 s) non-sparking	1.65 kA
Standard	based on EN 62561-1
PU	1 pc(s)

Pipe Clamp GSG for Hazardous Areas Zone 2/22

Pipe clamp for electrical contacting of pipes in explosion-hazardous areas zone 2/22. The pipe clamp is secured against self-loosening according to DIN/EN 62305-3 Supplement 2 (VDE 0185-305-3 Bbl 2).

Pipe clamps complete



Part No.	540 104
Material	StSt
Clamping range pipe Ø	27-89 mm (3/4-3")
Dimension of strap (l1 x w x d)	330 x 25 x 0.3 mm
Connection (solid / stranded)	4-50 mm ²
Standard	EN 62561-1
Tightening torque	≥ 15 Nm
PU	10 pc(s)

DECLARATION OF MANUFACTURER

Product: Pipe clamp GSG
Product designation: Part No. 540 104
Type: BSC 27 89 A4303 20x3 GSG 104
Manufacturer: DEHN + SOHN GmbH + Co. KG
 Industriestraße 14
 41304 Dormagen, Germany
 51229 Neuenkirchen-Germany

Application:
 The pipe clamp is used for connecting pipes of different materials and diameters to the lightning equipotential bonding system as per IEC 62305-3 and to the protection/functional equipotential bonding system as per IEC 62305-4/EN 62305-4-10.
 The pipe clamp can be used for installation according to IEC 60779-14 and IEC 62305-3.
 We herewith confirm that the pipe clamp is suitable for use in Ex zone 2 (ign. vapour, mist) and Ex zone 22 (dust).
 The pipe clamp has no potential source of ignition (component) of its own and it thus not subject to the European directive 94/9/EC.
 Therefore approval according to the European directive 94/9/EC is highly impossible and not required from an explosion protection point of view.

Hermann, 20.03.2024
 Dr. Holger Grottel
 Director & CEO

Separate grip head

For combination with endless tensioning strap (Part No. 540 901), connection cross-section 4-50 mm² (solid / stranded).

NEW



Part No.	540 199
Material	StSt
Connection (solid / stranded)	4-50 mm ²
Standard	EN 62561-1
PU	25 pc(s)

Endless tensioning strap

For cutting to length e.g. by means of tin snips.



Part No.	540 901
Material	StSt
Dimension of strap (w x d)	25 x 0.3 mm
Military Name	VG 96953 T05 BB001
PU	1 pc(s)

Equipotential Bonding for Ex Areas 7

Clamps for Hazardous Areas Zone 2/22

Clamps with spring washer for connecting/bonding of round / flat conductors in explosion-hazardous areas zone 2/22. The clamps are secured against self-loosening according to DIN EN 62305-3 Supplement 2 (VDE 0185-305-3 Bbl 2).



DECLARATION OF MANUFACTURER

Product: UNI Disconnecting Clamp 200 kA

Product designation: Part No. 459 200 Part No. 459 200

Type: UPE 200 200 030 2P UCA UPE 200 8 10 2P UCA

Manufacturer: DEHN + SCHNEIDER + Co KG ELEKTROTECHNISCHE FABRIK Industriestraße 1 52224 Neuwied/DPF, Germany

Application: The UNI disconnecting clamps are used as lightning current carrying capacitor connections. From an installation point of view, the conductors originating from these connections to the earth system, as per IEC 62305-3 (VDE 0185-305-3) and DIN EN 62305-3 (VDE 0185-305-3) We herewith confirm that the UNI disconnecting clamps are suitable for use in Ex area 2 (ign. vapor, dust and Ex zone 22 areas).

The UNI disconnecting clamps have no potential source of ignition (component) of their own and are thus not subject to the European directive 94/9/EC.

Therefore approval according to the European directive 94/9/EC is legally impossible and not required from an explosion protection point of view.

Neuwied, 26.12.2014 *Dr. Ing. Ralf Röhler* Director R & D

UNI Disconnecting Clamp 200 kA (10/350 µs) with spring washer for two round conductors

Part No.	459 200
Material	StSt
Clamping range Rd / Rd	10 / 10 mm
Clamping range Rd / Fl	10 / 30 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



UNI Disconnecting Clamp 200 kA (10/350 µs) with spring washer for earth entry rods

Part No.	459 219
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



Clamping Piece 200 kA (10/350 µs) with spring washer

Part No.	380 209
Material	StSt
Clamping range Fl	30 x 4 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



DECLARATION OF MANUFACTURER

Product: KS Connector

Product designation: Part No. 301 209 Type KS 10 028 UCA Part No. 301 209 Type KS 10 028 UCA Part No. 301 209 Type KS 10 028 UCA Part No. 301 209 Type KS 10 028 UCA

Manufacturer: DEHN + SCHNEIDER + Co KG ELEKTROTECHNISCHE FABRIK Industriestraße 1 52224 Neuwied/DPF, Germany

Application: The KS connectors are used as lightning current carrying capacitor connections of round conductors in Ex areas 2 (ign. vapor, dust and Ex zone 22 areas).

We herewith confirm that the KS connectors are suitable for use in Ex area 2 (ign. vapor, dust and Ex zone 22 areas).

The KS connectors have no potential source of ignition (component) of their own and are thus not subject to the European directive 94/9/EC.

Therefore approval according to the European directive 94/9/EC is legally impossible and not required from an explosion protection point of view.

Neuwied, 26.12.2014 *Dr. Ing. Ralf Röhler* Director R & D

KS Connector 200 kA (10/350 µs) with spring washer

Part No.	301 209
Material	StSt
Clamping range Rd	10 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



MV Clamp 200 kA (10/350 µs) with spring washer for round conductors

Part No.	390 209
Material	StSt
Clamping range Rd / Rd	8-10 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



MV Clamp 200 kA (10/350 µs) with spring washer for air-termination rods



Part No.	392 209
Material	StSt
Clamping range Rd / Rd	8-10 / 16 mm
Lightning current carrying capability (10/350 µs)	200 kA
Standard	based on EN 62561-1
PU	1 pc(s)



Equipotential Bonding for Ex Areas 7



Equipotential Bonding for Ex Areas

10 Terminals

Part No.	472 217	472 219
Material	Cu	StSt
Dimension (l x w x t)	435 x 40 x 5 mm	435 x 40 x 6 mm
Cross section	200 mm ²	240 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	39 kA	8.9 kA
Screw	 M10 x 25 mm	 M10 x 25 mm
Material of screw / nut	StSt	StSt
Design	with spring washer	with spring washer
Material of insulator	UP	UP
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)



12 Terminals

Part No.	472 237	472 239
Material	Cu	StSt
Dimension (l x w x t)	505 x 40 x 5 mm	505 x 40 x 6 mm
Cross section	200 mm ²	240 mm ²
Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	39 kA	8.9 kA
Screw	 M10 x 25 mm	 M10 x 25 mm
Material of screw / nut	StSt	StSt
Design	with spring washer	with spring washer
Material of insulator	UP	UP
Standard	EN 62561-1	EN 62561-1
PU	1 pc(s)	1 pc(s)



Accessories for Equipotential Busbars for Hazardous Areas Zone 2/22

Cover for EBB Industry Design

Covers for EBB with insulators.

Part No.	472 279	472 269	472 289	472 299
Type of EBB	6 terminals	8 terminals	10 terminals	12 terminals
Dimension (l x w x d)	301 x 60 x 0.8 mm	371 x 60 x 0,8 mm	441 x 60 x 0.8 mm	511 x 60 x 0.8 mm
Material	StSt	StSt	StSt	StSt
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)





Insulator for EBB Industry Design

Part No.	472 210
Material	UP (thermoset)
Connection thread	M10 (length 12 mm)
Colour	red ●
Dimension (d x h)	32 x 40 mm
PU	1 pc(s)



Fixing Kit for EBB Industry Design

For mounting the insulators e.g. on walls.

Part No.	472 201	472 202
Material of screw	St/tZn	StSt
Screw	45 mm  M10 x 20 mm	45 mm  M10 x 20 mm
Plastic dowel	Ø12 x 60 mm	Ø12 x 60 mm
Total length	80 mm	80 mm
PU	1 pc(s)	1 pc(s)





EXFS L / EXFS KU

For bridging insulating flanges and insulating glands in cathodically protected pipe sections (e.g. pipelines or LPG plants) in hazardous areas in case of surges and lightning currents.

EXFS L

Ex isolating spark gap for aboveground installation.



Type	EXFS L100	EXFS L200	EXFS L300
Part No.	923 060	923 061	923 062
Isolating spark gap according to EN 62561-3 / IEC 62561-3	yes	yes	yes
Lightning impulse current (10/350 μs) (I _{imp})	50 kA	50 kA	50 kA
Class (lightning current carrying capability)	N	N	N
Rated impulse sparkover voltage (U _{r imp})	≤ 2.5 kV	≤ 2.5 kV	≤ 2.5 kV
Degree of protection	IP 54	IP 54	IP 54
ATEX approvals	DEKRA 11ATEX0146 X	DEKRA 11ATEX0146 X	DEKRA 11ATEX0146 X
Ex marking according to EN 60079-0 and EN 60079-15: gas	II 3 G Ex nC IIC T4 Gc	II 3 G Ex nC IIC T4 Gc	II 3 G Ex nC IIC T4 Gc
IECEX approvals	IECEX DEK 11.0063X	IECEX DEK 11.0063X	IECEX DEK 11.0063X
Ex marking according to EN 60079-0	Ex nC IIC T4 Gc	Ex nC IIC T4 Gc	Ex nC IIC T4 Gc
Cable length	100 mm	200 mm	300 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)

EXFS KU

Ex isolating spark gap with connecting cables for aboveground and underground installation; with water-proof sheath; can be shortened for short cable lengths.



Type	EXFS KU
Part No.	923 019
Isolating spark gap according to EN 62561-3 / IEC 62561-3	yes
Lightning impulse current (10/350 μs) (I _{imp})	50 kA
Class (lightning current carrying capability)	N
Rated impulse sparkover voltage (U _{r imp})	≤ 2.5 kV
Degree of protection	IP 67
ATEX approvals	DEKRA 11ATEX0146 X
Ex marking according to EN 60079-0 and EN 60079-15: gas	II 3 G Ex nC IIC T4 Gc
IECEX approvals	IECEX DEK 11.0063X
Ex marking according to EN 60079-0	Ex nC IIC T4 Gc
Cable length	2x approx. 1500 mm
PU	1 pc(s)

EXFS 100 / EXFS 100 KU



For bridging insulating flanges and insulating glands in cathodically protected pipe sections (e.g. pipelines or LPG plants) in hazardous areas in case of surges and lightning currents.

- Class (lightning current carrying capability) H (100 kA)
- Particularly low sparkover voltage
- ATEX and IECEX approvals for zone 1 and zone 21

EXFS 100

Isolating spark gap for use in hazardous areas with plastic sheath and M10 threaded screws.



Type	EXFS 100
Part No.	923 100
Isolating spark gap according to EN 62561-3 / IEC 62561-3	yes
Lightning impulse current (10/350 μs) (I _{imp})	100 kA
Class (lightning current carrying capability)	H
Rated impulse sparkover voltage (U _{r imp})	≤ 1.25 kV
Degree of protection	IP 67
ATEX approvals	DEKRA 11ATEX0178 X
Ex marking according to EN 60079-0 and EN 60079-1: gas	II 2 G Ex d IIC T6 Gb
Ex marking according to EN 60079-0 and EN 60079-31: dust	II 2 D Ex tb IIIC T80 °C Db IP 66/67
IECEX approvals	IECEX KEM 09.0051X
Ex marking according to EN 60079-0 and EN 60079-1: gas	Ex d IIC T6 Gb
Ex marking according to EN 60079-0 and EN 60079-31: dust	Ex tb IIIC T80 °C Db IP 66/67
PU	1 pc(s)

Equipotential Bonding for Ex Areas

EXFS 100 KU

Ex isolating spark gap with connecting cable for aboveground and underground installation; with water-proof sheath; can be shortened for short cable lengths.

Type	EXFS 100 KU
Part No.	923 101
Isolating spark gap according to EN 62561-3 / IEC 62561-3	yes
Lightning impulse current (10/350 µs) (I_{imp})	100 kA
Class (lightning current carrying capability)	H
Rated impulse sparkover voltage ($U_{r imp}$)	≤ 1.25 kV
Degree of protection	IP 67
ATEX approvals	DEKRA 11ATEX0178 X
Ex marking according to EN 60079-0 and EN 60079-1: gas	II 2 G Ex d IIC T6 Gb
Ex marking according to EN 60079-0 and EN 60079-31: dust	II 2 D Ex tb IIIC T80 °C Db IP 66/67
IECEx approvals	IECEx KEM 09.0051X
Ex marking according to EN 60079-0 and EN 60079-1: gas	Ex d IIC T6 Gb
Ex marking according to EN 60079-0 and EN 60079-31: dust	Ex tb IIIC T80°C Db IP 66/67
Cable length	2x approx. 2000 mm
PU	1 pc(s)



Accessories for EXFS 100 / EXFS 100 KU

Angled Connection Brackets – IF 1 –

Angled connection bracket for EXFS ...; diameter corresponds to the bolt diameter of the flange joint; material: St/tZn.

Type	AB EXFS IF1 W 11	AB EXFS IF1 W 14	AB EXFS IF1 W 18	AB EXFS IF1 W 22
Part No.	923 311	923 314	923 318	923 322
Borehole diameter d1	11 mm	14 mm	18 mm	22 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Type	AB EXFS IF1 W 26	AB EXFS IF1 W 30	AB EXFS IF1 W 33
Part No.	923 326	923 330	923 333
Borehole diameter d1	26 mm	30 mm	33 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)

Type	AB EXFS IF1 W 36	AB EXFS IF1 W 39	AB EXFS IF1 W 42
Part No.	923 336	923 339	923 342
Borehole diameter d1	36 mm	39 mm	42 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)

Type	AB EXFS IF1 W 48	AB EXFS IF1 W 56	AB EXFS IF1 W 62
Part No.	923 348	923 356	923 362
Borehole diameter d1	48 mm	56 mm	62 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)



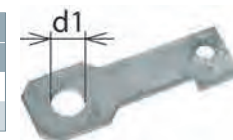
Flat Connection Brackets – IF 3 –

Flat connection bracket for EXFS ...; diameter corresponds to the bolt diameter of the flange joint; material: St/tZn.

Type	AB EXFS IF3 G 11	AB EXFS IF3 G 14	AB EXFS IF3 G 18	AB EXFS IF3 G 22
Part No.	923 211	923 214	923 218	923 222
Borehole diameter d1	11 mm	14 mm	18 mm	22 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

Type	AB EXFS IF3 G 26	AB EXFS IF3 G 30	AB EXFS IF3 G 33
Part No.	923 226	923 230	923 233
Borehole diameter d1	26 mm	30 mm	33 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)

Type	AB EXFS IF3 G 36	AB EXFS IF3 G 39	AB EXFS IF3 G 42
Part No.	923 236	923 239	923 242
Borehole diameter d1	36 mm	39 mm	42 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)



EXFS 100: Connecting Cable, Cu, 25 mm²

Connecting cable for EXFS 100; two cable lugs (Ø10.5 mm) made of Cu/gal Sn, screw, nut, and spring washer.

Type	AL EXFS L100 KS	AL EXFS L200 KS	AL EXFS L300 KS
Part No.	923 025	923 035	923 045
Cable length	100 mm	200 mm	300 mm
PU	1 pc(s)	1 pc(s)	1 pc(s)





DEHN protects.®

Earth Resistance Meter FLUKE 1621

Automatic measuring range selection for checking of sensor resistance, auxiliary earth-electrode resistance and soil resistivity.

Part No.	578 350
Display	digitale LCD display
Resistance measuring range	0.15 to 2 000 Ω
Frequency measuring signal	128 Hz
Measuring method	2-/3-pole measurement
Resistance measurement	2-pole a.c. measurement
Dimension (l x w x d)	216 x 113 x 54 mm
PU	1 pc(s)



Earth Resistance Meter GEOHM C

For measuring the resistance to earth and the soil resistivity, with automatic measuring range selection and checking of sensor resistance and auxiliary earth-electrode resistance.

Part No.	578 110
Display	digital LCD display
Resistance measuring range	0.01 to 20 000 Ω
Measuring frequency	45 to 200 Hz
Measuring method	3-/4-pole
Dimension (l x w x d)	275 x 140 x 65 mm
PU	1 pc(s)



Earth Resistance Clamp Meter HT T2000

For earth loop measurement.
With automatic switchoff and transport case.

Part No.	578 385
Display	digital LC display
Resistance measuring range	0.01 to 1 000 Ω
Current measuring range	0.05 mA to 20 A
Clamp diameter inside	32 x 64 mm
Max. cable diameter	24 mm
PU	1 pc(s)



Multimeter HT ET5071

For low-ohm measurements and loop impedance measurement. For testing the continuity of reinforcement steel in concrete with 10 A test current acc. to IEC/EN 62305-3. With automatic switchoff and transport bag.
Additional test functions for:

- Voltage
- Frequency
- Impedance

Accessories:

- Earthed socket outlets on 3-phase split-plug
- Kit: 3 cables + 3 alligator clamps + 1 test prod
- Power cable with 10 A
- 2 measuring wires of 3 m each for continuity testing 10 A
- 2 measuring wires of 10 m each for continuity testing 10 A
- Windows software + optic USB cable C2006

Part No.	578 390
Display	digital LC display with backlight
Resistance measuring range	0.001 to 99.9 Ω
Test current	0.2 and 10A
Test function	4 phase
Interface	optic / USB interface
PU	1 pc(s)





EP4 Continuity Tester

Continuity tester for resistance measuring e.g. at air-termination and down conductors and subsequently installed reinforcement rods of buildings. Testers may be used for resistance measuring of earth-termination systems according to DIN 18014 with a test current of 200 mA.



Part No.	578 370
Display	digital LCD display
Resistance measuring range	0.01 Ω to 2 000 kΩ
Measuring current	200 mA in the range up to 10 Ω acc. to EN 61557-4
Dimension (l x w x d)	230 x 60 x 40 mm
PU	1 pc(s)

Storage Case for Continuity Tester and Measuring Accessories

For storing the continuity tester and measuring accessories.



Measuring kit includes:

- 2 coils with unwinding handle and 50 m blue measuring wire, Part No. 585 320
- 1 measuring wire 0.75 mm², 3 m long, black, with split plug on both sides, Part No. 545 020
- 1 test clamp, clamping range 2-21 mm, Part No. 588 000

Part No.	582 620
Material	artificial leather
Dimension (l x w x h)	370 x 130 x 220 mm
PU	1 pc(s)

Storage Case with Earth Resistance Measuring Kit

Case with shoulder strap for easy transport.

Measuring kit includes:

- 1 coiler with unwinding handle and 25 m red measuring wire, with split plug, Part No. 585 310
- 1 coiler with unwinding handle and 50 m blue measuring wire, with split plug, Part No. 585 320
- 2 auger drills 350 mm long, Part No. 587 460
- 2 black measuring wires 0.75 mm², 3 m long, with split plug on both sides, Part No. 545 010 (connection between earth termination system and earth resistance meter)
- 1 red measuring wire 0.75 mm², 0.5 m long, with split plug on both sides, Part No. 545 010
- 1 blue measuring wire 0.75 mm², 0.5 m long, with split plug on both sides, Part No. 545 011 (connection between coiler and auger drill)
- 1 test clamp, clamping range 2-21 mm, Part No. 588 000



With storage compartment for FLUKE 1621 or GEOHM C measuring device.

Part No.	582 600
Material	artificial leather
Dimension (l x w x h)	400 x 200 x 240 mm
PU	1 pc(s)

Accessories for Storage Case with Earth Resistance Measuring Kit



Earth Drilling Device

As an auxiliary earth electrode and probe for measuring of earthing resistances. With bore for split plug of the measuring line.

Part No.	587 460
Connection	☼ M5
Material	MCl/gal Zn
Length	350 mm
PU	1 pc(s)

Accessories for Storage Case with Earth Resistance Measuring Kit

Test Clamp up to 21 mm

For earth electrode measuring.

Part No.	588 000
Connection	M5
Material	MCl/tZn
Clamping range	2-21 mm
Clamping spindle	M8
PU	1 pc(s)



Test Clamp up to 45 mm

For earth electrode measuring.

Part No.	589 000
Connection	M5
Material	MCl/tZn
Clamping range	4-45 mm
Clamping spindle	M10
PU	1 pc(s)



Coilers width 40 mm

With split plug, socket and handle.

Part No.	585 310	585 051	585 025	585 320
Length of measuring line	25 m	50 m	25 m	50 m
Colour of measuring line	red ●	red ●	blue ●	blue ●
Width	40 mm	40 mm	40 mm	40 mm
Material	plastic	plastic	plastic	plastic
PU	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)



Coilers, width 80 mm

With split plug, socket and handle.

Part No.	585 211	585 210
Length of measuring line	100 m	100 m
Colour of measuring line	red ●	blue ●
Width	80 mm	80 mm
Material	plastic	plastic
PU	1 pc(s)	1 pc(s)



Coilers, empty

With socket and handle.

Part No.	585 010	585 200
Length of measuring line	0 m	0 m
Width	40 mm	80 mm
Material	plastic	plastic
Colour	grey ●	grey ●
PU	1 pc(s)	1 pc(s)



Measuring Line

Part No.	545 000	545 001
Cross section	0.75 mm ²	0.75 mm ²
Material	Cu	Cu
Designation	H05V-K	H05V-K
Insulation	PVC	PVC
Colour	blue ●	red ●
PU	100 m	100 m



Lightning strike counter



NEW



Counter for digital recording of impulse currents.

Device for installation preferably on down conductors of the lightning protection system or between equipotential bonding bar and earth-termination system. Material for fastening on round or flat conductors is included in delivery.

Part No.	599 100 <small>NEW</small>
Operating current (8/20 μ s) (I_{tc})	1 kA
Max. discharge current (10/350 μ s) (I_{mcw})	100 kA
Clamping range Rd	8-10 mm
Clamping range Fl	-30 mm
Degree of protection	IP 65
PU	1 pc(s)

Wire Straighteners



For straightening of round conductors made of different materials (semi-rigid).

5 guide pulleys, with handles



Part No.	597 004
Material	St/gal Zn
Support Rd	7-10 mm
Material of guide pulleys	St/gal Zn
Dimension	approx. 180 x 290 mm
PU	1 pc(s)

10 guide pulleys, with handles



Part No.	597 005
Material	St/gal Zn
Support Rd	7-10 mm
Material of guide pulleys	St/gal Zn
Dimension	approx. 650 x 180 mm
PU	1 pc(s)

10 guide pulleys, with derrick

For stationary set-up.



Part No.	597 003
Material	St/tZn
Support Rd	7-10 mm
Material of guide pulleys	St/gal Zn
Dimension	approx. 1350 x 580 mm
PU	1 pc(s)

10 guide pulleys, movable on rubber wheels

With wire unwinding device, for handling of coils (St/tZn, Cu and Al) with an inner diameter of 450-800 mm and coil widths up to 150 mm.



Part No.	597 006
Material	St/tZn
Support Rd	7-10 mm
Material of guide pulleys	St/gal Zn
Dimension	approx. 1650 x 1200 mm
PU	1 pc(s)

Straightening Tool



For bending and straightening of conductors.

Straight design

Part No.	596 000
Material	St/burnished
Application Rd / Fl	8-10 / -4 mm
Length	260 mm
PU	1 pc(s)



Cranked design


Width across flats (A/F 13) for screwing.

Part No.	595 000
Material	St/burnished
Application Rd	8-10 mm
Length	260 mm
PU	1 pc(s)



Separable design

Especially designed for earthing material (StSt, St/tZn) and also for air-termination rods (Ø16 mm) made of aluminium or copper with lateral recess.

Part No.	596 600 
Material	St/galZn
Application Rd	10 mm
Application Fl	up to 40 x 4 mm
Length	320 / 620 mm
PU	1 pc(s)



Spider Wrench

Universally usable for lightning protection system installation. With four wrench sizes.

Part No.	572 000
Material	St/gal Zn
Wrench size	10, 13, 17, 19 mm
PU	1 pc(s)



Anti-corrosion Tape

For wrapping of aboveground and underground connections.

For use in the soil according to DIN 30672.

In reels, length 10 m, UV stabilised.

Part No.	556 125	556 130
Material	petrolatum	petrolatum
Length	10 m	10 m
Width	50 mm	100 mm
PU	24 pc(s)	12 pc(s)



Heat-shrinkable Sleeve

Heat-shrinkable sleeve for coating Rd and FI conductors, e.g. when leading terminal lugs out of the concrete or earth entries out of the ground. UV stabilised, customised length.



Part No.	554 011
For use with Rd	16 mm
For use with FI	30 mm
Material	DERAY
Colour	black ●
PU	1 m

Special Coating Paint

Special coating paint for lightning protection components and conductors, weather resistant.



The coating paint may be used without pretreatment also for weathered, hot-dip galvanized, spray-galvanized and electrogalvanized surfaces as well as aluminium sheets.

Hazardous materials regulations allow for transportation only in Germany and Austria. Alternatively use a suitable zinc protection paint.

Part No.	559 010	559 011
Colour	grey ●	brown ●
Content	0.75 litres	0.75 litres
PU	1 pc(s)	1 pc(s)

Part No.	GTIN*	PG	Weight	PU	SU	Page
100100	019119	01 01 01 00	1.64 kg	10	pc(s)	96
100150	019140	01 01 01 00	2.44 kg	10	pc(s)	96
101000	094505	01 01 01 00	212 g	20	pc(s)	95 / 108
101001	105539	01 07 01 00	600 g	1	pc(s)	119
101007	128705	01 01 01 00	700 g	20	pc(s)	95
101009	128699	01 01 01 00	600 g	20	pc(s)	95 / 108
101010	138698	01 01 01 00	208 g	10	pc(s)	110
101110	138704	01 01 01 00	305 g	1	pc(s)	110
101150	019515	01 02 01 00	2.42 kg	10	pc(s)	57 / 222
102002	105126	01 01 01 00	17.02 kg	54	pc(s)	103
102003	105133	01 01 01 00	8.52 kg	120	pc(s)	103
102010	057814	01 01 01 00	17.62 kg	54	pc(s)	102
102012	105089	01 01 01 00	17.6 kg	54	pc(s)	103
102050	045996	01 01 01 00	217 g	1	pc(s)	103
102060	094987	01 01 01 00	140 g	1	pc(s)	103
102075	094215	01 01 01 00	8.46 kg	120	pc(s)	103
102340	105119	01 01 01 00	17.82 kg	54	pc(s)	102
103013	129818	01 01 01 00	228 kg	1	pc(s)	105
103016	129825	01 01 01 00	230 kg	1	pc(s)	105
103019	129832	01 01 01 00	310 kg	1	pc(s)	105
103022	129849	01 01 01 00	452 kg	1	pc(s)	105
103025	129856	01 01 01 00	550 kg	1	pc(s)	105
103030	129917	01 01 01 00	2620 kg	1	pc(s)	106
103031	129924	01 01 01 00	4900 kg	1	pc(s)	106
103040	129894	01 01 01 00	22.9 kg	1	pc(s)	106
103041	129900	01 01 01 00	38 kg	1	pc(s)	106
103121	112711	01 01 01 00	33 kg	1	pc(s)	105
103122	112728	01 01 01 00	33.2 kg	1	pc(s)	105
103123	112735	01 01 01 00	37.6 kg	1	pc(s)	105
103124	112742	01 01 01 00	37.6 kg	1	pc(s)	105
103125	112759	01 01 01 00	42.2 kg	1	pc(s)	105
103126	112841	01 01 01 00	42.4 kg	1	pc(s)	105
103210	066311	01 01 01 00	480 g	10	pc(s)	95
103211	078529	01 01 01 00	480 g	10	pc(s)	96
103220	066328	01 01 01 00	760 g	10	pc(s)	95
103221	078536	01 01 01 00	760 g	10	pc(s)	96
103230	066335	01 01 01 00	1.02 kg	10	pc(s)	95
103231	078543	01 01 01 00	1.02 kg	10	pc(s)	96
103240	066342	01 01 01 00	1.3 kg	10	pc(s)	95
103241	081857	01 01 01 00	1.3 kg	10	pc(s)	96
103250	093485	01 01 01 00	1.52 kg	10	pc(s)	95
103251	093515	01 01 01 00	1.52 kg	10	pc(s)	96
103260	093492	01 01 01 00	1.85 kg	10	pc(s)	95
103261	093522	01 01 01 00	1.73 kg	10	pc(s)	96
103280	093508	01 01 01 00	2.4 kg	10	pc(s)	95
103410	105775	01 01 01 00	360 g	10	pc(s)	96
103417	128682	01 01 01 00	1.2 kg	10	pc(s)	96
103419	128651	01 01 01 00	1.1 kg	10	pc(s)	96
103420	105782	01 01 01 00	500 g	10	pc(s)	96
103429	128668	01 01 01 00	2.1 kg	10	pc(s)	96
103430	105799	01 01 01 00	570 g	10	pc(s)	96
103439	128675	01 01 01 00	2.05 kg	10	pc(s)	96
103440	105805	01 01 01 00	800 g	10	pc(s)	96
103449	128798	01 01 01 00	2.57 kg	10	pc(s)	96
103450	105812	01 01 01 00	900 g	10	pc(s)	96
103460	105829	01 01 01 00	1.1 kg	10	pc(s)	96
103480	105836	01 01 01 00	1.3 kg	10	pc(s)	96
104150	028487	01 01 01 00	820 g	10	pc(s)	95
104200	056343	01 01 01 00	1.08 kg	10	pc(s)	95
104250	056350	01 01 01 00	1.4 kg	10	pc(s)	95
104300	056367	01 01 01 00	1.68 kg	10	pc(s)	95
104600	076556	01 01 01 00	3.32 kg	1	pc(s)	96

Part No.	GTIN*	PG	Weight	PU	SU	Page
104903	030497	01 02 01 00	1.6 kg	10	pc(s)	57 / 222
104905	030503	01 02 01 00	2.38 kg	10	pc(s)	57 / 222
104906	082854	01 02 01 00	3.2 kg	10	pc(s)	57 / 222
105071	101456	01 01 01 00	694 g	1	pc(s)	119
105079	100183	01 01 01 00	96 g	1	pc(s)	119
105140	112650	01 01 01 00	653 g	1	pc(s)	104
105160	113022	01 01 01 00	506 g	1	pc(s)	104
105161	118324	01 01 01 00	667 g	1	pc(s)	153
105162	146433	01 01 01 00	600 g	1	pc(s)	104
105170	151192	01 01 01 00	4.17 kg	1	pc(s)	101
105171	151215	01 01 01 00	5.6 kg	1	pc(s)	101
105172	151239	01 01 01 00	7.2 kg	1	pc(s)	101
105173	151253	01 01 01 00	8.6 kg	1	pc(s)	101
105174	151277	01 01 01 00	10.14 kg	1	pc(s)	101
105175	151208	01 01 01 00	4.4 kg	1	pc(s)	101
105176	151222	01 01 01 00	6 kg	1	pc(s)	101
105177	151246	01 01 01 00	7.45 kg	1	pc(s)	101
105178	151260	01 01 01 00	9 kg	1	pc(s)	101
105179	151284	01 01 01 00	10.4 kg	1	pc(s)	101
105190	152045	01 01 01 00	9.2 kg	1	pc(s)	101
105191	152052	01 01 01 00	12.6 kg	1	pc(s)	101
105192	152069	01 01 01 00	16.2 kg	1	pc(s)	101
105193	152076	01 01 01 00	19.4 kg	1	pc(s)	101
105194	152083	01 01 01 00	22.4 kg	1	pc(s)	101
105195	152090	01 01 01 00	10 kg	1	pc(s)	101
105196	152106	01 01 01 00	14.3 kg	1	pc(s)	101
105197	152113	01 01 01 00	16.8 kg	1	pc(s)	101
105198	152120	01 01 01 00	20 kg	1	pc(s)	101
105199	152137	01 01 01 00	23.6 kg	1	pc(s)	101
105200	095908	01 01 01 00	9.6 kg	1	pc(s)	102
105201	095915	01 01 01 00	17.23 kg	1	pc(s)	125
105229	280625	01 07 01 00	89 g	10	pc(s)	143
105240	135116	01 07 01 00	7.23 kg	1	pc(s)	157
105245	135383	01 07 01 00	1.16 kg	1	pc(s)	109
105246	135390	01 07 01 00	1.14 kg	1	pc(s)	109
105272	255777	01 07 01 00	2.3 kg	1	pc(s)	153
105273	255807	01 07 01 00	2.65 kg	1	pc(s)	153
105274	255814	01 07 01 00	3.2 kg	1	pc(s)	153
105275	158047	01 07 01 00	243 g	1	pc(s)	177
105279	155824	01 07 01 00	3.56 kg	1	pc(s)	199
105280	255838	01 07 01 00	3.59 kg	1	pc(s)	153
105281	260962	01 07 01 00	4 kg	1	pc(s)	156
105288	256040	01 07 01 00	4.55 kg	1	pc(s)	155
105290	126046	01 01 01 00	8.4 kg	1	pc(s)	102
105291	126053	01 01 01 00	19 kg	1	pc(s)	102
105300	098534	01 01 01 00	5.2 kg	1	pc(s)	122
105301	098541	01 01 01 00	7.2 kg	1	pc(s)	122
105302	100077	01 01 01 00	10.2 kg	1	pc(s)	122
105306	106024	01 01 01 00	5.23 kg	1	pc(s)	122
105314	157781	01 07 01 00	10 kg	1	pc(s)	169
105315	157804	01 07 01 00	11 kg	1	pc(s)	169
105316	157798	01 07 01 00	15.52 kg	1	pc(s)	169
105317	157811	01 07 01 00	17 kg	1	pc(s)	169
105320	152373	01 07 01 00	10.6 kg	1	pc(s)	192
105321	152397	01 07 01 00	12.2 kg	1	pc(s)	192
105322	152380	01 07 01 00	15.8 kg	1	pc(s)	192
105323	152403	01 07 01 00	16.2 kg	1	pc(s)	192
105325	157828	01 07 01 00	5.42 kg	1	pc(s)	169
105326	157842	01 07 01 00	5.82 kg	1	pc(s)	170
105327	157835	01 07 01 00	8.02 kg	1	pc(s)	169
105328	157859	01 07 01 00	8.32 kg	1	pc(s)	170
105330	152496	01 07 01 00	5.6 kg	1	pc(s)	169
105331	152502	01 07 01 00	6 kg	1	pc(s)	169
105332	152519	01 07 01 00	8.2 kg	1	pc(s)	169
105333	152526	01 07 01 00	8.5 kg	1	pc(s)	169

Part No.	GTIN*	PG	Weight	PU	SU	Page
105336	157866	01 07 01 00	9.9 kg	1	pc(s)	169
105337	157880	01 07 01 00	11.64 kg	1	pc(s)	170
105338	157873	01 07 01 00	15.13 kg	1	pc(s)	169
105339	157897	01 07 01 00	16.86 kg	1	pc(s)	170
105340	098794	01 01 01 00	618 g	1	pc(s)	122
105341	098800	01 01 01 00	607 g	1	pc(s)	122
105342	111141	01 01 01 00	514 g	1	pc(s)	104
105343	118515	01 01 01 00	3.6 kg	1	pc(s)	104
105344	147300	01 01 01 00	1.52 kg	1	pc(s)	104
105345	110489	01 01 01 00	3.6 kg	1	pc(s)	165
105351	238916	01 01 01 00	11.5 kg	1	pc(s)	171
105354	098725	01 01 01 00	617 g	5	pc(s)	104
105355	098732	01 01 01 00	690 g	5	pc(s)	124
105356	098749	01 01 01 00	562 g	5	pc(s)	124
105360	099777	01 01 01 00	358 g	1	pc(s)	123
105361	102033	01 01 01 00	385 g	1	pc(s)	123
105362	110496	01 01 01 00	467 g	1	pc(s)	124
105363	106031	01 01 01 00	8.87 kg	1	pc(s)	175
105364	106048	01 01 01 00	10.85 kg	1	pc(s)	175
105365	106055	01 01 01 00	14.63 kg	1	pc(s)	175
105376	115545	01 01 01 00	660 g	5	pc(s)	124
105390	156944	01 07 01 00	6.3 kg	1	pc(s)	172
105391	156951	01 07 01 00	22.9 kg	1	pc(s)	172
105392	157903	01 07 01 00	10 kg	1	pc(s)	193
105393	157927	01 07 01 00	12 kg	1	pc(s)	193
105394	157910	01 07 01 00	15 kg	1	pc(s)	193
105395	157934	01 07 01 00	17 kg	1	pc(s)	193
105396	156487	01 07 01 00	1.8 kg	1	pc(s)	172
105397	156494	01 07 01 00	2.5 kg	1	pc(s)	172
105398	156500	01 07 01 00	3 kg	1	pc(s)	172
105400	094383	01 01 01 00	13.4 kg	1	pc(s)	98
105440	099692	01 01 01 00	7.64 kg	1	pc(s)	121
105450	094413	01 01 01 00	13.8 kg	1	pc(s)	98
105455	099715	01 01 01 00	11.45 kg	1	pc(s)	121
105470	100138	01 01 01 00	14.65 kg	1	pc(s)	121
105490	156968	01 07 01 00	7.4 kg	1	pc(s)	172
105491						

Part No.	GTIN*	PG	Weight	PU	SU	Page	Part No.	GTIN*	PG	Weight	PU	SU	Page	Part No.	GTIN*	PG	Weight	PU	SU	Page
106 008	099241	01 01 01 00	352 g	1	pc(s)	110	123 430	129016	01 01 01 00	3.22 kg	1	pc(s)	107	204 129	021433	01 03 01 00	102 g	25	pc(s)	32
106 090	100190	01 01 01 00	470 g	1	pc(s)	113	123 435	129023	01 01 01 00	3.42 kg	1	pc(s)	107	204 147	042513	01 03 01 00	51 g	50	pc(s)	34
106 100	092907	01 01 01 00	545 g	1	pc(s)	113								204 149	042285	01 03 01 00	52 g	50	pc(s)	34
106 105	100206	01 01 01 00	658 g	1	pc(s)	113	145 241	022584	01 01 01 00	11 kg	1	pc(s)	39	204 157	042520	01 03 01 00	83 g	50	pc(s)	34
106 115	100213	01 01 01 00	488 g	1	pc(s)	113								204 159	042537	01 03 01 00	78 g	50	pc(s)	34
106 120	092945	01 01 01 00	552 g	1	pc(s)	113	146 309	072398	01 01 01 00	864 g	1	pc(s)	39	204 169	042551	01 03 01 00	100 g	50	pc(s)	34
106 123	100220	01 01 01 00	686 g	1	pc(s)	113								204 170	072435	01 03 01 00	40 g	50	pc(s)	35
106 125	099517	01 01 01 00	1.15 kg	10	pc(s)	114	200 027	031258	01 04 01 00	46 g	10	pc(s)	50	204 171	073708	01 03 01 00	38 g	50	pc(s)	35
106 126	093324	01 01 01 00	82 g	20	pc(s)	114	200 029	031265	01 04 01 00	45 g	10	pc(s)	50	204 177	042568	01 03 01 00	70 g	50	pc(s)	34
106 127	093317	01 01 01 00	228 g	20	pc(s)	115	200 039	129283	01 04 01 00	40 g	10	pc(s)	50	204 179	042575	01 03 01 00	60 g	50	pc(s)	34
106 128	123731	01 01 01 00	131 g	20	pc(s)	115	200 057	041530	01 04 01 00	30 g	25	pc(s)	50	204 187	042582	01 03 01 00	91 g	50	pc(s)	34
106 129	123748	01 01 01 00	135 g	20	pc(s)	115	200 059	041547	01 04 01 00	26 g	25	pc(s)	50	204 189	042599	01 03 01 00	83 g	50	pc(s)	34
106 150	092914	01 01 01 00	340 g	1	pc(s)	114	200 067	041554	01 04 01 00	34 g	25	pc(s)	50	204 197	042605	01 03 01 00	112 g	50	pc(s)	34
106 160	092938	01 01 01 00	287 g	1	pc(s)	114	200 069	041561	01 04 01 00	29 g	25	pc(s)	50	204 199	042278	01 03 01 00	111 g	50	pc(s)	34
106 165	100237	01 01 01 00	242 g	1	pc(s)	115	200 077	082335	01 04 01 00	32 g	50	pc(s)	50	204 229	035300	01 03 01 00	31 g	50	pc(s)	38
106 170	097285	01 01 01 00	310 g	1	pc(s)	115	200 079	069138	01 04 01 00	49 g	50	pc(s)	50	204 239	035317	01 03 01 00	31 g	50	pc(s)	38
106 175	100244	01 01 01 00	448 g	1	pc(s)	115	200 087	082342	01 04 01 00	37 g	50	pc(s)	50	204 247	041806	01 03 01 00	72 g	25	pc(s)	31
106 178	100251	01 01 01 00	261 g	1	pc(s)	115	200 089	074729	01 04 01 00	54 g	50	pc(s)	50	204 249	041790	01 03 01 00	68 g	25	pc(s)	31
106 180	097292	01 01 01 00	326 g	1	pc(s)	115	200 600	098220	01 06 01 00	4 g	50	pc(s)	55	204 267	035805	01 03 01 00	70 g	25	pc(s)	31
106 185	100268	01 01 01 00	465 g	1	pc(s)	115	200 601	098237	01 06 01 00	7 g	50	pc(s)	55	204 269	035812	01 03 01 00	64 g	25	pc(s)	31
106 207	127623	01 01 01 00	493 g	10	pc(s)	109								204 359	082779	01 03 01 00	61 g	50	pc(s)	36
106 210	127630	01 01 01 00	625 g	10	pc(s)	109	202 000	019881	01 03 01 00	9 g	50	pc(s)	49	204 449	124837	01 03 01 00	66 g	25	pc(s)	31
106 217	128811	01 01 01 00	280 g	10	pc(s)	119	202 001	020474	01 03 01 00	3 g	50	pc(s)	49	204 469	124851	01 03 01 00	63 g	25	pc(s)	31
106 220	128828	01 01 01 00	410 g	10	pc(s)	119	202 005	022041	01 03 01 00	70 g	50	pc(s)	43	204 906	028456	01 03 01 00	19 g	50	pc(s)	43
106 225	100299	01 01 01 00	684 g	1	pc(s)	113	202 008	020191	01 03 01 00	251 g	50	pc(s)	36	204 911	030640	01 03 01 00	98 g	25	pc(s)	32
106 226	098930	01 01 01 00	722 g	1	pc(s)	113	202 010	019874	01 03 01 00	159 g	50	pc(s)	36	204 913	030664	01 03 01 00	108 g	25	pc(s)	32
106 228	100305	01 01 01 00	878 g	1	pc(s)	113	202 015	022089	01 03 01 00	59 g	50	pc(s)	43	204 916	030565	01 03 01 00	19 g	50	pc(s)	43
106 245	100336	01 01 01 00	561 g	1	pc(s)	114	202 017	019904	01 03 01 00	189 g	50	pc(s)	36	204 921	030589	01 03 01 00	50 g	50	pc(s)	34
106 246	098954	01 01 01 00	608 g	1	pc(s)	114	202 020	020764	01 03 01 00	250 g	25	pc(s)	32	204 924	030619	01 03 01 00	64 g	50	pc(s)	34
106 248	100343	01 01 01 00	762 g	1	pc(s)	114	202 021	020788	01 03 01 00	264 g	25	pc(s)	32	204 925	030626	01 03 01 00	90 g	50	pc(s)	34
106 301	096806	01 01 01 00	50 g	20	pc(s)	115	202 027	020771	01 03 01 00	290 g	25	pc(s)	32	204 935	029958	01 03 01 00	40 g	50	pc(s)	33
106 309	129276	01 01 01 00	100 g	20	pc(s)	115	202 030	022362	01 03 01 00	114 g	50	pc(s)	26	204 936	029927	01 03 01 00	40 g	50	pc(s)	33
106 310	096813	01 01 01 00	100 g	20	pc(s)	116	202 037	019942	01 03 01 00	187 g	50	pc(s)	36	204 937	029941	01 03 01 00	46 g	50	pc(s)	33
106 311	096820	01 01 01 00	150 g	20	pc(s)	116	202 040	019935	01 03 01 00	170 g	50	pc(s)	36	204 938	029989	01 03 01 00	47 g	50	pc(s)	33
106 312	098756	01 01 01 00	327 g	5	pc(s)	117	202 050	020214	01 03 01 00	137 g	25	pc(s)	36	204 949	129290	01 03 01 00	54 g	50	pc(s)	33
106 315	096943	01 01 01 00	98 g	20	pc(s)	116	202 060	022263	01 03 01 00	226 g	50	pc(s)	26	204 957	129269	01 03 01 00	55 g	50	pc(s)	33
106 316	096844	01 01 01 00	244 g	20	pc(s)	116	202 080	020276	01 03 01 00	250 g	50	pc(s)	36							
106 319	124820	01 01 01 00	271 g	25	pc(s)	118	202 169	105737	01 03 01 00	6 g	100	pc(s)	49	206 049	242982	01 03 01 00	25 g	50	pc(s)	37
106 320	149434	01 01 01 00	48 g	20	pc(s)	117	202 227	020795	01 03 01 00	290 g	25	pc(s)	32	206 105	083189	01 03 01 00	74 g	50	pc(s)	43
106 321	096851	01 01 01 00	121 g	10	pc(s)	117	202 829	159822	01 07 01 00	119 g	1	pc(s)	157	206 109	042810	01 03 01 00	110 g	25	pc(s)	32
106 322	097308	01 01 01 00	146 g	10	pc(s)	117	202 857	153189	01 07 01 00	127 g	25	pc(s)	201	206 170	082816	01 03 01 00	51 g	50	pc(s)	35
106 323	097315	01 01 01 00	110 g	10	pc(s)	117	202 900	020801	01 03 01 00	127 g	25	pc(s)	32	206 171	089488	01 03 01 00	51 g	50	pc(s)	35
106 324	099074	01 01 01 00	48 g	20	pc(s)	117	202 901	019928	01 03 01 00	83 g	50	pc(s)	36	206 207	054257	01 03 01 00	65 g	50	pc(s)	35
106 325	096929	01 01 01 00	222 g	10	pc(s)	118	202 902	020467	01 03 01 00	81 g	50	pc(s)	36	206 209	042759	01 03 01 00	59 g	50	pc(s)	35
106 326	096936	01 01 01 00	337 g	10	pc(s)	118	202 906	022102	01 03 01 00	32 g	50	pc(s)	43	206 217	052208	01 03 01 00	93 g	50	pc(s)	35
106 328	099098	01 01 01 00	547 g	1	pc(s)	125								206 219	042766	01 03 01 00	83 g	50	pc(s)	35
106 331	100367	01 01 01 00	715 g	1	pc(s)	125	204 001	018990	01 03 01 00	8 g	100	pc(s)	45	206 227	054264	01 03 01 00	117 g	50	pc(s)	35
106 340	096868	01 01 01 00	104 g	20	pc(s)	118	204 002	019195	01 03 01 00	8 g	50	pc(s)	45	206 229	042773	01 03 01 00	114 g	50	pc(s)	35
106 341	096875	01 01 01 00	104 g	20	pc(s)	118	204 003	019034	01 03 01 00	15 g	100	pc(s)	45	206 237	077300	01 03 01 00	81 g	25	pc(s)	31
106 342	096882	01 01 01 00	104 g	20	pc(s)	118	204 004	019003	01 03 01 00	15 g	50	pc(s)	45	206 239	042650	01 03 01 00	74 g	25	pc(s)	31
106 352	096905	01 01 01 00	375 g	10	pc(s)	116	204 006	028371	01 03 01 00	19 g	50	pc(s)	46	206 247	078574	01 03 01 00	92 g	25	pc(s)	31
106 353	096912	01 01 01 00	466 g	10	pc(s)	116	204 007	019188	01 03 01 00	9 g	50	pc(s)	45	206 249	042803	01 03 01 00	80 g	25	pc(s)	31
106 812	104907	01 07 01 00	435 g	1	pc(s)	146	204 017	019058	01 03 01 00	9 g	100	pc(s)	45	206 289	149427	01 03 01 00	76 g	50	pc(s)	35
106 852	119307	01 07 01 00	229 g	1	pc(s)	146	204 027	018969	01 03 01 00	12 g	100	pc(s)	45	206 309	042780	01 03 01 00	60 g	50	pc(s)	35
108 009	133686	01 01 01 00	288 g	10	pc(s)	111	204 029	032286	01 03 01 00	35 g	50	pc(s)	33	206 319	042667	01 03 01 00	87 g	50	pc(s)	35
110 000	021440	01 01 01 00	20 g	50	pc(s)	111	204 037	019331	01 03 01 00	16 g	50	pc(s)	45	206 329	042797	01 03 01 00	110 g	50	pc(s)	35
110 017	021457	01 01 01 00	28 g	10	pc(s)	111	204 039	032293	01 03 01 00	35 g	50	pc(s)	33	206 339	047730	01 03 01 00	27 g	50	pc(s)	43
123 021	092822	01 01 01 00	2.2 kg	1	pc(s)	107	204 049	032309	01 03 01 00	40 g	50	pc(s)	37	206 349	047716	01 03 01 00	48 g	50	pc(s)	38
123 032	242067	01 01 01 00	17.7 kg	1	pc(s)	107	204 059	032316	01 03 01 00	41 g	50	pc(s)	37	206 359	047723	0				

Part No.	GTIN*	PG	Weight	PU	SU	Page	Part No.	GTIN*	PG	Weight	PU	SU	Page	Part No.	GTIN*	PG	Weight	PU	SU	Page
206817	078581	01 03 01 00	122 g	25	pc(s)	32	253325	129863	01 03 01 00	75 g	24	pc(s)	108	275454	244504	01 07 01 00	173 g	10	pc(s)	202
206819	077362	01 03 01 00	115 g	25	pc(s)	32	253330	153585	01 07 01 00	97 g	24	pc(s)	198	275455	244535	01 07 01 00	277 g	10	pc(s)	202
207007	054899	01 03 01 00	16 g	50	pc(s)	45	253331	155206	01 07 01 00	180 g	25	pc(s)	199	275498	146945	01 07 01 00	320 g	10	pc(s)	180
207009	054882	01 03 01 00	16 g	50	pc(s)	45	253333	153578	01 07 01 00	4.74 kg	24	pc(s)	198	275711	124233	01 03 01 00	37 g	50	pc(s)	52
207017	054905	01 03 01 00	16 g	50	pc(s)	45	253334	154933	01 07 01 00	8.59 kg	1	pc(s)	198	275716	124226	01 03 01 00	40 g	50	pc(s)	52
207019	054912	01 03 01 00	20 g	50	pc(s)	45	260106	023512	01 03 01 00	112 g	50	pc(s)	62	275730	124219	01 03 01 00	42 g	50	pc(s)	52
207027	042728	01 03 01 00	26 g	50	pc(s)	45	260108	023413	01 03 01 00	96 g	50	pc(s)	48	276006	023291	01 03 01 00	2 g	100	pc(s)	48
207029	042711	01 03 01 00	24 g	50	pc(s)	45	260118	023796	01 03 01 00	52 g	50	pc(s)	49	276007	028166	01 03 01 00	2 g	100	pc(s)	48
207037	042742	01 03 01 00	26 g	50	pc(s)	45	260158	023420	01 03 01 00	117 g	50	pc(s)	48	276009	083318	01 03 01 00	8 g	100	pc(s)	48
207039	042735	01 03 01 00	24 g	50	pc(s)	45	260187	023475	01 03 01 00	101 g	50	pc(s)	48	276016	123373	01 03 01 00	3 g	100	pc(s)	48
207107	235649	01 03 01 00	30 g	50	pc(s)	45	260708	023406	01 03 01 00	80 g	50	pc(s)	48	276017	126596	01 03 01 00	3 g	100	pc(s)	48
207109	085800	01 03 01 00	27 g	50	pc(s)	45	262070	023628	01 03 01 00	88 g	50	pc(s)	48	276056	104983	01 06 01 00	2 g	100	pc(s)	21
216000	020054	01 03 01 00	74 g	25	pc(s)	33	262100	023635	01 03 01 00	97 g	50	pc(s)	48	276057	104990	01 06 01 00	2 g	100	pc(s)	21
223005	099937	01 03 01 00	481 g	1	pc(s)	110	273019	031487	01 03 01 00	22 g	50	pc(s)	49	277130	022669	01 03 01 00	28 g	50	pc(s)	270
223006	148185	01 03 01 00	1.02 kg	1	pc(s)	109	273731	096691	01 03 01 00	146 g	50	pc(s)	62	277230	110984	01 05 01 00	120 g	25	pc(s)	54 / 270
223010	092778	01 03 01 00	184 g	50	pc(s)	41	273740	096714	01 03 01 00	111 g	50	pc(s)	49	277237	110991	01 05 01 00	126 g	25	pc(s)	54 / 270
223011	092785	01 03 01 00	167 g	50	pc(s)	41	273741	096721	01 03 01 00	123 g	50	pc(s)	49	277239	111004	01 05 01 00	117 g	25	pc(s)	54 / 270
223020	092792	01 03 01 00	121 g	50	pc(s)	42	273742	096738	01 03 01 00	150 g	50	pc(s)	49	277240	022577	01 05 01 00	167 g	25	pc(s)	54 / 270
223021	092808	01 03 01 00	103 g	50	pc(s)	42	274030	130340	01 03 01 00	34 g	50	pc(s)	53	284030	022485	01 03 01 00	54 g	100	pc(s)	53
223031	092815	01 03 01 00	117 g	50	pc(s)	41	274110	123434	01 03 01 00	30 g	50	pc(s)	46	284040	022492	01 03 01 00	65 g	100	pc(s)	53
223040	096752	01 03 01 00	100 g	50	pc(s)	41	274113	123403	01 03 01 00	36 g	50	pc(s)	47	286030	022508	01 03 01 00	60 g	50	pc(s)	53
223041	096769	01 03 01 00	96 g	50	pc(s)	41	274116	123410	01 03 01 00	37 g	50	pc(s)	61	286139	035393	01 03 01 00	45 g	50	pc(s)	53
223070	108738	01 03 01 00	103 g	50	pc(s)	41	274117	128194	01 03 01 00	30 g	50	pc(s)	46	286819	085824	01 03 01 00	70 g	50	pc(s)	47
239000	022621	01 01 01 00	4.7 kg	1	pc(s)	39	274150	128187	01 03 01 00	33 g	50	pc(s)	46	290001	027909	03 01 01 00	326 g	25	pc(s)	235
239001	022638	01 01 01 00	5.17 kg	1	pc(s)	39	274160	123380	01 03 01 00	40 g	50	pc(s)	47 / 213	290002	027893	03 01 01 00	89 g	50	pc(s)	235
239009	072350	01 01 01 00	4.04 kg	1	pc(s)	39	274167	128200	01 03 01 00	41 g	50	pc(s)	47	297015	023383	01 03 01 00	131 g	25	pc(s)	26
239019	093560	01 01 01 00	5.2 kg	1	pc(s)	39	274230	130456	01 03 01 00	45 g	50	pc(s)	53	297025	023390	01 03 01 00	5 g	100	pc(s)	26
240000	022614	01 01 01 00	1.5 kg	1	pc(s)	39	274260	123489	01 03 01 00	48 g	50	pc(s)	61	297110	100886	01 03 01 00	32 g	50	pc(s)	42
241009	072985	01 01 01 00	440 g	20	pc(s)	39	275019	031494	01 03 01 00	31 g	50	pc(s)	63	297120	100916	01 03 01 00	43 g	50	pc(s)	42
250000	023871	01 03 01 00	30 g	50	pc(s)	46	275030	095847	01 03 01 00	87 g	50	pc(s)	54	297199	107526	01 05 01 00	864 g	1	liter	42
250001	023888	01 03 01 00	29 g	50	pc(s)	46	275110	095793	01 03 01 00	65 g	50	pc(s)	47	300002	024052	01 04 01 00	115 g	25	pc(s)	51
250007	023895	01 03 01 00	29 g	50	pc(s)	46	275113	095816	01 03 01 00	82 g	50	pc(s)	48	300017	024069	01 04 01 00	154 g	25	pc(s)	51
251002	095779	01 04 01 00	135 g	50	pc(s)	84	275116	095823	01 03 01 00	96 g	50	pc(s)	62	301000	067035	01 04 01 00	61 g	100	pc(s)	51
251027	096394	01 04 01 00	148 g	50	pc(s)	84	275129	106758	01 07 01 00	21 g	10	pc(s)	210	301007	021358	01 04 01 00	75 g	100	pc(s)	51
252000	023963	01 03 01 00	45 g	50	pc(s)	63	275160	095809	01 03 01 00	76 g	50	pc(s)	47	301009	081284	01 04 01 00	61 g	100	pc(s)	51
253015	022201	01 03 01 00	1.05 kg	10	pc(s)	25	275220	103450	01 07 01 00	17 g	25	pc(s)	147	301010	067028	01 04 01 00	61 g	100	pc(s)	51 / 274
253021	022256	01 03 01 00	6 g	50	pc(s)	26	275225	103467	01 07 01 00	17 g	25	pc(s)	179	301017	053502	01 04 01 00	79 g	100	pc(s)	51 / 274
253023	022249	01 03 01 00	8 g	50	pc(s)	25	275229	102040	01 07 01 00	59 g	50	pc(s)	179	301019	081277	01 04 01 00	63 g	100	pc(s)	51
253025	053984	01 03 01 00	6 g	50	pc(s)	26	275230	095854	01 03 01 00	94 g	50	pc(s)	54	301089	304161	01 04 01 00	61 g	100	pc(s)	51
253026	100169	01 07 01 00	8 g	50	pc(s)	145	275239	115811	01 07 01 00	73 g	50	pc(s)	179	301099	304178	01 04 01 00	63 g	100	pc(s)	51
253027	110427	01 07 01 00	8 g	50	pc(s)	176	275240	152335	01 07 01 00	53 g	25	pc(s)	200	301209	158252	01 04 01 00	59 g	1	pc(s)	94 / 273
253030	054271	01 03 01 00	58 g	100	pc(s)	25	275241	152342	01 07 01 00	53 g	25	pc(s)	200	301229	101562	01 07 01 00	167 g	1	pc(s)	52 / 274
253050	079687	01 03 01 00	1.04 kg	10	pc(s)	25	275242	152359	01 07 01 00	52 g	25	pc(s)	200	302010	134904	01 04 01 00	137 g	50	pc(s)	52
253051	079823	01 03 01 00	38 g	100	pc(s)	25	275249	152366	01 07 01 00	56 g	25	pc(s)	200	305000	041936	01 04 01 00	146 g	50	pc(s)	77
253060	081628	01 03 01 00	1.04 kg	10	pc(s)	25	275250	155602	01 07 01 00	46 g	25	pc(s)	147	305007	052307	01 04 01 00	151 g	50	pc(s)	77
253115	129870	01 03 01 00	4.82 kg	24	pc(s)	120	275251	155619	01 07 01 00	46 g	25	pc(s)	147	306020	096264	01 04 01 00	145 g	50	pc(s)	77
253125	129887	01 03 01 00	4.84 kg	24	pc(s)	120	275252	155626	01 07 01 00	46 g	25	pc(s)	147	306029	129467	01 04 01 00	120 g	50	pc(s)	77
253229	159846	01 07 01 00	4.89 kg	1	pc(s)	145	275259	155633	01 07 01 00	49 g	25	pc(s)	147	306100	024113	01 04 01 00	238 g	25	pc(s)	77
253239	159853	01 07 01 00	8.7 kg	1	pc(s)	146	275260	095830	01 03 01 00	100 g	50	pc(s)	62	306101	024120	01 04 01 00	412 g	25	pc(s)	77
253279	159877	01 07 01 00	178 g	25	pc(s)	146	275260	229952	01 07 01 00	124 g	10	pc(s)	178	306105	269125	01 04 01 00	242 g	1	pc(s)	272
253289	159860	01 07 01 00	89 g	24	pc(s)	145	275275	099876	01 07 01 00	250 g	1	pc(s)	178	306106	269149	01 04 01 00	420 g	1	pc(s)	272
253300	129771	01 03 01 00	165 g	24	pc(s)	120	275320	105065	01 07 01 00	218 g	1	pc(s)	178	306121	284920	03 01 01 00	161 g	50	pc(s)	77 / 233
253301	129788	01 03 01 00	4.6 kg	24	pc(s)	120	275330	105072	01 07 01 00	220 g	1	pc(s)	178	306122	284937	03 01 01 00	165 g	50	pc(s)	77 / 233
253302	129764	01 03 01 00	9 g	24	pc(s)	120	275333	105072	01 07 01 00	220 g	1	pc(s)	178	307000	024151	01 04 01 00	105 g	50	pc(s)	77
253310	129795	01 03 01 00	470 g	10	pc(s)	120	275339	223332	01 07 01 00	247 g	1	pc(s)	200							
253315	129801	01 03 01 00	54 g	24	pc(s)	108	275359	223271	01 07 01 00	131 g	1	pc(s)	200							
							275440	146914	01 07 01 00	152 g	10	pc(s)	180							
							275441	146921	01 07 01 00	240 g	10	pc(s)	180							
							275442	146938	01 07 01 00	250 g	10	pc(s)	181							
							275444	244252	01 07 01 00	158 g	10	pc(s)	180							

Part No.	GTIN*	PG	Weight	PU	SU	Page	Part No.	GTIN*	PG	Weight	PU	SU	Page	Part No.	GTIN*	PG	Weight	PU	SU	Page
307007	024168	01 04 01 00	104 g	50	pc(s)	77	319201	024519	03 01 01 00	320 g	25	pc(s)	79	365 229	096110	01 04 01 00	161 g	50	pc(s)	85
308001	027947	03 01 01 00	216 g	25	pc(s)	235	319202	024526	03 01 01 00	333 g	25	pc(s)	79	365 250	148307	01 04 01 00	83 g	50	pc(s)	266
308025	035881	03 01 01 00	100 g	50	pc(s)	133 / 232	319207	020047	03 01 01 00	349 g	25	pc(s)	79	365 419	128927	01 04 01 00	458 g	5	pc(s)	30
308026	035874	03 01 01 00	107 g	25	pc(s)	133 / 232	319209	035980	03 01 01 00	313 g	25	pc(s)	79	365 509	141773	01 04 01 00	335 g	1	pc(s)	30
308030	030749	03 01 01 00	125 g	25	pc(s)	133 / 232	319219	069916	03 01 01 00	319 g	25	pc(s)	79	365 519	130869	01 04 01 00	333 g	1	pc(s)	30
308031	136571	03 01 01 00	230 g	25	pc(s)	135 / 234	319229	108752	03 01 01 00	409 g	25	pc(s)	79	370 014	096387	01 04 01 00	188 g	25	pc(s)	82
308032	152823	03 01 01 00	169 g	25	pc(s)	135 / 234	320 044	021501	03 01 01 00	301 g	25	pc(s)	80	370 018	024724	01 04 01 00	290 g	25	pc(s)	82
308035	123472	03 01 01 00	165 g	25	pc(s)	133 / 232	321 045	021518	03 01 01 00	413 g	25	pc(s)	79	371 007	024663	01 04 01 00	231 g	20	pc(s)	82
308036	136588	03 01 01 00	266 g	25	pc(s)	135 / 234	321 047	021525	03 01 01 00	453 g	25	pc(s)	79	371 008	024670	01 04 01 00	148 g	50	pc(s)	82
308037	154704	03 01 01 00	208 g	25	pc(s)	135 / 234	338 000	024847	01 04 01 00	171 g	25	pc(s)	86	371 009	024656	01 04 01 00	208 g	20	pc(s)	82
308040	055902	03 01 01 00	450 g	20	pc(s)	134 / 233	338 001	054172	01 04 01 00	69 g	25	pc(s)	86	372 018	104624	01 04 01 00	158 g	25	pc(s)	83
308041	056411	03 01 01 00	471 g	20	pc(s)	134 / 233	338 007	024854	01 04 01 00	190 g	25	pc(s)	86	372 019	104631	01 04 01 00	154 g	25	pc(s)	83
308045	124455	03 01 01 00	262 g	25	pc(s)	133 / 232	338 009	057982	01 04 01 00	136 g	25	pc(s)	86	372 035	104648	01 04 01 00	177 g	25	pc(s)	83
308046	124462	03 01 01 00	288 g	25	pc(s)	134 / 233	339 010	024823	01 04 01 00	195 g	25	pc(s)	86	372 110	119055	01 04 01 00	283 g	25	pc(s)	83
308060	066281	03 01 01 00	138 g	50	pc(s)	82	339 050	096257	01 04 01 00	138 g	25	pc(s)	86	372 119	119178	01 04 01 00	277 g	25	pc(s)	83
308070	066298	03 01 01 00	197 g	50	pc(s)	82	339 051	127388	01 04 01 00	95 g	25	pc(s)	86	372 120	119062	01 04 01 00	288 g	25	pc(s)	83
308120	099258	03 01 01 00	134 g	25	pc(s)	135 / 234	339 057	096332	01 04 01 00	150 g	25	pc(s)	86	372 129	119185	01 04 01 00	283 g	25	pc(s)	83
308129	099265	03 01 01 00	131 g	25	pc(s)	135 / 234	339 059	096301	01 04 01 00	132 g	25	pc(s)	86	372 140	119086	01 04 01 00	336 g	25	pc(s)	83
308130	288942	03 01 01 00	18 g	50	pc(s)	132 / 231	339 060	046870	01 04 01 00	133 g	25	pc(s)	86	372 149	119208	01 04 01 00	327 g	25	pc(s)	83
308131	288881	03 01 01 00	18 g	50	pc(s)	132 / 231	339 061	127395	01 04 01 00	83 g	25	pc(s)	86	372 150	119093	01 04 01 00	339 g	25	pc(s)	83
308132	288423	03 01 01 00	20 g	50	pc(s)	132 / 231	339 067	046887	01 04 01 00	136 g	25	pc(s)	86	372 159	119215	01 04 01 00	333 g	25	pc(s)	83
308133	288911	03 01 01 00	20 g	50	pc(s)	132 / 231	339 069	079960	01 04 01 00	122 g	25	pc(s)	86	372 210	119116	01 04 01 00	284 g	25	pc(s)	83
308134	308091	03 01 01 00	18 g	50	pc(s)	132 / 231	339 100	092068	01 04 01 00	180 g	25	pc(s)	85	372 219	119239	01 04 01 00	278 g	25	pc(s)	83
308135	308107	03 01 01 00	18 g	50	pc(s)	132 / 231	339 101	092082	01 04 01 00	84 g	25	pc(s)	85	372 220	119123	01 04 01 00	288 g	25	pc(s)	83
308136	308114	03 01 01 00	18 g	50	pc(s)	132 / 231	339 110	092105	01 04 01 00	176 g	25	pc(s)	85	372 229	119246	01 04 01 00	283 g	25	pc(s)	83
308140	288935	03 01 01 00	21 g	50	pc(s)	132 / 231	339 111	092129	01 04 01 00	92 g	25	pc(s)	85	372 240	119147	01 04 01 00	335 g	25	pc(s)	83
308141	288904	03 01 01 00	19 g	50	pc(s)	132 / 231	339 157	096325	01 04 01 00	142 g	25	pc(s)	86	372 249	119260	01 04 01 00	326 g	25	pc(s)	83
308142	288522	03 01 01 00	18 g	50	pc(s)	132 / 231	339 167	034426	01 04 01 00	140 g	25	pc(s)	86	372 250	119154	01 04 01 00	338 g	25	pc(s)	83
308143	289123	03 01 01 00	18 g	50	pc(s)	132 / 231	343 000	024861	01 04 01 00	167 g	25	pc(s)	87	372 259	119277	01 04 01 00	331 g	25	pc(s)	83
308150	106970	03 01 01 00	682 g	1	pc(s)	235	343 007	024878	01 04 01 00	180 g	25	pc(s)	87	374 011	030701	01 04 01 00	80 g	25	pc(s)	27
308220	084216	03 01 01 00	250 g	25	pc(s)	81	345 008	025073	01 04 01 00	27 g	100	pc(s)	88	374 020	030725	01 04 01 00	37 g	50	pc(s)	27
308229	083745	03 01 01 00	190 g	25	pc(s)	81	345 010	025080	01 04 01 00	25 g	100	pc(s)	88	377 005	024908	01 04 01 00	22 g	50	pc(s)	87
308230	090859	03 01 01 00	241 g	25	pc(s)	81	347 205	136601	01 04 01 00	25 g	100	pc(s)	88	377 006	024922	01 04 01 00	37 g	50	pc(s)	28
308239	090866	03 01 01 00	197 g	25	pc(s)	81	363 000	045750	01 04 01 00	66 g	50	pc(s)	130 / 227	377 007	092686	01 04 01 00	107 g	10	pc(s)	28
308249	129313	03 01 01 00	200 g	25	pc(s)	81	363 010	045743	01 04 01 00	124 g	50	pc(s)	130 / 227	377 009	119284	01 04 01 00	52 g	50	pc(s)	87
308320	028531	03 01 01 00	266 g	25	pc(s)	81	365 000	024731	01 04 01 00	109 g	50	pc(s)	84	377 015	092693	01 04 01 00	36 g	10	pc(s)	28
308329	081338	03 01 01 00	220 g	25	pc(s)	81 / 212	365 007	024748	01 04 01 00	131 g	50	pc(s)	84	377 016	083417	01 04 01 00	36 g	50	pc(s)	28
308330	096660	03 01 01 00	266 g	25	pc(s)	81	365 010	096318	01 04 01 00	107 g	50	pc(s)	84	377 017	024915	01 04 01 00	49 g	50	pc(s)	87
309 008	024229	01 04 01 00	140 g	50	pc(s)	76	365 017	096349	01 04 01 00	105 g	50	pc(s)	84	377 026	068582	01 04 01 00	45 g	50	pc(s)	28
309 087	024243	01 04 01 00	99 g	50	pc(s)	76	365 019	096295	01 04 01 00	83 g	50	pc(s)	84	377 027	034204	01 04 01 00	112 g	50	pc(s)	28
310 008	024328	01 04 01 00	124 g	50	pc(s)	76	365 020	035126	01 04 01 00	120 g	50	pc(s)	84	377 045	099296	01 04 01 00	36 g	100	pc(s)	29
314 300	096400	01 04 01 00	120 g	50	pc(s)	78	365 027	035133	01 04 01 00	146 g	50	pc(s)	84	377 100	078604	01 04 01 00	74 g	50	pc(s)	87
314 307	096417	01 04 01 00	132 g	50	pc(s)	78	365 030	046894	01 04 01 00	100 g	50	pc(s)	84	377 107	092709	01 04 01 00	172 g	10	pc(s)	29
314 310	042841	01 04 01 00	175 g	50	pc(s)	78	365 031	055438	01 04 01 00	49 g	50	pc(s)	84	377 115	092716	01 04 01 00	59 g	10	pc(s)	29
315 119	134072	01 04 01 00	90 g	50	pc(s)	76	365 037	046900	01 04 01 00	103 g	50	pc(s)	84	377 200	136465	01 04 01 00	70 g	50	pc(s)	87
316 163	024502	01 04 01 00	191 g	25	pc(s)	79	365 039	057777	01 04 01 00	89 g	50	pc(s)	84	377 210	083028	01 04 01 00	50 g	10	pc(s)	29
316 167	035386	01 04 01 00	209 g	25	pc(s)	79	365 040	069053	01 04 01 00	124 g	50	pc(s)	84	377 310	033382	01 04 01 00	72 g	100	pc(s)	29
318 033	021471	03 01 01 00	236 g	25	pc(s)	80	365 047	069046	01 04 01 00	139 g	50	pc(s)	84	377 410	083035	01 04 01 00	90 g	10	pc(s)	29
318 201	021464	03 01 01 00	234 g	25	pc(s)	80	365 050	091825	01 04 01 00	155 g	50	pc(s)	85	377 510	033399	01 04 01 00	110 g	10	pc(s)	29
318 203	159914	03 01 01 00	329 g	25	pc(s)	80	365 051	091832	01 04 01 00	75 g	50	pc(s)	85	380 020	066373	01 04 01 00	86 g	50	pc(s)	89
318 205	159921	03 01 01 00	242 g	25	pc(s)	81	365 057	091849	01 04 01 00	165 g	50	pc(s)	85	380 029	066359	01 04 01 00	70 g	50	pc(s)	89
318 207	021488	03 01 01 00	253 g	25	pc(s)	80	365 059	091856	01 04 01 00	134 g	50	pc(s)	85	380 110	133273	01 04 01 00	100 g	50	pc(s)	88
318 209	035973	03 01 01 00	245 g	25	pc(s)	80	365 117	035331	01 04 01 00	115 g	50	pc(s)	85	380 116	133280	01 04 01 00	100 g	50	pc(s)	88
318 219	129320	03 01 01 00	235 g	25	pc(s)	80	365 127	080317	01 04 01 00	104 g	50	pc(s)	85	380 129	150416	01 04 01 00	100 g	50	pc(s)	88
318 229	159938	03 01 01 00	323 g	25	pc(s)	80	365 220	096103	01 04 01 00	171 g	50	pc(s)	85	380 209	158269	01 04 01 00	102 g	1	pc(s)	94 / 273
318 233	096646	03 01 01 00	225 g	25	pc(s)	80	365 221	092396	01 04 01 00	91 g	50	pc(s)	85	385 202	068131	01 04 01 00	69 g	50	pc(s)	78
318 239	159945	03 01 01 00	240 g	25	pc(s)	81	365 227	096127	01 04 01 00	197 g	50	pc(s)	85	385 203	035669	01 04 01 00	64 g	50	pc(s)	

Part No.	GTIN*	PG	Weight	PU	SU	Page	Part No.	GTIN*	PG	Weight	PU	SU	Page	Part No.	GTIN*	PG	Weight	PU	SU	Page
385216	100565	01 04 01 00	133 g	10	pc(s)	89	410050	028623	03 07 01 00	680 g	1	pc(s)	247	410915	029071	03 07 01 00	260 g	1	pc(s)	251
390050	095991	01 04 01 00	99 g	50	pc(s)	73 / 233	410060	028616	03 07 01 00	800 g	1	pc(s)	247	410920	029088	03 07 01 00	320 g	1	pc(s)	251
390051	096219	01 04 01 00	55 g	50	pc(s)	73	410070	028609	03 07 01 00	920 g	1	pc(s)	247	410925	029095	03 07 01 00	380 g	1	pc(s)	251
390057	096073	01 04 01 00	118 g	50	pc(s)	73	410099	028593	03 07 01 00	1.27 kg	1	pc(s)	247	410930	029101	03 07 01 00	440 g	1	pc(s)	251
390059	096004	01 04 01 00	92 g	50	pc(s)	73	410100	026254	01 05 01 00	246 g	25	pc(s)	266	416003	028937	03 07 01 00	126 g	1	pc(s)	248
390060	096011	01 04 01 00	108 g	50	pc(s)	73	410112	026278	01 05 01 00	296 g	25	pc(s)	266	416005	028920	03 07 01 00	165 g	1	pc(s)	248
390061	096196	01 04 01 00	67 g	50	pc(s)	73	410114	026261	01 05 01 00	276 g	25	pc(s)	266	416006	028913	03 07 01 00	184 g	1	pc(s)	248
390063	159396	01 04 01 00	103 g	50	pc(s)	73	410134	026285	01 05 01 00	312 g	25	pc(s)	266	416010	028906	03 07 01 00	262 g	1	pc(s)	248
390067	096080	01 04 01 00	122 g	50	pc(s)	73	410140	028586	03 07 01 00	1.78 kg	1	pc(s)	247	416015	028890	03 07 01 00	360 g	1	pc(s)	248
390079	128996	01 04 01 00	96 g	50	pc(s)	73 / 212	410150	028579	03 07 01 00	1.87 kg	1	pc(s)	247	416016	029484	03 07 01 00	340 g	1	pc(s)	252
390110	104921	01 04 01 00	18 g	100	pc(s)	49	410199	028562	03 07 01 00	2.48 kg	1	pc(s)	247	416020	028883	03 07 01 00	461 g	1	pc(s)	248
390119	104945	01 04 01 00	18 g	100	pc(s)	49	410200	026292	01 05 01 00	324 g	25	pc(s)	266	416025	028876	03 07 01 00	545 g	1	pc(s)	248
390150	032187	01 04 01 00	53 g	100	pc(s)	51	410212	026308	01 05 01 00	402 g	20	pc(s)	266	416030	028869	03 07 01 00	650 g	1	pc(s)	248
390157	032194	01 04 01 00	53 g	100	pc(s)	51	410219	118829	01 07 01 00	74 g	1	pc(s)	142	416035	028852	03 07 01 00	748 g	1	pc(s)	248
390159	032200	01 04 01 00	61 g	100	pc(s)	51	410229	107731	01 07 01 00	72 g	1	pc(s)	168	416040	028845	03 07 01 00	830 g	1	pc(s)	248
390209	158245	01 04 01 00	104 g	1	pc(s)	94 / 273	410239	152465	01 07 01 00	80 g	1	pc(s)	192	416050	028838	03 07 01 00	1.04 kg	1	pc(s)	248
390250	031791	01 04 01 00	74 g	50	pc(s)	74	410299	028555	03 07 01 00	3.66 kg	1	pc(s)	247	416060	028821	03 07 01 00	1.24 kg	1	pc(s)	248
390257	031807	01 04 01 00	78 g	50	pc(s)	74	410300	026315	01 05 01 00	416 g	15	pc(s)	266	416070	028814	03 07 01 00	1.44 kg	1	pc(s)	248
390259	031814	01 04 01 00	71 g	50	pc(s)	74	410309	081451	01 05 01 00	180 g	25	pc(s)	266	416080	028807	03 07 01 00	1.6 kg	1	pc(s)	248
390267	034402	01 04 01 00	79 g	50	pc(s)	74	410319	081505	01 05 01 00	188 g	25	pc(s)	266	416100	042933	03 07 01 00	2.01 kg	1	pc(s)	248
390479	035324	01 04 01 00	74 g	50	pc(s)	130 / 227	410329	081512	01 05 01 00	192 g	25	pc(s)	266	416120	028791	03 07 01 00	2.43 kg	1	pc(s)	248
390499	127517	01 04 01 00	57 g	50	pc(s)	130 / 227	410339	081550	01 05 01 00	206 g	25	pc(s)	266	416140	028784	03 07 01 00	2.73 kg	1	pc(s)	248
390550	096042	01 04 01 00	101 g	50	pc(s)	73 / 233	410349	081604	01 05 01 00	232 g	25	pc(s)	266	416150	028777	03 07 01 00	3.01 kg	1	pc(s)	248
390551	096202	01 04 01 00	58 g	50	pc(s)	73	410359	081468	01 05 01 00	248 g	25	pc(s)	266	416200	028760	03 07 01 00	3.95 kg	1	pc(s)	248
390557	096097	01 04 01 00	118 g	50	pc(s)	73	410369	081529	01 05 01 00	260 g	25	pc(s)	266	416220	028753	03 07 01 00	4.38 kg	1	pc(s)	248
390559	096035	01 04 01 00	98 g	50	pc(s)	73	410379	081475	01 05 01 00	272 g	25	pc(s)	266	416280	028746	03 07 01 00	5.64 kg	1	pc(s)	248
390657	096165	01 04 01 00	100 g	50	pc(s)	74	410389	081482	01 05 01 00	315 g	20	pc(s)	266	416300	028739	03 07 01 00	5.94 kg	1	pc(s)	248
391050	087064	01 04 01 00	101 g	50	pc(s)	73 / 233	410399	081499	01 05 01 00	360 g	15	pc(s)	266	416403	029286	03 07 01 00	130 g	1	pc(s)	251
391059	087071	01 04 01 00	98 g	50	pc(s)	73	410401	029200	03 07 01 00	90 g	1	pc(s)	250	416410	032422	03 07 01 00	265 g	1	pc(s)	251
391060	088009	01 04 01 00	113 g	50	pc(s)	73	410403	029194	03 07 01 00	109 g	1	pc(s)	250	416411	032545	03 07 01 00	266 g	1	pc(s)	251
391069	087095	01 04 01 00	106 g	50	pc(s)	73	410404	029187	03 07 01 00	122 g	1	pc(s)	250	416415	032439	03 07 01 00	364 g	1	pc(s)	251
391550	088016	01 04 01 00	105 g	50	pc(s)	73	410405	029262	03 07 01 00	140 g	1	pc(s)	250	416416	032453	03 07 01 00	364 g	1	pc(s)	251
391559	087088	01 04 01 00	100 g	50	pc(s)	73	410406	029163	03 07 01 00	147 g	1	pc(s)	250	416420	032446	03 07 01 00	464 g	1	pc(s)	251
392050	096066	01 04 01 00	121 g	50	pc(s)	74	410407	029255	03 07 01 00	145 g	1	pc(s)	250	416421	036116	03 07 01 00	461 g	1	pc(s)	251
392059	096059	01 04 01 00	119 g	50	pc(s)	74	410410	029248	03 07 01 00	200 g	1	pc(s)	250	416425	032460	03 07 01 00	558 g	1	pc(s)	251
392060	096141	01 04 01 00	130 g	50	pc(s)	74	410411	029156	03 07 01 00	197 g	1	pc(s)	250	416426	032477	03 07 01 00	558 g	1	pc(s)	251
392069	096158	01 04 01 00	126 g	50	pc(s)	74	410413	029279	03 07 01 00	110 g	1	pc(s)	250	416430	032484	03 07 01 00	654 g	1	pc(s)	251
392209	158238	01 04 01 00	28 g	1	pc(s)	94 / 273	410415	029149	03 07 01 00	261 g	1	pc(s)	250	416431	032491	03 07 01 00	655 g	1	pc(s)	251
393069	094079	01 04 01 00	150 g	50	pc(s)	118	410416	029231	03 07 01 00	250 g	1	pc(s)	250	416440	032507	03 07 01 00	849 g	1	pc(s)	251
405020	098459	01 07 01 00	81 g	25	pc(s)	177	410420	029132	03 07 01 00	320 g	1	pc(s)	250	416441	032514	03 07 01 00	849 g	1	pc(s)	251
407012	026100	01 05 01 00	432 g	10	pc(s)	265	410421	029224	03 07 01 00	320 g	1	pc(s)	250	416450	032521	03 07 01 00	1.04 kg	1	pc(s)	251
407034	026117	01 05 01 00	443 g	10	pc(s)	265	410425	029125	03 07 01 00	385 g	1	pc(s)	250	416451	032538	03 07 01 00	1.04 kg	1	pc(s)	251
407100	026124	01 05 01 00	457 g	10	pc(s)	265	410426	029217	03 07 01 00	370 g	1	pc(s)	250	416505	029477	03 07 01 00	158 g	1	pc(s)	250
407112	026148	01 05 01 00	502 g	10	pc(s)	265	410430	029118	03 07 01 00	445 g	1	pc(s)	250	416516	032408	03 07 01 00	341 g	1	pc(s)	248
407114	026131	01 05 01 00	480 g	10	pc(s)	265	410431	029590	03 07 01 00	430 g	1	pc(s)	250	416903	028944	03 07 01 00	132 g	1	pc(s)	252
407200	026162	01 05 01 00	556 g	10	pc(s)	265	410450	029170	03 07 01 00	135 g	1	pc(s)	250	416905	028951	03 07 01 00	180 g	1	pc(s)	252
410003	028722	03 07 01 00	105 g	1	pc(s)	247	410503	029408	03 07 01 00	100 g	1	pc(s)	249	416906	028968	03 07 01 00	190 g	1	pc(s)	252
410005	028715	03 07 01 00	120 g	1	pc(s)	247	410506	029415	03 07 01 00	116 g	1	pc(s)	249	416910	028975	03 07 01 00	265 g	1	pc(s)	252
410006	028708	03 07 01 00	140 g	1	pc(s)	247	410510	029422	03 07 01 00	185 g	1	pc(s)	249	416915	028982	03 07 01 00	365 g	1	pc(s)	252
410010	028692	03 07 01 00	190 g	1	pc(s)	247	410515	029439	03 07 01 00	250 g	1	pc(s)	249	416920	028999	03 07 01 00	455 g	1	pc(s)	252
410012	026186	01 05 01 00	234 g	25	pc(s)	266	410520	029446	03 07 01 00	300 g	1	pc(s)	249	416925	029002	03 07 01 00	550 g	1	pc(s)	252
410015	028685	03 07 01 00	248 g	1	pc(s)	247	410525	029453	03 07 01 00	365 g	1	pc(s)	249	416930	029019	03 07 01 00	660 g	1	pc(s)	252
410020	028678	03 07 01 00	300 g	1	pc(s)	247	410530	029460	03 07 01 00	425 g	1	pc(s)	249	416970	029026	03 07 01 00	1.46 kg	1	pc(s)	252
410025	028661	03 07 01 00	370 g	1	pc(s)	247	410603	029330	03 07 01 00	100 g	1	pc(s)	247	417005	031982	03 07 01 00	168 g	1	pc(s)	249
410030	028654	03 07 01 00	438 g	1	pc(s)	247	410605	029347	03 07 01 00	120 g	1	pc(s)	247	417010	031975	03 07 01 00	259 g	1	pc(s)	249
410034	026247	01 05 01 00	231 g	25	pc(s)	266	410606	029491	03 07 01 00	114 g	1	pc(s)	252	417015	031968	03 07 01 00	353 g	1	pc(s)	249
410035	028647	03 07 01 00	490 g	1	pc(s)	247	410610	029354	03 07 01 00	185 g	1	pc(s)	247	417020	031951	03 07 01 00	447 g	1	pc(s)	249
410038	026223	01 05 01 00	211 g	25	pc(s)	266	410615	029361	03 07 01 00	240 g	1	pc(s)	247	417030	031944	03 07 01 00				

Part No.	GTIN*	PG	Weight	PU	SU	Page	Part No.	GTIN*	PG	Weight	PU	SU	Page	Part No.	GTIN*	PG	Weight	PU	SU	Page	
417150	031876	03070100	9.47 kg	1	pc(s)	249	465801	030091	03070100	321 g	1	pc(s)	254	480003	035348	01060100	24 g	50	pc(s)	71	
420100	022805	01040100	137 g	50	pc(s)	50 / 269	466192	030084	03070100	550 g	1	pc(s)	254	480004	035355	01060100	26 g	50	pc(s)	71	
420107	045828	01040100	158 g	50	pc(s)	50 / 269	466203	033009	03070100	813 g	1	pc(s)	255	480018	076372	01020100	1.9 kg	10	pc(s)	57 / 222	
420120	022829	01040100	160 g	50	pc(s)	50 / 269								480019	068339	01020100	1.82 kg	10	pc(s)	57 / 222	
420127	045804	01040100	186 g	50	pc(s)	50 / 269	472021	027879	01050100	866 g	1	pc(s)	263	480020	051638	01020100	2.24 kg	10	pc(s)	57 / 222	
420207	045873	01040100	215 g	50	pc(s)	50 / 269	472022	030305	01050100	588 g	1	pc(s)	263	480021	051621	01020100	3.06 kg	10	pc(s)	57 / 222	
423010	054325	01040100	113 g	50	pc(s)	50 / 269	472023	030312	01050100	507 g	1	pc(s)	263	480113	112681	01060100	61 g	50	pc(s)	71	
423011	054332	01040100	49 g	50	pc(s)	50 / 269	472024	034495	01050100	677 g	1	pc(s)	263	480150	019591	01020100	2.58 kg	1	pc(s)	57 / 222	
423017	054349	01040100	119 g	50	pc(s)	50 / 269	472109	074477	01050100	604 g	1	pc(s)	263	480157	019577	01020100	2.87 kg	1	pc(s)	57 / 222	
423019	054356	01040100	109 g	50	pc(s)	50 / 269	472119	074484	01050100	740 g	1	pc(s)	263	480291	149441	01060100	9 g	100	pc(s)	70	
423020	054288	01040100	138 g	50	pc(s)	50 / 269	472129	074491	01050100	841 g	1	pc(s)	263	480598	105607	01070100	80 g	1	pc(s)	180	
423021	054295	01040100	61 g	50	pc(s)	50 / 269	472139	074507	01050100	1.1 kg	1	pc(s)	263	480599	105614	01070100	9 g	1	pc(s)	180	
423027	054301	01040100	156 g	50	pc(s)	50 / 269	472201	089631	01060100	6.6 g	1	pc(s)	261	480698	144590	01070100	128 g	1	pc(s)	211	
423029	054318	01040100	151 g	50	pc(s)	50 / 269	472202	147331	01060100	70 g	1	pc(s)	261	480699	107229	01070100	13 g	1	pc(s)	211	
425076	022683	01040100	208 g	50	pc(s)	268	472207	090927	01050100	964 g	1	pc(s)	260	4810xx	025608	01060101	27 g	1	pc(s)	71	
425089	022706	01040100	231 g	20	pc(s)	268	472209	090934	01050100	1.01 kg	1	pc(s)	260	4820xx	025615	01060101	28 g	1	pc(s)	71	
435803	029781	03070100	468 g	1	pc(s)	254	472210	096790	01060100	92 g	1	pc(s)	261	483100	019430	01010100	1.6 kg	10	pc(s)	95	
435805	029798	03070100	317 g	1	pc(s)	253	472217	090941	01050100	1.35 kg	1	pc(s)	260	483125	019416	01010100	2 kg	10	pc(s)	95	
444006	029323	03070100	29 g	100	pc(s)	253	472219	090958	01050100	1.41 kg	1	pc(s)	260	483150	019492	01020100	2.4 kg	10	pc(s)	57 / 222	
444008	029293	03070100	36 g	100	pc(s)	253	472227	096424	01050100	1.14 kg	1	pc(s)	260	483200	019713	01020100	3.2 kg	10	pc(s)	57 / 222	
444009	029309	03070100	36 g	100	pc(s)	253	472229	096431	01050100	1.18 kg	1	pc(s)	260	490000	306417	01060100	1 g	100	pc(s)	70	
444010	029316	03070100	34 g	100	pc(s)	253	472237	096448	01050100	1.53 kg	1	pc(s)	260	490001	306431	01060100	1 g	100	pc(s)	70	
444050	291218	03070100	24 g	1	Sa	143	472239	096455	01050100	1.59 kg	1	pc(s)	260	490002	306493	01060100	1 g	100	pc(s)	70	
450000	025158	01040100	122 g	50	pc(s)	93	472269	096462	01050100	322 g	1	pc(s)	261	490003	306509	01060100	1 g	100	pc(s)	70	
450001	090903	01040100	63 g	50	pc(s)	93	472279	090972	01050100	285 g	1	pc(s)	261	490004	306516	01060100	1 g	100	pc(s)	70	
450007	025165	01040100	133 g	50	pc(s)	93	472289	090989	01050100	366 g	1	pc(s)	261	490005	306523	01060100	1 g	100	pc(s)	70	
450011	025172	01040100	135 g	50	pc(s)	93	472299	096479	01050100	403 g	1	pc(s)	261	490006	306530	01060100	1 g	100	pc(s)	70	
450101	094093	01040100	44 g	50	pc(s)	93	472309	157170	01050100	226 g	1	pc(s)	262	490007	306547	01060100	1 g	100	pc(s)	70	
453100	025523	01040100	333 g	10	pc(s)	66	472319	157187	01050100	267 g	1	pc(s)	262	490008	306554	01060100	1 g	100	pc(s)	70	
454000	025387	01040100	261 g	25	pc(s)	93	472329	157194	01050100	307 g	1	pc(s)	262	490009	306561	01060100	1 g	100	pc(s)	70	
454100	035904	01040100	177 g	25	pc(s)	92	472339	157200	01050100	348 g	1	pc(s)	262	490020	306578	01060100	5 g	100	pc(s)	70	
454107	035911	01040100	198 g	25	pc(s)	92	472349	157217	01050100	387 g	1	pc(s)	262	490021	306585	01060100	35 g	50	pc(s)	70	
455000	025394	01040100	250 g	25	pc(s)	93	476001	028548	01040100	468 g	10	pc(s)	68	490022	306592	01060100	10 g	100	pc(s)	70	
459000	025189	01040100	127 g	50	pc(s)	91	476010	025578	01040100	797 g	1	pc(s)	67	490099	306455	01060100	7.93 kg	1	pc(s)	70	
459003	025202	01040100	126 g	50	pc(s)	91	476016	125216	01040100	559 g	1	pc(s)	67	490100	306486	01060100	7 g	100	pc(s)	69	
459010	099838	01040100	110 g	50	pc(s)	92	476020	126916	01040100	800 g	1	pc(s)	68	490110	306462	01060100	1.2 kg	50	pc(s)	69	
459019	031272	01040100	87 g	50	pc(s)	92	476050	219717	01040100	869 g	1	pc(s)	68	490116	306479	01060100	1.25 kg	50	pc(s)	69	
459020	099845	01040100	103 g	50	pc(s)	92	476053	219724	01040100	185 g	1	pc(s)	68	490900	306424	01060100	1 g	100	pc(s)	70	
459029	047587	01040100	87 g	50	pc(s)	92	476055	219755	01040100	1.02 kg	1	pc(s)	68	490999	306448	01060100	7.93 kg	1	pc(s)	69	
459030	099852	01040100	101 g	50	pc(s)	92	476100	086470	01040100	460 g	10	pc(s)	68	528610	150553	01060100	3 g	500	pc(s)	30	
459039	047594	01040100	88 g	50	pc(s)	92	478011	033054	01050100	301 g	10	pc(s)	127 / 225	528619	108882	01060100	7 g	1	pc(s)	29	
459119	051379	01040100	124 g	50	pc(s)	91	478012	069183	01050100	182 g	10	pc(s)	127 / 225	528850	020955	01060100	15 g	1	pc(s)	55	
459127	119291	01040100	152 g	50	pc(s)	90	478019	072107	01050100	299 g	10	pc(s)	127 / 225	528870	020962	01060100	22 g	1	pc(s)	55	
459129	051386	01040100	120 g	50	pc(s)	90 / 213	478027	125995	01050100	603 g	1	pc(s)	128 / 226	538010	054868	01030100	8 g	500	pc(s)	53	
459139	078628	01040100	122 g	50	pc(s)	91	478041	105157	01050100	304 g	10	pc(s)	127 / 225	538030	026902	01030100	19 g	300	pc(s)	55	
459159	152830	01040100	122 g	50	pc(s)	92	478049	105164	01050100	303 g	10	pc(s)	127 / 225	540100	094109	01050100	133 g	10	pc(s)	254	
459200	155527	01040100	132 g	1	pc(s)	94 / 273	478051	124448	01050100	370 g	1	pc(s)	127 / 225	540103	101302	01050100	120 g	10	pc(s)	254	
459219	158221	01040100	126 g	1	pc(s)	94 / 273	478099	120334	01060100	52 g	20	pc(s)	21 / 223	540104	239685	01050100	127 g	10	pc(s)	272	
460147	025349	01040100	340 g	10	pc(s)	93	478112	118140	01050100	276 g	10	pc(s)	128 / 226	540105	115880	01050100	359 g	1	pc(s)	110	
460213	034358	01040100	166 g	50	pc(s)	92	478129	118508	01050100	140 g	10	pc(s)	131 / 228	540110	094116	01050100	98 g	50	pc(s)	254	
460507	034266	01040100	126 g	50	pc(s)	91	478149	154964	01050100	391 g	10	pc(s)	131 / 228	540199	304741	01050100	107 g	25	pc(s)	272	
460517	034259	01040100	105 g	50	pc(s)	91	478200	035652	01050100	263 g	10	pc(s)	128 / 226	540200	113039	01050100	136 g	10	pc(s)	265	
460557	034242	01040100	80 g	50	pc(s)	91	478410	136335	01050100	580 g	1	pc(s)	128 / 229	540210	221284	01050100	98 g	50	pc(s)	265	
463010	025493	01040100	138 g	50	pc(s)	76	478430	136342	01050100	680 g	1	pc(s)	128 / 229	540250	138650	01040100	60 g	50	pc(s)	267	
							478450	136359	01050100	780 g	1	pc(s)	128 / 229	540251	138674	01040100	37 g	10	pc(s)	267	
							478530	120341	01050100	697 g	1	pc(s)	129 / 229	540260	138667	01040100	60 g	50	pc(s)	267	
							478540	120358	01050100	750 g	1	pc(s)	129 / 229	540261	138681	01040100	36 g	10	pc(s)	267	
							478550	120365	01050100	839 g	1	pc(s)	129 / 229	540801	115460	01050100	503 g	1	pc(s)	271	
							478598	158016	01060100	120 g	10	pc(s)	129 / 229	540803	115477	01050100	566 g	1	pc(s)	271	
							478599	158023	01060100	170 g	10	pc(s)	129 / 229								
							478699	158054	01050100	122 g	10	pc(s)	131 / 228								

Part No.	GTIN*	PG	Weight	PU	SU	Page
540805	128873	01 05 01 00	766 g	1 pc(s)		271
540810	115484	01 05 01 00	550 g	1 pc(s)		271
540821	123724	01 05 01 00	249 g	1 pc(s)		271
540900	076532	01 05 01 00	55 g	50 pc(s)		264
540901	076525	01 05 01 00	6.28 kg	1 pc(s)	118 / 272	
540910	025684	01 05 01 00	71 g	10 pc(s)		264
540911	025691	01 05 01 00	76 g	10 pc(s)		264
540912	035362	01 05 01 00	94 g	10 pc(s)		264
540920	144194	01 05 01 00	29 g	10 pc(s)		264
540930	101319	01 05 01 00	24 g	25 pc(s)		52
540931	101296	01 05 01 00	1.69 kg	1 pc(s)		52
545000	027367	03 05 01 00	11 g	100 m		281
545001	141131	03 05 01 00	11 g	100 m		281
546000	019959	03 06 01 00	465 g	1 pc(s)		269
546001	019973	03 06 01 00	470 g	1 pc(s)		269
546002	004016	03 06 01 00	177 g	1 pc(s)		269
546025	004023	03 06 01 00	178 g	1 pc(s)		269
549000	025547	01 04 01 00	6.5 kg	1 pc(s)		66
549001	025554	01 04 01 00	7.8 kg	1 pc(s)		66
549050	128217	01 04 01 00	1.9 kg	1 pc(s)		66
549051	128224	01 04 01 00	1.38 kg	1 pc(s)		66
549090	128231	01 04 01 00	3.58 kg	1 pc(s)		67
549091	128248	01 04 01 00	3 kg	1 pc(s)		67
552010	021150	01 01 01 00	33 g	25 pc(s)		27
552030	021563	01 01 01 00	196 g	25 pc(s)		27
554011	030756	01 06 01 00	46 g	1 m		284
556125	028517	01 06 01 00	650 g	24 pc(s)		213
556130	028524	01 06 01 00	1.28 kg	12 pc(s)		213
559010	021075	01 06 01 00	1.08 kg	1 pc(s)		284
559011	021082	01 06 01 00	1.07 kg	1 pc(s)		284
562001	019782	01 06 01 00	4 g	100 pc(s)		90
562035	019744	01 06 01 00	3 g	100 pc(s)		90
562050	019751	01 06 01 00	5 g	100 pc(s)		90
562101	019799	01 06 01 00	3 g	100 pc(s)		90
562135	019768	01 06 01 00	3 g	100 pc(s)		90
562150	019775	01 06 01 00	5 g	100 pc(s)		90
562250	019737	01 06 01 00	2 g	100 pc(s)		90
562440	019805	01 06 01 00	38 g	1 pc(s)		90
562460	019812	01 06 01 00	57 g	1 pc(s)		90
563010	027800	01 05 01 00	469 g	1 pc(s)		258
563011	027732	01 05 01 00	13 g	200 pc(s)		259
563012	027749	01 05 01 00	63 g	25 pc(s)		259
563013	027756	01 05 01 00	32 g	100 pc(s)		259
563014	027787	01 05 01 00	11 g	50 pc(s)		259
563015	027794	01 05 01 00	59 g	10 pc(s)		258
563016	027763	01 05 01 00	166 g	10 pc(s)		259
563017	027770	01 05 01 00	370 g	10 pc(s)		259
563018	083585	01 05 01 00	672 g	1 pc(s)		259
563019	096998	01 05 01 00	65 g	25 pc(s)		259
563020	027817	01 05 01 00	476 g	1 pc(s)		258
563030	027824	01 05 01 00	444 g	1 pc(s)		258
563040	082861	01 05 01 00	460 g	1 pc(s)		258
563050	054707	01 05 01 00	231 g	1 pc(s)		257
563105	027831	01 05 01 00	210 g	10 pc(s)		257
563169	104839	01 05 01 00	76 g	50 pc(s)		270
563200	056558	01 05 01 00	410 g	1 pc(s)		257
563201	101234	01 05 01 00	397 g	1 pc(s)		257

Part No.	GTIN*	PG	Weight	PU	SU	Page
572000	021723	01 06 01 00	198 g	1 pc(s)		283
573000	021617	01 06 01 00	1 kg	25 kg		221
578110	096974	03 05 01 00	1.2 kg	1 pc(s)		279
578350	124172	03 05 01 00	980 g	1 pc(s)		279
578370	110953	03 05 01 00	337 g	1 pc(s)		280
578385	240384	03 05 01 00	2.3 kg	1 pc(s)		279
578390	240582	03 05 01 00	3.88 kg	1 pc(s)		279
582600	034730	03 05 01 00	5.88 kg	1 pc(s)		280
582620	110960	03 05 01 00	3.77 kg	1 pc(s)		280
585010	029620	03 05 01 00	211 g	1 pc(s)		281
585025	029637	03 05 01 00	469 g	1 pc(s)		281
585051	141155	03 05 01 00	741 g	1 pc(s)		281
585200	029712	03 05 01 00	211 g	1 pc(s)		281
585210	029729	03 05 01 00	1.33 kg	1 pc(s)		281
585211	141162	03 05 01 00	1.33 kg	1 pc(s)		281
585310	034679	03 05 01 00	469 g	1 pc(s)		281
585320	148024	03 05 01 00	741 g	1 pc(s)		281
587460	035263	03 05 01 00	369 g	1 pc(s)		280
588000	027404	03 05 01 00	100 g	1 pc(s)		281
589000	027411	03 05 01 00	292 g	1 pc(s)		281
595000	046535	01 06 01 00	329 g	1 pc(s)		283
596000	046528	01 06 01 00	362 g	1 pc(s)		283
596600	154308	01 06 01 00	1.92 kg	1 pc(s)		283
597003	027725	01 06 01 00	30.44 kg	1 pc(s)		282
597004	027701	01 06 01 00	5.95 kg	1 pc(s)		282
597005	027718	01 06 01 00	15.7 kg	1 pc(s)		282
597006	029606	01 06 01 00	42.8 kg	1 pc(s)		282
597020	154957	01 06 01 00	155 g	1 pc(s)		211
597032	155008	01 06 01 00	1.49 kg	1 pc(s)		149
597101	143838	01 06 01 00	10 g	1 Sa		148
597102	153127	01 06 01 00	3 g	1 Sa		204
597120	142497	01 06 01 00	100 g	1 pc(s)		148
597127	153110	01 06 01 00	412 g	1 pc(s)		204
597130	155022	01 06 01 00	1 g	1 pc(s)		149
597139	157941	01 06 01 00	172 g	1 pc(s)		148
597220	144972	01 06 01 00	330 g	1 pc(s)		148
597227	153103	01 06 01 00	699 g	1 pc(s)		204
597230	155015	01 06 01 00	202 g	1 pc(s)		149
597320	154940	01 06 01 00	442 g	1 pc(s)		211
599100	287402	01 06 01 00	325 g	1 pc(s)		282
600003	026957	03 04 01 00	39 kg	1 pc(s)		245
600029	026803	03 04 01 00	5.3 kg	1 pc(s)		245
600035	033436	03 04 01 00	4.55 kg	1 pc(s)		245
600050	052260	03 04 01 00	2.22 kg	1 pc(s)		245
610010	022010	03 04 01 00	786 g	1 pc(s)		240
610020	054110	03 04 01 00	436 g	25 pc(s)		240
619157	021891	03 03 01 00	3.7 kg	6 pc(s)		237
620001	021938	03 04 01 00	36 g	100 pc(s)		237
620002	066052	03 04 01 00	857 g	1 pc(s)		244
620005	027039	03 04 01 00	1.07 kg	1 pc(s)		241
620007	027084	03 04 01 00	1.08 kg	1 pc(s)		242

Part No.	GTIN*	PG	Weight	PU	SU	Page
620008	066151	03 04 01 00	1.44 kg	1 pc(s)		242
620009	118119	03 04 01 00	2.8 kg	1 pc(s)		241
620010	244764	03 04 01 00	2.31 kg	1 pc(s)		242
620011	026636	03 04 01 00	315 g	20 pc(s)		239
620012	026698	03 04 01 00	418 g	10 pc(s)		240
620015	026582	03 04 01 00	370 g	20 pc(s)		239
620017	026612	03 04 01 00	420 g	20 pc(s)		239
620019	027008	03 04 01 00	1.98 kg	1 pc(s)		242
620021	026667	03 04 01 00	289 g	20 pc(s)		240
620029	066113	03 04 01 00	1.43 kg	1 pc(s)		242
620030	244818	03 04 01 00	800 g	1 pc(s)		243
620031	244849	03 04 01 00	1.14 kg	1 pc(s)		243
620101	021860	03 03 01 00	2.5 kg	6 pc(s)		237
620150	021808	03 03 01 00	3.64 kg	6 pc(s)		237
620151	021846	03 03 01 00	3.7 kg	6 pc(s)		237
620902	021914	03 03 01 00	3.67 kg	6 pc(s)		237
620915	026629	03 04 01 00	298 g	20 pc(s)		239
625001	021945	03 04 01 00	69 g	50 pc(s)		237
625002	095380	03 04 01 00	810 g	1 pc(s)		244
625005	027046	03 04 01 00	1.05 kg	1 pc(s)		241
625007	027091	03 04 01 00	1.06 kg	1 pc(s)		242
625008	066144	03 04 01 00	1.41 kg	1 pc(s)		242
625009	118126	03 04 01 00	2.8 kg	1 pc(s)		241
625011	026643	03 04 01 00	340 g	20 pc(s)		239
625012	026704	03 04 01 00	424 g	10 pc(s)		240
625015	026599	03 04 01 00	383 g	20 pc(s)		239
625019	027015	03 04 01 00	1.94 kg	1 pc(s)		242
625021	026674	03 04 01 00	310 g	20 pc(s)		240
625029	066120	03 04 01 00	1.41 kg	1 pc(s)		242
625030	244825	03 04 01 00	760 g	1 pc(s)		243
625031	244856	03 04 01 00	1.1 kg	1 pc(s)		243
625101	021877	03 03 01 00	3.72 kg	6 pc(s)		237
625150	021815	03 03 01 00	5.64 kg	6 pc(s)		237
625151	021853	03 03 01 00	5.72 kg	6 pc(s)		237
630120	107427	03 04 01 00	152 g	25 pc(s)		239
630129	107434	03 04 01 00	150 g	25 pc(s)		239
634145	125735	03 07 01 00	1.2 kg	1 pc(s)		255
634160	125728	03 07 01 00	1.6 kg	1 pc(s)		255
635100	056640	03 02 01 00	2.53 kg	5 pc(s)		238
635150	056657	03 02 01 00	3.75 kg	5 pc(s)		238
635200	056664	03 02 01 00	5.28 kg	5 pc(s)		238
635250	067011	03 02 01 00	6.2 kg	3 pc(s)		238
640015	106864	03 04 01 00	389 g	20 pc(s)		239
640150	105850	03 03 01 00	2.23 kg	6 pc(s)		238
644000	030268	03 07 01 00	4.45 kg	1 pc(s)		255
646000	078161	03 07 01 00	2.24 kg	1 pc(s)		238
648005	129160	03 04 01 00	1.46 kg	1 pc(s)		244
648007	129177	03 04 01 00	1.46 kg	1 pc(s)		244
648009	315501	03 04 01 00	973 g	1 pc(s)		244
649005	119437	03 04 01 00	1.41 kg	1 pc(s)		243
649007	119444	03 04 01 00	1.19 kg	1 pc(s)		243
649009	315495	03 04 01 00	1.14 kg	1 pc(s)		243
649015	119376	03 04 01 00	300 g	20 pc(s)		239
649150	126350	03 03 01 00	1.71 kg	6 pc(s)		238
800008	018716	02 01 01 00	394 g	127 m		20 / 217
800010	243101	02 01 01 00	617 g	81 m		20 / 217

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800108	018754	02010100	440 g	75 m	20 / 217		819336	241237	01070100	9.6 kg	1 pc(s)	164		860115	101104	02010100	930 g	5 pc(s)	58 / 223	
800110	018761	02010100	680 g	50 m	20 / 217		819338	241244	01070100	10 kg	1 pc(s)	164		860130	101111	02010100	1.8 kg	5 pc(s)	58 / 223	
800310	131064	02010100	617 g	30 m	20 / 217		819371	260498	01070100	17 kg	1 pc(s)	164		860210	159365	02020100	830 g	5 pc(s)	58 / 223	
800910	253315	02010100	1.85 kg	10 pc(s)	20 / 217		819373	260481	01070100	17.9 kg	1 pc(s)	165		860215	101081	02020100	1.25 kg	5 pc(s)	58 / 223	
800911	273689	02010100	4.1 kg	1 pc(s)	20 / 217		819380	241916	01070100	13.76 kg	1 pc(s)	144		860230	101098	02020100	2.48 kg	5 pc(s)	58 / 223	
							819381	241954	01070100	18.5 kg	1 pc(s)	164		860315	150058	02020100	1.25 kg	5 pc(s)	58 / 223	
801050	018921	02030100	330 g	100 m	22 / 220		819383	241961	01070100	19.1 kg	1 pc(s)	165		860325	093157	02020100	825 g	25 m	22 / 220	
							819385	241923	01070100	13.15 kg	1 pc(s)	144		860330	150065	02020100	2.5 kg	5 pc(s)	58 / 223	
810225	018815	02020100	400 g	100 m	21 / 219		819390	241930	01070100	13.15 kg	1 pc(s)	144		860335	143388	02020100	824 g	60 m	22 / 220	
810304	019232	02020100	960 g	52 m	21 / 219		819426	260474	01070100	11.3 kg	1 pc(s)	164		860404	276482	02020100	1.16 kg	43 m	22 / 220	
810335	032880	02020100	840 g	50 m	21 / 219		819430	152236	01070100	15.4 kg	1 pc(s)	190		860405	276499	02020100	1.45 kg	34 m	22 / 220	
810404	048256	02020100	1.28 kg	40 m	21 / 219		819431	155442	01070100	17 kg	1 pc(s)	190		860425	227774	02020100	2 kg	5 pc(s)	58 / 223	
810405	032897	02020100	1.6 kg	30 m	21 / 219		819433	155459	01070100	21 kg	1 pc(s)	190		860430	227781	02020100	2 kg	5 pc(s)	58 / 223	
							819438	241251	01070100	12.5 kg	1 pc(s)	164		860900	143395	02020100	824 g	60 m	22 / 220	
							819473	260450	01070100	37 kg	1 pc(s)	165		860908	143418	02010100	395 g	1 m	20 / 217	
							819483	241978	01070100	38.2 kg	1 pc(s)	165		860910	019300	02010100	617 g	80 m	20 / 217	
							819730	243477	01070100	53 kg	1 pc(s)	165		860920	092679	02010100	617 g	20 m	20 / 217	
							819760	240391	01070100	56.64 kg	1 pc(s)	190		860925	093140	02020100	825 g	25 m	22 / 220	
														860950	155596	02010100	617 g	50 m	20 / 217	
							830008	018785	02010100	448 g	100 m	19 / 218		861325	292611	02020100	825 g	25 m	22 / 219	
							830038	035690	02010100	448 g	100 m	19 / 218		861335	292628	02020100	824 g	60 m	22 / 219	
							830108	080430	02010100	448 g	20 m	19 / 218								
							830208	106116	01070100	2.6 kg	1 pc(s)	210								
							830218	106123	01070100	3.6 kg	1 pc(s)	210								
														920000	057494	04010500	127 g	1 pc(s)	267	
							831225	018891	02020100	450 g	100 m	21 / 219		923019	033177	04010500	1.7 kg	1 pc(s)	276	
														923021	036161	04010500	185 g	1 pc(s)	268	
							832095	048324	02030100	845 g	50 m	23 / 221		923023	074262	04010500	185 g	1 pc(s)	268	
							832120	129610	02030100	1.06 kg	50 m	23 / 221		923025	110397	04010500	137 g	1 pc(s)	277	
							832192	018914	02030100	597 g	50 m	23 / 221		923035	110403	04010500	163 g	1 pc(s)	277	
							832193	093430	02030100	597 g	100 m	23 / 221		923045	110410	04010500	190 g	1 pc(s)	277	
							832202	081048	02030100	597 g	50 m	23 / 221		923060	038899	04010500	725 g	1 pc(s)	276	
							832292	093171	02030100	597 g	100 m	23 / 221		923061	038905	04010500	750 g	1 pc(s)	276	
							832295	093447	02030100	845 g	50 m	23 / 221		923062	038912	04010500	733 g	1 pc(s)	276	
							832320	129641	02030100	1.06 kg	50 m	23 / 221		923100	108325	04010500	289 g	1 pc(s)	276	
							832739	018907	02030100	438 g	50 m	23 / 221		923101	108332	04010500	1.98 kg	1 pc(s)	277	
							832740	093454	02030100	438 g	100 m	23 / 221		923211	150904	04010500	106 g	1 pc(s)	277	
							832839	093164	02030100	438 g	100 m	23 / 221		923214	150911	04010500	107 g	1 pc(s)	277	
														923218	150928	04010500	99 g	1 pc(s)	277	
							833008	151987	02010100	182 g	110 m	19 / 218		923222	150935	04010500	98 g	1 pc(s)	277	
														923226	150942	04010500	91 g	1 pc(s)	277	
							840008	018730	02010100	135 g	148 m	19 / 218		923230	150959	04010500	180 g	1 pc(s)	277	
							840010	018747	02010100	212 g	100 m	19 / 218		923233	150966	04010500	174 g	1 pc(s)	277	
							840018	251007	02010100	135 g	148 m	19 / 218		923236	150973	04010500	170 g	1 pc(s)	277	
							840028	131163	02010100	135 g	21 m	19 / 218		923239	150980	04010500	162 g	1 pc(s)	277	
							840050	070141	02030100	133 g	100 m	22 / 220		923242	150997	04010500	158 g	1 pc(s)	277	
							840108	080423	02010100	135 g	21 m	19 / 218		923311	150775	04010500	105 g	1 pc(s)	277	
							840118	071483	02010100	200 g	100 m	19 / 218		923314	150782	04010500	106 g	1 pc(s)	277	
							840128	160002	02010100	200 g	100 m	19 / 218		923318	150799	04010500	101 g	1 pc(s)	277	
														923322	150805	04010500	96 g	1 pc(s)	277	
							850008	129627	02030100	235 g	100 m	23 / 220		923326	150812	04010500	91 g	1 pc(s)	277	
							850010	129634	02030100	395 g	100 m	23 / 220		923330	150829	04010500	178 g	1 pc(s)	277	
														923333	150836	04010500	172 g	1 pc(s)	277	
							852335	031067	02020100	840 g	25 m	21 / 219		923336	150843	04010500	168 g	1 pc(s)	277	
														923339	150850	04010500	162 g	1 pc(s)	277	
							860008	143432	02010100	395 g	1 m	20 / 217		923342	150867	04010500	158 g	1 pc(s)	277	
							860010	019997	02010100	617 g	80 m	20 / 217		923348	150874	04010500	141 g	1 pc(s)	277	
							860020	092662	02010100	617 g	20 m	20 / 217		923356	150881	04010500	262 g	1 pc(s)	277	
							860050	139923	02010100	617 g	50 m	20 / 217		923362	150898	04010500	244 g	1 pc(s)	277	
							860110	150256	02010100	624 g	5 pc(s)	58 / 223								

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AB EXFS IF1 W 18	923 318	277	AK 6.10 KSV W KBF3 18 V2A	372 229	83	BA RD8 BB16 V2A ZG	106 340	118
AB EXFS IF1 W 22	923 322	277	AK 7.10 FL40 GBM10X45 STTZN	478 141	131	BA130 RD8 BB16 V2A ZG	106 342	118
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AB EXFS IF1 W 30	923 330	277	AK 7.10 FRM10X45 KBF0.4 12 RG	371 007	82	BB 1XB11GSM8 1XB23GSM12 AL	105 229	143
AB EXFS IF1 W 33	923 333	277	AK 7.10 FRM10X45 KBF0.4 12 TGTZN	371 009	82	BB SPB30 BB16 V2A AL	106 321	117
AB EXFS IF1 W 36	923 336	277	AK 7.10 KSV KBF1 12 TGTZN	370 014	82	BB16 GSM10 AL	106 301	115
AB EXFS IF1 W 39	923 339	277	AK 7.10 KSV KBF8 18 TGTZN	370 018	82	BB16 GSM10 V2A	106 309	115
AB EXFS IF1 W 42	923 342	277	AK 7.10 KSV S KBF18 35 STTZN	372 150	83	BB16 IGM8 ZG	106 126	114
AB EXFS IF1 W 48	923 348	277	AK 7.10 KSV S KBF3 18 STTZN	372 120	83	BES 17KG KT16 D337	102 012	103
AB EXFS IF1 W 56	923 356	277	AK 7.10 KSV W KBF18 35 STTZN	372 250	83	BES 17KG KT16 D337 SET	102 010	102
AB EXFS IF1 W 62	923 362	277	AK 7.10 KSV W KBF3 18 STTZN	372 220	83	BES 17KG KT16 ULP D337 SET	102 340	102
AB EXFS IF3 G 11	923 211	277	AK ES TE 20 RD10 FL30 STTZN	630 120	239	BES 17KG M16 D337	102 002	103
AB EXFS IF3 G 14	923 214	277	AK ES TE 20 RD10 FL30 V4A	630 129	239	BES 4.6KG SB10 180X180X70	253 301	120
AB EXFS IF3 G 18	923 218	277	AK RPA V2A	563 169	270	BES 8.5KG KT10 16 D240 SET	102 075	103
AB EXFS IF3 G 22	923 222	277	AK TE 20 7.10 FL40 V4A	610 020	240	BES 8.5KG M16 D240	102 003	103
AB EXFS IF3 G 26	923 226	277	AK TE 20.30 8.12 FL40 STTZN	610 010	240	BFRS D80 B35 4FSP 10 1030 AL	819 185	170
AB EXFS IF3 G 30	923 230	277	AK ZS 8.10 FL30 GBM10X60 V4A	478 129	131	BFRS D80 B35 4FSP 10 1030 V2A	819 186	170
AB EXFS IF3 G 33	923 233	277	AKO TBM FP400	103 040	106	BFRS D80 B35 4FSP 10 530 AL	819 183	170
AB EXFS IF3 G 36	923 236	277	AKO TBM FP565	103 041	106	BFRS D80 B35 4FSP 10 530 V2A	819 184	170
AB EXFS IF3 G 39	923 239	277	AL EXFS L100 KS	923 025	277	BFS D61 4X20	819 294	168
AB EXFS IF3 G 42	923 242	277	AL EXFS L200 KS	923 035	277	BFS M10X20 PAS STTZN	472 201	261
ABST 3F D50 2900 V2A	105 601	125	AL EXFS L300 KS	923 045	277	BFS M10X20 PAS V2A	472 202	261
AD PAS 10AP V2A	472 289	261	AL ZF B11.11 B5.2 6.5 L81 AL	377 005	87	BFS SR D50 4AE HVI LI AL V2A	819 289	142
AD PAS 12AP V2A	472 299	261	AL ZF B11.11 B5.2 6.5 L81 CU	377 017	87	BN 5X10 AL V2A	528 610	30
AD PAS 6AP V2A	472 279	261	AL ZF B11.11 B5.2 6.5 L81 V2A	377 009	87	BP BB16 V2A ZG	106 127	115
AD PAS 8AP V2A	472 269	261	AL ZF DUL 6.10 B5.2 6.5 L81 AL	377 200	87	BP D100 GBM8 4XB10 4XB4 STTZN	297 015	26
AD WAS 16 BB16 V2A	106 325	118	AL ZF KB 6.10STTZN B5.2 6.5 L81 AL	377 100	87	BP D40 GBM8 4XB4 K GR	297 025	26
AD WAS 50 BB16 V2A	106 326	118	AP 2X6.10 V2A	301 229	52	BRS 10.27 AQ2.5 10 V2A	540 920	264
AE B010 HVI 20 SW V2A	819 199	167	AP L405 TGTZN	466 203	255	BRS 27.114 AQ4 25 V2A	540 911	264
AE B010 HVI 23 GR V2A	819 198	168	AP SR D50 4AE HVI V2A	819 288	168	BRS 27.165 AK1X10 2X6.8 V2A	540 100	254
AEA KO HVI 20 SW V2A	819 197	167	AS 37 5 B7.5 UVS K BR	276 007	48	BRS 27.165 Z AK1X10 2X6.8 V2A	540 200	265
AEA KO HVI 23 GR V2A	819 196	168	AS 37 5 B7.5 UVS K GR	276 006	48	BRS 27.168 AQ4 25 V2A	540 912	264
AEH 50 L22 CUGALSN	444 050	143	AS 37 5 B8.5 V2A	276 009	48	BRS 27.60 AQ4 25 V2A	540 910	264
AF 10 V4A 1000	860 110	58	AS S RE 27 7.10 FL40 STTZN	640 015	239	BRS 27.89 AK1X10 2X6.8 GSG V2A	540 104	272
AF 10 V4A 1500	860 115	58	AS S TE 20 7.10 FL40 CU	620 017	239	BRS 27.89 AK1X10 2X6.8 V2A	540 103	254
AF 10 V4A 3000	860 130	58	AS S TE 20 7.10 FL40 STTZN	620 015	239	BRS 50.300 BB16 8 V2A	540 105	110
AF 30X3.5 V2A B6.5X12 3000	860 425	58	AS S TE 20 7.10 FL40 V4A	620 915	239	BRS SPB25 50.300 V2A	106 323	117
AF 30X3.5 V4A 1000	860 210	58	AS S TE 25 7.10 FL40 STTZN	625 015	239	BS 4K 20.50 BB16 ZG V2A	106 312	117
AF 30X3.5 V4A 1500	860 215	58	AS S TE 25 7.10 FL40 V4A	649 015	239	BS D40.50 4K20.50 V2A	105 356	124
AF 30X3.5 V4A 3000	860 230	58	AS SPB25 BB16 V2A	106 322	117	BS D40.50 4K60.120 V2A	105 376	124
AF 30X3.5 V4A B6.5X12 3000	860 430	58	AS TE 20 2XKSV 7.10 STTZN	620 012	240	BS D40.50 D48.60 V2A	105 354	104
AF 30X3.5 V4A ZW 1500	860 315	58	AS TE 20 ASSM10 STTZN	620 021	240	BS D40.50 D70.90 V2A	105 355	124
AF 30X3.5 V4A ZW 3000	860 330	58	AS TE 20 KSV 7.10 STTZN	620 011	239	BS D50 D530 SB50.300 V2A	105 361	123
AH D50 1000 D100.150 STTZN	105 364	175	AS TE 25 2XKSV 7.10 STTZN	625 012	240	BS D50 D590 SB50.300 V2A	105 362	124
AH D50 1000 D150.190 STTZN	105 365	175	AS TE 25 ASSM10 STTZN	625 021	240	BS D50 SB50.300 V2A	105 360	123
AH D50 1000 D55.100 STTZN	105 363	175	AS TE 25 KSV 7.10 STTZN	625 011	239	BSC 6.3X19 SW10 V2A	528 619	29
AH FE RF	290 002	235	ASK 8 150 40 2XB9 V2A	241 009	39	BSC D40 D45.65 V2A	105 161	153
AH FE RF V G	290 001	235	ASSA D6 L1000 6.10 CU V2A	365 509	30	BSC D40 DS95 D45.65 V2A	105 162	104
AH PAS RK	563 015	258	ASSA D8 L1000 6.10 CU V2A	365 519	30	BSC D40.50 SB50.300 V2A	105 160	104
AH TSK WDV5 50.200 K	476 053	68	AW DEHNHELIX	597 230	149	BUE SPB25 V2A	106 320	117
AK 3.18 BB16 V2A AL	106 319	118				BVK 16.48 6.10 FL40 BSB STBL	308 045	133
AK 4.10 FRM10X45 KBF0.4 12 TGTZN	371 008	82	BA 20X2.5 CU R100M	831 225	21	BVK 16.48 FL40 KB6.10 BSB STBL	308 046	129
AK 6.10 DS KBF18 35 STTZN	372 035	83	BA 20X2.5 STTZN R100M	810 225	21	BW45 B11 B5.1 6.5 11 V2A	106 315	116
AK 6.10 DS KBF5 18 STTZN	372 018	83	BA 30X3.5 STTZN R25M	852 335	21	BW90 B11 B5.1 6.5 11 V2A	106 310	116
AK 6.10 DS KBF5 18 V2A	372 019	83	BA 30X3.5 STTZN R50M	810 335	21	BW90 BB16 B5.1 6.5 11 V2A	106 311	116
AK 6.10 KB S KBF18 35 STTZN	372 140	83	BA 30X3.5 TB V4A R25M	861 325	22			
AK 6.10 KB S KBF18 35 V2A	372 149	83	BA 30X3.5 TB V4A R60M	861 335	22	CUI HEAD 20	597 020	211
AK 6.10 KB S KBF3 18 STTZN	372 110	83	BA 30X3.5 V2A R25M	860 925	22	CUI L 20 GR 3.5M	830 208	210
AK 6.10 KB S KBF3 18 V2A	372 119	83	BA 30X3.5 V2A R60M	860 900	22	CUI L 20 GR 5M	830 218	210
AK 6.10 KB W KBF18 35 STTZN	372 240	83	BA 30X3.5 V4A R25M	860 325	22	CUI STRIP 20	597 320	211
AK 6.10 KB W KBF18 35 V2A	372 249	83	BA 30X3.5 V4A R60M	860 335	22	CUPAB 500X40X0.5 AL CU	562 440	90
AK 6.10 KB W KBF3 18 STTZN	372 210	83	BA 30X4 STTZN R52M	810 304	21	CUPAB 500X60X0.5 AL CU	562 460	90
AK 6.10 KB W KBF3 18 V2A	372 219	83	BA 40X4 STTZN R40M	810 404	21	CUPAH GL Q25 L29 AL CU	562 250	90
AK 6.10 KSV S KBF18 35 V2A	372 159	83	BA 40X4 V4A R40M	860 404	22	CUPAH GL Q35 L32 AL CU	562 035	90

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CUPAH GL Q50 L40 AL CU	562 050	90	DIDH 8 675 KT V2A GFK	106 160	114	DLH FG 8 H32 L170 V2A	204 949	33
CUPAH GL Q50 L40 CU AL	562 150	90	DIDH PAE 20 23 V 490 930 D22 V2A	105 275	177	DLH FG 8 H32 L170 V2A GALCU	204 957	33
CUPAH UGL Q50 L60 AL CU	562 001	90	DIDLH 8 H295 D300 BS	253 115	120	DLH FS 8 H16 L170 BR V2A	204 936	33
CUPAH UGL Q50 L60 CU AL	562 101	90	DIDLH 8 H435 D300 BS	253 125	120	DLH FS 8 H16 L170 GR V2A	204 935	33
			DILH 8 DS10 L280 K GR GFK	253 315	108	DLH FS 8 H36 L170 BR V2A	204 938	33
DADS D10 16 48 AL ROT	105 246	109	DILH 8 DS10 L420 K GR GFK	253 325	108	DLH FS 8 H36 L170 GR V2A	204 937	33
DADS D10 16 48 AL SCH	105 245	109	DILH 8 SB10 K GR	253 302	120	DLH KB 6.10 KF18.22 AL	223 070	41
DASH D48 AS600.750 STTZN	105 240	157	DIST 10 3000 GFK	253 310	120	DLH KB 6.10 RSF20.25 AL	223 040	41
DB 700X30X4 V2A	308 150	235	DIST 16 3000 GFK	106 125	114	DLH KB 6.10 RSF20.25 V2A	223 010	41
DBS KB D40.50 RA1100 V2A	105 291	102	DIST 16 M10 1015 GFK	106 220	119	DLH KB 6.10 TD B8.5 V2A	223 020	42
DBS KB D40.50 RA1435 STTZN	105 201	125	DIST 16 M10 675 GFK	106 217	119	DLH KF 8 LO DBS 110X100X70 SW	253 030	25
DBS KB D40.50 RA560 STTZN	105 200	102	DLH DG 8 H20 FG180.280 KK GALCU	206 807	32	DLH KF2 8 LO 141X86X70	253 051	25
DBS KB D40.50 RA590 V2A	105 290	102	DLH DG 8 H20 FG180.280 KK V2A	206 809	32	DLH SG 8 H20 FG180.280 CU	206 237	31
DBS KB D50 RA620 STTZN	105 351	171	DLH DG 8 H20 FG180.280 V2A	206 109	32	DLH SG 8 H20 FG180.280 V2A	206 239	31
DBS KB D50 S35 RA1450 V2A	105 391	172	DLH DG 8 H20 KB8.18 V2A	206 399	37	DLH SG 8 H32 FG180.280 CU	206 247	31
DBS KB D50 S35 RA600 V2A	105 390	172	DLH DG 8 H20 L103 EH V2A	206 349	38	DLH SG 8 H32 FG180.280 V2A	206 249	31
DC BK 10 FL30 STBLANK	308 142	132	DLH DG 8 H20 L169 WS V2A	206 359	36	DLH SGL 8 H20 FG180.280 V2A	206 439	31
DC BK 10 RD10 STBLANK	308 132	132	DLH DG 8 H20 L205 V2A AL	206 170	35	DLH SGL 8 H32 FG180.280 V2A	206 449	31
DC BK 12 FL30 STBLANK	308 143	132	DLH DG 8 H20 L87 EH V2A	206 369	38	DLH SS 8 H16 FG180.280 BR CU	204 267	31
DC BK 12 RD10 STBLANK	308 133	132	DLH DG 8 H20 WPRO5 8 V2A	206 339	43	DLH SS 8 H16 FG180.280 GR V2A	204 269	31
DC BK 12 RD12 STBLANK	308 136	132	DLH DG 8 H32 FG180.280 KK GALCU	206 817	32	DLH SS 8 H36 FG180.280 BR CU	204 247	31
DC BK 6 FL30 STBLANK	308 140	132	DLH DG 8 H32 FG180.280 KK V2A	206 819	32	DLH SS 8 H36 FG180.280 GR V2A	204 249	31
DC BK 6 RD10 STBLANK	308 130	132	DLH DG 8 H32 KP67 V2A K GR	297 120	42	DLH SSL 8 H16 FG180.280 GR V2A	204 469	31
DC BK 6 RD6 STBLANK	308 134	132	DLH DG 8 H32 L205 V2A AL	206 171	35	DLH SSL 8 H36 FG180.280 GR V2A	204 449	31
DC BK 8 FL30 STBLANK	308 141	132	DLH DG 8 RSF20.25 AL	223 041	41	DLH UG 8 H20 L205 CU	206 207	35
DC BK 8 RD10 STBLANK	308 131	132	DLH DG 8 RSF20.25 V2A	223 011	41	DLH UG 8 H20 L205 KT V2A	206 289	35
DC BK 8 RD8 STBLANK	308 135	132	DLH DG 8 SF0.7 8 V2A	223 031	41	DLH UG 8 H20 L205 V2A	206 209	35
DDF 8 10 16 FL20.30 D250 K	552 030	27	DLH DG 8 TD B8.5 V2A	223 021	42	DLH UG 8 H20 L335 CU	206 217	35
DDF 8.10 D34 B16 K	552 010	27	DLH DG H20 UK8 V2A	206 389	37	DLH UG 8 H20 L335 V2A	206 219	35
DEHNIT 25KG	573 000	221	DLH DQ 6.10 FG120.240 CU	202 027	32	DLH UG 8 H20 L475 CU	206 227	35
DGP EP4	578 370	280	DLH DQ 6.10 FG120.240 STTZN	202 020	32	DLH UG 8 H20 L475 V2A	206 229	35
DGPKO ML PK ... KL	582 620	280	DLH DQ 6.10 FG120.240 V2A	202 900	32	DLH UG 8 H32 L205 V2A	206 309	35
DH K 40 BB ASG L	585 010	281	DLH DQ 6.10 FG200.280 CU	202 227	32	DLH UG 8 H32 L335 V2A	206 319	35
DH K 40 BS MLO.75 L25M BL	585 025	281	DLH DQ 6.10 FG200.280 STTZN	202 021	32	DLH UG 8 H32 L475 V2A	206 329	35
DH K 40 BS MLO.75 L25M RT	585 310	281	DLH DQ 6.10 GP100X100 STTZN	202 060	26	DLH US 8 H16 L205 BR GALCU	204 147	34
DH K 40 BS MLO.75 L50M BL	585 320	281	DLH DQ 6.10 GP50X60 STTZN	202 030	26	DLH US 8 H16 L205 BR V2A	204 921	34
DH K 40 BS MLO.75 L50M RT	585 051	281	DLH DQ 6.10 H55 L115 WS STTZN	202 050	36	DLH US 8 H16 L205 GR V2A	204 149	34
DH K 80 BB ASG L	585 200	281	DLH DQ 6.10 H55 L260 CU	202 037	36	DLH US 8 H16 L335 BR GALCU	204 157	34
DH K 80 BS MLO.75 L100M BL	585 210	281	DLH DQ 6.10 H55 L260 GS CU	202 017	36	DLH US 8 H16 L335 GR V2A	204 159	34
DH K 80 BS MLO.75 L100M RT	585 211	281	DLH DQ 6.10 H55 L260 GS STTZN	202 010	36	DLH US 8 H16 L475 GR V2A	204 169	34
DH ZS 20 D16 1000 GFK PA	106 812	146	DLH DQ 6.10 H55 L260 GS V2A	202 901	36	DLH US 8 H36 L205 BR GALCU	204 177	34
DH ZS 20 D16 500 GFK PA	106 852	146	DLH DQ 6.10 H55 L260 STTZN	202 040	36	DLH US 8 H36 L205 BR V2A	204 924	34
DICS WB D50 10 5700 GFK AL V2A	105 455	121	DLH DQ 6.10 H55 L260 V2A	202 902	36	DLH US 8 H36 L205 GR V2A	204 179	34
DICS WB D50 10 7200 GFK AL V2A	105 470	121	DLH DQ 6.10 H55 L410 WS STTZN	202 080	36	DLH US 8 H36 L335 BR GALCU	204 187	34
DICS WB D50.10 4.2M GFK AL V2A	105 440	121	DLH DQ 6.10 H70 L420 STTZN	202 008	36	DLH US 8 H36 L335 BR V2A	204 925	34
DIDH 16 1015 V2A GFK16	106 185	115	DLH DQ 6.10 WPRO5 8 STTZN	202 015	43	DLH US 8 H36 L335 GR V2A	204 189	34
DIDH 16 1030 BP V2A GFK	106 123	113	DLH DQ 6.10 WPRO5 8 V2A	202 906	43	DLH US 8 H36 L475 BR GALCU	204 197	34
DIDH 16 1030 RS40.60 V2A	106 228	113	DLH DQ 6.10 WPRO5 STTZN	202 005	43	DLH US 8 H36 L475 GR V2A	204 199	34
DIDH 16 1030 SB50.300 V2A	106 248	114	DLH DQ 8 WPRO5 V2A STTZN	206 105	43	DLH ZS 20 23 H55 L205 V2A	202 829	157
DIDH 16 515 V2A GFK16	106 178	115	DLH DS 8 H16 FG180.280 BR V2A	204 911	32	DLH ZS 20 23 V2A 8.5KG KT D240 ULP	253 239	146
DIDH 16 530 BP V2A GFK	106 115	113	DLH DS 8 H16 FG180.280 GR V2A	204 109	32	DLH ZS 20 23 V2A BES180 GP300 K	253 229	145
DIDH 16 530 RS40.60 V2A	106 225	113	DLH DS 8 H16 FG180.280BR GALCU	204 107	32	DLH ZS 27 30 H55 L205 V2A	202 857	201
DIDH 16 530 SB50.300 V2A	106 245	114	DLH DS 8 H16 L169 WS V2A	204 359	36	DLH ZS 27 V2A 8.5KG KT D240 ULP	253 334	198
DIDH 16 675 V2A GFK16	106 180	115	DLH DS 8 H16 WPRO5 8 BR V2A	204 916	43	DLH ZS 27 V2A BES180 GP300 K	253 333	198
DIDH 16 690 BP V2A GFK	106 120	113	DLH DS 8 H16 WPRO5 8 GR V2A	204 906	43	DLH ZS 7.10 FL20 KT12 STTZN	216 000	33
DIDH 16 690 RS40.60 V2A	106 226	113	DLH DS 8 H36 FG180.280 BR V2A	204 913	32	DLS 6.10 134X300X598 EHI	240 000	39
DIDH 16 690 SB50.300 V2A	106 246	114	DLH DS 8 H36 FG180.280 GR V2A	204 129	32	DLSC 100 IP65	599 100	282
DIDH 6.10 675 MMV KT V2A GFK	106 150	114	DLH DS 8 H36 FG180.280BR GALCU	204 127	32	DM AF FL30X3.5 D120MM TPE	478 599	129
DIDH 7.10 1015 V2A GFK16	106 175	115	DLH DS 8 H36 KP67 K GR	297 110	42	DM AF RD10 D105MM TPE	478 598	129
DIDH 7.10 1030 BP V2A GFK	106 105	113	DLH DS 8 H36 L205 BR AL	204 171	35	DRG 10RO 7.10 DB STTZN	597 003	282
DIDH 7.10 1030 D50 V2A	106 331	125	DLH DS 8 H36 L205 GR AL	204 170	35	DRG 10RO 7.10 FB STTZN	597 006	282
DIDH 7.10 515 V2A GFK16	106 165	115	DLH DS 8 H36 L90 EH BR V2A	204 239	38	DRG 10RO 7.10 HG STGALZN	597 005	282
DIDH 7.10 530 BP V2A GFK	106 090	113	DLH DS 8 H36 L90 EH GR V2A	204 229	38	DRG 5RO 7.10 HG STGALZN	597 004	282
DIDH 7.10 675 V2A GFK16	106 170	115	DLH FB 8 LO 100X100X70	253 015	25	DRK DUL 8.10 W16.22 AL	339 051	86
DIDH 7.10 690 BP V2A GFK	106 100	113	DLH FB2 8 FE 141X86X70	253 060	25	DRK DUL 8.10 W16.22 CU	339 057	86

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DRK DUL 8.10 W16.22 EST STTZN	339 110	85	EL10 L0.65M 2KSG 10	410 906	251	EL16 L12.05M 2KSO 8.10	416 120	248
DRK DUL 8.10 W16.22 STTZN	339 050	86	EL10 L0.65M 2KSO 8.10	410 006	247	EL16 L14.05M 2KSO 8.10	416 140	248
DRK DUL 8.10 W16.22 V2A	339 059	86	EL10 L1.05M 1KSO 5.6 1KSG 8	410 510	249	EL16 L15.05M 2KSO 8.10	416 150	248
DRK KB 6.10 W16.22 AL	339 061	86	EL10 L1.05M 1KSO 8.10 1KSG 10	410 410	250	EL16 L15.05M 2KSO 8.10 GG	417 115	249
DRK KB 6.10 W16.22 CU	339 067	86	EL10 L1.05M 1KSO 8.10 1KSG 8	410 411	250	EL16 L2.05M 1KSO 8.10 1KSG 10	416 421	251
DRK KB 6.10 W16.22 STTZN	339 060	86	EL10 L1.05M 1KSO 8.10 1KSO 5.6	410 610	247	EL16 L2.05M 1KSO 8.10 1KSG 8	416 420	251
DRK KB 6.10 W16.22 V2A	339 069	86	EL10 L1.05M 2KSG 10	410 910	251	EL16 L2.05M 2KSG 10	416 920	252
DRK KB 8.10 W16.22 EST AL	339 101	85	EL10 L1.05M 2KSO 8.10	410 010	247	EL16 L2.05M 2KSO 8.10	416 020	248
DRK KB 8.10 W16.22 EST STTZN	339 100	85	EL10 L1.55M 1KSO 5.6 1KSG 8	410 515	249	EL16 L2.05M 2KSO 8.10 GG	417 020	249
DRK ZS 7.10 W13.25 AL	338 001	86	EL10 L1.55M 1KSO 8.10 1KSG 10	410 416	250	EL16 L2.55M 1KSO 8.10 1KSG 10	416 426	251
DRK ZS 7.10 W13.25 B60 STTZN	339 010	86	EL10 L1.55M 1KSO 8.10 1KSG 8	410 415	250	EL16 L2.55M 1KSO 8.10 1KSG 8	416 425	251
DRK ZS 7.10 W13.25 CU	338 007	86	EL10 L1.55M 1KSO 8.10 1KSO 5.6	410 615	247	EL16 L2.55M 2KSG 10	416 925	252
DRK ZS 7.10 W13.25 STTZN	338 000	86	EL10 L1.55M 2KSG 10	410 915	251	EL16 L2.55M 2KSO 8.10	416 025	248
DRK ZS 7.10 W13.25 V2A	338 009	86	EL10 L1.55M 2KSO 8.10	410 015	247	EL16 L20.05M 2KSO 8.10	416 200	248
DS 30X2 L170 3XB11 AL	374 020	27	EL10 L10.0M 2KSO 8.10	410 099	247	EL16 L20.05M 2KSO 8.10 GG	417 120	249
DS 8 L395 AL	374 011	27	EL10 L14.0M 2KSO 8.10	410 140	247	EL16 L22.05M 2KSO 8.10	416 220	248
DSFS	920 000	267	EL10 L15.0M 2KSO 8.10	410 150	247	EL16 L25.05M 2KSO 8.10 GG	417 125	249
EB ASSM5 L350 TGGALZN	587 460	280	EL10 L2.05M 1KSO 5.6 1KSG 8	410 520	249	EL16 L28.05M 2KSO 8.10	416 280	248
EB D50 WA V2A	105 341	122	EL10 L2.05M 1KSO 8.10 1KSG 10	410 421	250	EL16 L3.05M 1KSO 8.10 1KSG 10	416 431	251
EBW90 BB16 B5.1 6.5 11 V2A	106 316	116	EL10 L2.05M 1KSO 8.10 1KSG 8	410 420	250	EL16 L3.05M 1KSO 8.10 1KSG 8	416 430	251
EES 16 1000 V4A	104 903	57	EL10 L2.05M 1KSO 8.10 1KSO 5.6	410 620	247	EL16 L3.05M 2KSG 10	416 930	252
EES 16 1500 2XB11 STTZN	101 150	57	EL10 L2.05M 1KSO 8.10 1KSG 10	410 720	252	EL16 L3.05M 2KSO 8.10	416 030	248
EES 16 1500 V4A	104 905	57	EL10 L2.05M 2KSG 10	410 920	251	EL16 L3.05M 2KSO 8.10 GG	417 030	249
EES 16 2000 V4A	104 906	57	EL10 L2.05M 2KSO 8.10	410 020	247	EL16 L3.55M 2KSO 8.10	416 035	248
EES 16.10 1500 STTZN	480 018	57	EL10 L2.55M 1KSO 5.6 1KSG 8	410 525	249	EL16 L30.05M 2KSO 8.10	416 300	248
EES 16.10 1750 STTZN	480 019	57	EL10 L2.55M 1KSO 8.10 1KSG 10	410 426	250	EL16 L30.05M 2KSO 8.10 GG	417 130	249
EES 16.10 2000 STTZN	480 020	57	EL10 L2.55M 1KSO 8.10 1KSG 8	410 425	250	EL16 L4.05M 1KSO 8.10 1KSG 10	416 441	251
EES 16.10 2500 STTZN	480 021	57	EL10 L2.55M 1KSO 8.10 1KSO 5.6	410 625	247	EL16 L4.05M 1KSO 8.10 1KSG 8	416 440	251
EESS 16 1500 TM 2K57.10 CU	480 157	57	EL10 L2.55M 2KSG 10	410 925	251	EL16 L4.05M 2KSO 8.10	416 040	248
EESS 16 1500 TM 2K57.10 STTZN	480 150	57	EL10 L2.55M 2KSO 8.10	410 025	247	EL16 L5.05M 1KSO 8.10 1KSG 10	416 451	251
EPF M16 V4A SL400	478 027	128	EL10 L20.0M 2KSO 8.10	410 199	247	EL16 L5.05M 1KSO 8.10 1KSG 8	416 450	251
EPFK M10 12 V4A L230 STTZN	478 200	128	EL10 L3.05M 1KSO 5.6 1KSG 8	410 530	249	EL16 L5.05M 2KSO 8.10	416 050	248
EPFM M10 12 V4A	478 012	127	EL10 L3.05M 1KSO 8.10 1KSG 10	410 431	250	EL16 L5.05M 2KSO 8.10 GG	417 050	249
EPFM M10 12 V4A L230 STTZN	478 011	127	EL10 L3.05M 1KSO 8.10 1KSG 8	410 430	250	EL16 L50.05M 2KSO 8.10 GG	417 150	249
EPFM M10 12 V4A L230 V2A	478 019	127	EL10 L3.05M 1KSO 8.10 1KSO 5.6	410 630	247	EL16 L6.05M 2KSO 8.10	416 060	248
EPFM M10 12 V4A L245 VP STTZN	478 041	127	EL10 L3.05M 2KSG 10	410 930	251	EL16 L7.05M 2KSG 10	416 970	252
EPFM M10 12 V4A L245 VP V2A	478 049	127	EL10 L3.05M 2KSO 8.10	410 030	247	EL16 L7.05M 2KSO 8.10	416 070	248
EPFM M10 12 V4A MVK8.10 V2A	478 112	128	EL10 L3.55M 2KSO 8.10	410 035	247	EL16 L8.05M 2KSO 8.10	416 080	248
EPFM M10 12 V4A WS L245 VP STTZN	478 051	127	EL10 L30.0M 2KSO 8.10	410 299	247	EMG FLUKE 1621	578 350	279
EK 12.60 AQ6 16 TGTZN	435 803	254	EL10 L4.05M 2KSO 8.10	410 040	247	EMG GEOHM C	578 110	279
EK 4.45 AQ6 16 TGTZN	435 805	253	EL10 L5.05M 2KSO 8.10	410 050	247	EMKO ML EB PK ... KL	582 600	280
EK AW DEHNHELIX	597 130	149	EL10 L6.05M 2KSO 8.10	410 060	247	EMZ HT T2000	578 385	279
EK HVI HEAD 20	597 101	148	EL10 L7.05M 2KSO 8.10	410 070	247	ERO BSP ASSM10 1000 STTZN	644 000	255
EK HVI HEAD 27	597 102	204	EL16 L0.35M 1KSO 8.10 1KSG 10	416 403	251	ERO SSP ASSM8 600 STTZN	646 000	238
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EKSO 5.6 AQ6 16 CUGALZN	444 006	253	EL16 L0.55M 1KSO 5.6 1KSG 8	416 505	250	ERS 21 AB11 STTZN	410 012	266
EKSO 8.10 AQ6 16 CUGALZN	444 010	253	EL16 L0.55M 2KSG 10	416 905	252	ERS 21 AB11 V2A	410 319	266
EL10 L0.20M 1KSO 8.10 1KSG 8	410 401	250	EL16 L0.55M 2KSO 8.10	416 005	248	ERS 21 AS4.10 TG STTZN	407 012	265
EL10 L0.35M 1KSO 5.6 1KSG 8	410 503	249	EL16 L0.55M 2KSO 8.10 GG	417 005	249	ERS 27 AB11 STTZN	410 034	266
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EL10 L0.35M 1KSO 8.10 1KSG 8	410 403	250	EL16 L0.65M 2KSO 8.10	416 006	248	ERS 27 AS4.10 TG STTZN	407 034	265
EL10 L0.35M 1KSO 8.10 1KSO 5.6	410 603	247	EL16 L1.05M 1KSO 8.10 1KSG 10	416 410	251	ERS 34 AB11 STTZN	410 100	266
EL10 L0.35M 2KSG 10	410 903	251	EL16 L1.05M 1KSO 8.10 1KSG 8	416 411	251	ERS 34 AB11 V2A	410 339	266
EL10 L0.35M 2KSO 8.10	410 003	247	EL16 L1.05M 2KSG 10	416 910	252	ERS 34 AS4.10 TG STTZN	407 100	265
EL10 L0.45M 1KSO 8.10 1KSG 8	410 404	250	EL16 L1.05M 2KSO 8.10	416 010	248	ERS 42 AB11 STTZN	410 114	266
EL10 L0.55M 1KSO 8.10 1KSG 10	410 405	250	EL16 L1.05M 2KSO 8.10 GG	417 010	249	ERS 42 AB11 V2A	410 349	266
EL10 L0.55M 1KSO 8.10 1KSG 8	410 450	250	EL16 L1.55M 1KSO 8.10 1KSG 10	416 416	251	ERS 42 AS4.10 TG STTZN	407 114	265
EL10 L0.55M 1KSO 8.10 1KSO 5.6	410 605	247	EL16 L1.55M 1KSO 8.10 1KSO 5.6	416 516	248	ERS 48 AB11 STTZN	410 112	266
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ES 2X4 ASB11 STTZN	472 024	263	FK ZS 7.10 KF0.7 8 CU	251 027	84	FS D40 22 16 10 4500 AL DBS KB STTZN	105 450	98
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ES 50X50X3 450 V2A	634 145	255	FM D30 L2300 DBS R320 GFK AL STTZN	819 282	143	FS D40 22 16 10 5500 KSV V2A	105 196	101
ES 50X50X3 600 V2A	634 160	255	FM D30 L2800 DBS R320 GFK AL STTZN	819 287	143	FS D40 22 16 10 6500 AL DBS KB STTZN	105 650	98
ES 6AP 11X11 V2A	472 319	262	FM D50 10 2900 GFK AL DBS KB STTZN	819 380	144	FS D40 22 16 10 6500 KSV AL	105 177	101
ES 8AP 11X11 V2A	472 329	262	FM D50 16 10 3900 GFK AL DBS KB STTZN	819 385	144	FS D40 22 16 10 6500 KSV V2A	105 197	101
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KSV 6.10 FER CU	301 017	51
KSV 6.10 FER V2A	301 019	51
KSV 6.10 FER V4A	301 099	51
KSV 6.10 V2A	301 009	51
KSV 6.10 V4A	301 089	51
KSV 7.10 FER STTZN	301 010	51
KSV 7.10 STTZN	301 000	51
KSV 8.12.5 CU	300 017	51
KSV 8.12.5 STTZN	300 002	51
KV FE UNI	308 001	235
LH 6.13 FL30 B10 K GR	277 130	270
LH 6.8 SB50.120 SPSM8 CU	200 027	50
LH 6.8 SB50.120 SPSM8 V2A	200 029	50
LH 6.8 SB50.150 SPSM8 V2A	200 039	50
LH 7.10 BB16 V2A ZG	106 128	115
LH 8 SB100 SCL CU	200 057	50
LH 8 SB100 SCL V2A	200 059	50
LH 8 SB100.120 SCG GALCU	200 087	50
LH 8 SB100.120 SCG V2A	200 089	50
LH 8 SB80.100 SCG GALCU	200 077	50
LH 8 SB80.100 SCG V2A	200 079	50
LH 8 SB80.100 SCL CU	200 067	50
LH 8 SB80.100 SCL V2A	200 069	50
LH DFI DQ 6.10 CU H30 BR	250 007	46
LH DFI DQ 6.10 STTZN H30 GR	250 000	46
LH DFI DQ 6.10 V2A H30 GR	250 001	46
LH DG 8 H20 B7.8 CU	207 007	45
LH DG 8 H20 B7.8 V2A	207 009	45
LH DG 8 H20 H55X50 K08 CU BR	207 107	45
LH DG 8 H20 H55X50 K08 V2A GR	207 109	45
LH DG 8 H20 IGM6 CU	207 017	45
LH DG 8 H20 IGM6 V2A	207 019	45
LH DG 8 H32 B7.8 CU	207 027	45
LH DG 8 H32 B7.8 V2A	207 029	45
LH DG 8 H32 IGM6 CU	207 037	45
LH DG 8 H32 IGM6 V2A	207 039	45
LH DS 8 H16 H55X50 GR	204 006	46
LH DS 8 H16 H55X50 K08 GR	204 120	46
LH DS 8 H16 IGM6 BR	204 007	45
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LH DS 8 H16 IGM8 GR	204 002	45
LH DS 8 H36 IGM6 BR	204 027	45
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LH DS 8 H36 IGM8 BR	204 037	45
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LH FS 8 H16 GR V2A	204 029	33
LH FS 8 H16 K BR V2A	204 039	33
LH KD 8.10 D76 STTZN	425 076	268
LH KD 8.10 D89 STTZN	425 089	268
LH KP 6.10 VK570 STTZN	260 118	49
LH KR 6.10 H22 B6.5 V2A	273 019	49
LH PS 8 H16 KB4.6 BR V2A	204 079	37
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LH US 8 H16 L205 KT GR V2A	204 089	34
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LH ZS 13 M8 V2A	274 113	47	MVK 10 FRM10X35 V2A	391 069	73	PAS I 6AP M10 V2A	472 209	260
LH ZS 16 M8 V2A	274 116	61	MVK 10 SKM10X35 FSC STTZN	391 550	73	PAS I 8AP M10 CU	472 227	260
LH ZS 16 SBB PA V2A	275 716	52	MVK 10 SKM10X35 FSC V2A	391 559	73	PAS I 8AP M10 V2A	472 229	260
LH ZS 20 23 B5.5X10 V2A	275 252	147	MVK 10 SKM10X35 STTZN	391 050	73	PK 2.21 ASSM5 TGTZN	588 000	281
LH ZS 20 23 DS10 L75 V2A	253 289	145	MVK 10 SKM10X35 V2A	391 059	73	PK 4.45 ASSM5 TGTZN	589 000	281
LH ZS 20 23 GM6 V2A	275 251	147	MVK 16 16 FRM10X50 V2A	393 069	118	PSE 50X50X3 1000 STTZN	635 100	238
LH ZS 20 23 GM8 V2A	275 250	147	MVK 200 8.10 16 SKM10X40 FSC V2A	392 209	94	PSE 50X50X3 1500 STTZN	635 150	238
LH ZS 20 23 KS H10 V2A	275 259	147	MVK 200 8.10 SKM10X30 V2A	390 209	94	PSE 50X50X3 2000 STTZN	635 200	238
LH ZS 20 23 KT D16 L85 V2A	253 279	146	MVK 8 FRM10X35 CU	390 067	73	PSE 50X50X3 2500 STTZN	635 250	238
LH ZS 20 23 SB50.300 V2A	275 320	178	MVK 8 SKM10X30 V2A	390 057	73	PV 4.10 SKM8X30 CU	305 007	77
LH ZS 20 23 SBH 25X0.3 V2A	275 319	178	MVK 8.10 16 FRM10X40 STTZN	392 060	74	PV 4.10 SKM8X30 STTZN	305 000	77
LH ZS 20 EX P200 SBB V2A	275 442	181	MVK 8.10 16 FRM10X40 V2A	392 069	74	PV 5.12.5 SKM8X45 CU	306 100	77
LH ZS 20 EX P70 SBB V2A	275 444	180	MVK 8.10 16 SKM10X40 FSC STTZN	392 050	74	PV 5.12.5 SKM8X45 GSG CUGALSN	306 105	272
LH ZS 20 EX W200 BP V2A	275 441	180	MVK 8.10 16 SKM10X40 FSC V2A	392 059	74	PV 5.16 SKM10X50 CU	306 101	77
LH ZS 20 EX W70 BP V2A	275 440	180	MVK 8.10 FRM10X35 AL	390 061	73	PV 5.16 SKM10X50 GSG CUGALSN	306 106	272
LH ZS 20 H10 B6.5X16 V2A	275 229	179	MVK 8.10 FRM10X35 STTZN	390 060	73	PV 6.22 FRM10X40 STBLANK	306 121	77
LH ZS 20 H19 IGM8 GR PA	275 220	147	MVK 8.10 FRM10X35V2A STTZN	390 063	73	PV 6.22 FRM10X40 STBLANK	306 121	134
LH ZS 20 SB50.300 PA V2A	275 330	178	MVK 8.10 M10 V2A	105 079	119	PV 6.22 FRM10X40 STTZN	306 122	77
LH ZS 23 H10 B6.5X16 V2A	275 239	179	MVK 8.10 SKM10X30 AL	390 051	73	PV 7.10 FRM10X35 STTZN	306 020	77
LH ZS 23 H19 IGM8 GR PA	275 225	179	MVK 8.10 SKM10X30 FSC AL	390 551	73	PV 7.10 FRM10X35 V4A	306 029	77
LH ZS 23 SB50.300 PA V2A	275 333	178	MVK 8.10 SKM10X30 FSC STTZN	390 550	73	PV 7.10 SKM8X20 CU	307 007	77
LH ZS 27 30 SBH 25X0.3 V2A	275 359	200	MVK 8.10 SKM10X30 FSC V2A	390 559	73	PV 7.10 SKM8X20 STTZN	307 000	77
LH ZS 27 B5.5X10 V2A	275 242	200	MVK 8.10 SKM10X30 STTZN	390 050	73	RD 10 AI WEI R100M	840 010	19
LH ZS 27 DS10 L75 V2A	253 330	198	MVK 8.10 SKM10X30 V2A	390 059	73	RD 10 KM STTZN R50M	800 110	20
LH ZS 27 EX P240 SBB V2A	275 455	202	MVK 8.10 SKM10X35 V4A	390 079	73	RD 10 STTZN L3000	800 910	20
LH ZS 27 EX P85 SBB V2A	275 454	202	NS 16 MZ 1 AL	482 0xx	71	RD 10 STTZN L6000	800 911	20
LH ZS 27 EX W240 BP V2A	275 451	201	NS 16 FL30 OZ AL	480 004	71	RD 10 STTZN R30M	800 310	20
LH ZS 27 EX W85 BP V2A	275 450	201	NS 7.10 FL30 MZ 1 AL	481 0xx	71	RD 10 STTZN R81M	800 010	20
LH ZS 27 GM6 V2A	275 241	200	NS 7.10 FL30 OZ AL	480 003	71	RD 10 V2A R20M	860 920	20
LH ZS 27 GM8 V2A	275 240	200	NS SOB 0.9	490 999	69	RD 10 V2A R50M	860 950	20
LH ZS 27 KS H10 V2A	275 249	200	NS SOB L	490 099	70	RD 10 V2A R80M	860 910	20
LH ZS 27 KT D16 L85 V2A	253 331	199	NSE 0 V2A	490 000	70	RD 10 V4A R20M	860 020	20
LH ZS 27 SB50.300 V2A	275 339	200	NSE 1 V2A	490 001	70	RD 10 V4A R50M	860 050	20
LH ZS 6.11 FL30 SBB PA V2A	275 730	52	NSE 2 V2A	490 002	70	RD 10 V4A R80M	860 010	20
LH ZS 6.11 SBB PA V2A	275 711	52	NSE 3 V2A	490 003	70	RD 8 AL CU WEI R110M	833 008	19
LH ZS 7.10 AB D10X140 STTZN ZG	273 740	49	NSE 4 V2A	490 004	70	RD 8 AL WE KM R100M	840 128	19
LH ZS 7.10 AB D10X180 STTZN ZG	273 741	49	NSE 5 V2A	490 005	70	RD 8 ALMGSI HH R148M	840 008	19
LH ZS 7.10 AB D10X240 STTZN ZG	273 742	49	NSE 6 V2A	490 006	70	RD 8 ALMGSI HH R21M	840 108	19
LH ZS 7.10 FL20 LRS100 STTZN	262 100	48	NSE 7 V2A	490 007	70	RD 8 ALMGSI WE KM R100M	840 118	19
LH ZS 7.10 FL20 LRS70 STTZN	262 070	48	NSE 8 V2A	490 008	70	RD 8 ALMGSI WEI R148M	840 018	19
LH ZS 7.10 FL20 VKS100 CU	260 187	48	NSE 9 V2A	490 009	70	RD 8 ALMGSI WEI R21M	840 028	19
LH ZS 7.10 FL20 VKS100 STTZN	260 108	48	NSE BLANK AL	490 900	70	RD 8 CU F20 WEI R100M	830 008	19
LH ZS 7.10 FL20 VKS150 STTZN	260 158	48	NST 16 ON AL	490 116	69	RD 8 CU F20 WEI R20M	830 108	19
LH ZS 7.10 FL20 VKS70 STTZN	260 708	48	NST 7.10 FL30 ON AL	490 110	69	RD 8 CU F25 HH R100M	830 038	19
LH ZS 7.10 FL30 AS KD8X40 V2A	286 819	47	NST ON AL	490 100	69	RD 8 KM STTZN R75M	800 108	20
LH ZS 7.10 IGM8 STTZN ZG	275 110	47	OENTK 7.10 7.10 ZG	460 213	92	RD 8 STTZN R127M	800 008	20
LH ZS 7.10 KD8X40 STTZN ZG	275 160	47	PAE 17 20 AB11 V2A	410 219	142	RD 8 V2A R125M	860 908	20
LH ZS 8 H16 KB4.16 BR V2A	204 059	37	PAE 20 23 AB11 V2A	410 229	168	RD 8 V4A R125M	860 008	20
LH ZS 8 H16 KB4.16 GR V2A	204 049	37	PAE 27 AB11 V2A	410 239	192	RE 25 1500 V4A	649 150	238
LH ZS 8.10 FL20 KS KD8X40 CU	274 167	47	PAK 20 AQ4 95 STTZN	405 020	177	RE 27 1500 STTZN	640 150	238
LH ZS 8.10 FL20 KS KD8X40 V2A	274 160	47	PAS 11AK	563 200	257	RE G 16.10 FL4 STGALZN	596 600	283
LH ZS 8.10 FL20 M8 CU	274 117	46	PAS 11AK UV	563 201	257	RE G 8.10 FL4 STBRUE	596 000	283
LH ZS 8.10 FL20 M8 KS CU	274 150	46	PAS 6RK OH	563 105	257	RE GK 8.10 SW13 STBRUE	595 000	283
LH ZS 8.10 FL20 M8 V2A	274 110	46	PAS 9AK	563 050	257	RFS 16 10 1500 AL	103 410	96
LH ZSUEL 20 2XB6.5 V2A	275 129	210	PAS AH RK 13X25 1X8.10	563 030	258	RFS 16 10 1500 CU	103 417	96
MAMVK 8.16 15.25 STBL	308 040	74	PAS AH RK 5X25 3X8.10 1XFL30	563 020	258	RFS 16 10 1500 V2A	103 419	96
MAMVK 8.16 15.25 STTZN	308 041	74	PAS AH RK 7X25 2X8.10 1XFL30	563 010	258	RFS 16 10 2000 AL	103 420	96
ML 0.75 L100M CU BL	545 000	281	PAS AH RK 7X25 2X8.10 1XFL40	563 040	258	RFS 16 10 2000 V2A	103 429	96
ML 0.75 L100M CU RT	545 001	281	PAS I 10AP M10 CU	472 217	260	RFS 16 10 2500 AL	103 430	96
MMVK 6.8 FRM10X35 CU	390 257	74	PAS I 10AP M10 V2A	472 219	260	RFS 16 10 2500 V2A	103 439	96
MMVK 6.8 FRM10X35 STTZN	390 250	74	PAS I 12AP M10 CU	472 237	260	RFS 16 10 3000 AL	103 440	96
MMVK 6.8 FRM10X35 V2A	390 259	74	PAS I 12AP M10 V2A	472 239	260	RFS 16 10 3000 V2A	103 449	96
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RK 95 PAS	563 013	259	SPK Z 25 BRS AK1X10 2X6.8 V2A	540 210	265	TBM 8M SCFU STTZN AL	103 123	105
RK FL30 PAS	563 012	259	SR D30 1990 FSP10 1000 GFK AL V2A	105 273	153	TBM 9M SCFU STTZN AL	103 124	105
RK FL40 PAS	563 019	259	SR D30 1990 FSP10 500 GFK AL V2A	105 272	153	TE 20 1000 Z STTZN	620 101	237
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RLA 20 FB K SW	253 026	145	SR D30 2840 FSP10 500 GFK AL V2A	105 274	153	TE 20 1500 BK ST CU	619 157	237
RLA 23 FB K SW	253 027	176	SR D30 2875 FSP10 1000 DSH GFK AL V2A	105 288	155	TE 20 1500 S STTZN	620 150	237
RRS 100 B11 CU	420 107	50	SR D50 1950 FS22 16 10 2500 DSH GFK AL	105 281	156	TE 20 1500 Z STTZN	620 151	237
RRS 100 B11 STTZN	420 100	50	SR D50 3200 FS1000 IP SA HVI GFK AL	105 325	169	TE 25 1000 Z STTZN	625 101	237
RRS 120 B11 CU	420 127	50	SR D50 3200 FS1000 IP SA HVI GFK V2A	105 336	169	TE 25 1500 S STTZN	625 150	237
RRS 120 B11 STTZN	420 120	50	SR D50 3200 FS16.10 2500 GFK AL	105 306	122	TE 25 1500 Z STTZN	625 151	237
RRS V 60.100 B10.5 AL	423 011	50	SR D50 3200 FS22 2500 IP HVI GFK AL	105 331	169	TFS	923 023	268
RRS V 60.100 B10.5 CU	423 017	50	SR D50 3200 FS22 2500 IP HVI GFK V2A	105 315	169	TM 7.10 16 AL	450 001	93
RRS V 60.100 B10.5 STTZN	423 010	50	SR D50 3200 FS2500 IP SA HVI GFK AL	105 326	170	TM 7.10 16 RG	450 007	93
RRS V 60.100 B10.5 V2A	423 019	50	SR D50 3200 FS2500 IP SA HVI GFK V2A	105 337	170	TM 7.10 16 ZG	450 000	93
RRS V 60.150 B10.5 AL	423 021	50	SR D50 3200 FSP1000 IP HVI GFK AL	105 330	169	TM 8.10 8 AL	450 101	93
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RRS V 60.150 B10.5 STTZN	423 020	50	SR D50 3500 FS1000 IP SA HVIP GFK V2A	105 392	193	TS 16 FL30 PP V2A	490 021	70
RRS V 60.150 B10.5 V2A	423 029	50	SR D50 3500 FS22 10 2500 IP HVIP GFK V2A	105 321	192	TS 7.10 FL30 PP V2A	480 113	71
RS D40.60 BB16 V2A ZG	106 352	116	SR D50 3500 FS2500 IA HVIP GFK AL	105 573	192	TS 7.10 V1.0 1.15M STTZN	239 000	39
RS D70.90 BB16 V2A ZG	106 353	116	SR D50 3500 FS2500 IA SA HVIP GFK AL	105 543	193	TS 7.10 V1.25 1.40M STTZN	239 001	39
RTUP 230X180 SV STTZN	476 100	68	SR D50 3500 FS2500 IP SA HVIP GFK V2A	105 393	193	TS 7.10 V1.25 1.55M V2A	239 009	39
RTUP 230X180 VKS STTZN	476 001	68	SR D50 3500 FSP1000 IA HVIP GFK AL	105 563	192	TS 7.10 V1.45 1.75M V2A	239 019	39
RTUP 290X230 VKS V2A	476 020	68	SR D50 3500 FSP1000 IA SA HVIP GFK AL	105 513	193	TSK WDV5 180X140X88 K V2A	476 050	68
			SR D50 3500 FSP1000 IP HVIP GFK V2A	105 320	192	TSKS WDV5 185X140X88 AH50.200 K V2A	476 055	68
			SR D50 4700 FS1000 IP SA HVI GFK AL	105 327	169			
SAM 0.75L BR	559 011	284	SR D50 4700 FS1000 IP SA HVI GFK V2A	105 338	169	UEBB L180 B10.5 B5.2 AL	377 015	28
SAM 0.75L GR	559 010	284	SR D50 4700 FS22 2500 IP HVI GFK AL	105 333	169	UEBB L180 B10.5 B5.2 CU	377 007	28
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SCK EX BRS ASSM10 V2A	540 810	271	SR D50 4700 FS2500 IP SA HVI GFK AL	105 328	170	UEBB L300 3XB10.5 B5.2 AL	377 115	29
SCSC 16 FL30 L...M SW	554 011	284	SR D50 4700 FS2500 IP SA HVI GFK V2A	105 339	170	UEBB L300 3XB10.5 B5.2 CU	377 107	29
SEIL 10 STGALZN R100M	801 050	22	SR D50 4700 FSP1000 IP HVI GFK AL	105 332	169	UEBL L170 B11 B5.2 6.5 AL	377 006	28
SEIL 10 V4A R100M	850 010	23	SR D50 4700 FSP1000 IP HVI GFK V2A	105 316	169	UEBL L170 B11 B5.2 6.5 CU	377 027	28
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SEIL 10.5 70Q CU R50M	832 192	23	SR D50 5000 FS22 10 2500 IP HVIP GFK V2A	105 323	192	UEBL L220 B11 B5.2 6.5 AL	377 026	28
SEIL 10.5 70Q CUGALSN R100M	832 292	23	SR D50 5000 FS2500 IA HVIP GFK AL	105 575	192	UEBS 16 L200 B10.5 B6.5 AL CU	377 210	29
SEIL 10.5 70Q CUGALSN R50M	832 202	23	SR D50 5000 FS2500 IA SA HVIP GFK AL	105 545	193	UEBS 16 L300 B10.5 B6.5 AL CU	377 310	29
SEIL 12.5 95Q CU R50M	832 095	23	SR D50 5000 FS2500 IP SA HVIP GFK V2A	105 395	193	UEBS 16 L400 B10.5 B6.5 AL CU	377 410	29
SEIL 12.5 95Q CUGALSN R50M	832 295	23	SR D50 5000 FSP1000 IA HVIP GFK AL	105 565	192	UEBS 16 L400 CU FK0.7 10 V2A	365 419	30
SEIL 14.5 120Q CU R50M	832 120	23	SR D50 5000 FSP1000 IA SA HVIP GFK AL	105 515	193	UEBS 16 L500 B10.5 B6.5 AL CU	377 510	29
SEIL 14.5 120Q CUGALSN R50M	832 320	23	SR D50 5000 FSP1000 IP HVIP GFK V2A	105 322	192	UEK 8.10 AQ4 50 HKSM10 V2A	540 260	267
SEIL 8 V4A R100M	850 008	23	SR D50 M10 3200 GFK AL	105 300	122	UEK 8.10 AQ4 50 HKSM8 V2A	540 250	267
SEIL 9 50Q AL R100M	840 050	22	SR D50 M10 4700 GFK AL	105 301	122	UEL DQ 6.10 B6.5 V2A	202 169	49
SEIL 9 50Q CU R100M	832 740	23	SR D50 M10 6200 TB GFK AL	105 302	122	UEL DQ 6.10 B8.5 STTZN	202 000	49
SEIL 9 50Q CU R50M	832 739	23	SR IPA 1L	297 199	42	UEL DQ 6.10 B8.5 V2A	202 001	49
SEIL 9 50Q CUGALSN R100M	832 839	23	SSP TE 20 TGTZN	620 001	237	UFTSK 197X197X204 K	549 051	66
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SGK ZS 7.10 KB3.13 STTZN	343 000	87	SVK 7.10 16 FL40 STTZN	308 330	81	UFTSK 300X220X120 GG	549 000	66
SH 16 BB16 V2A ZG	106 129	115	SVK 7.10 7.10 FL30 STTZN	308 220	81	UFTSK 7.10 FL40 197X197X204 K	549 050	66
SH BB16 L475 WS V2A STTZN	223 005	110	SVK 7.10 7.10 FL30 V4A	308 229	81	UFTSK 7.10 FL40 200X200X105 V2A	549 090	67
SH DFI 16 STTZN H42 GR	252 000	63	SVK 7.10 7.10 FL40 STTZN	308 320	81	UFTSK 7.10 FL40 300X220X120 GG	549 001	66
SH KR 13.16 H28 B6.5 V2A	275 019	63	SVK 7.10 7.10 FL40 V4A	308 329	81	ULP KS D280 SW	102 060	103
SH ZS 16 AB D10X180 STTZN ZG	273 731	62	SVK 7.10 FL30 V4A	308 249	81	ULP KS D370 SW	102 050	103
SH ZS 16 KD8X40 STTZN ZG	275 260	62	SVK FL30 STTZN	308 230	81	UMG HT ET5071	578 390	279
SH ZS 16 KS KD8X40 V2A	274 260	61	SVK FL30 V4A	308 239	81	UNI FK 8.10 KBF0.7 8 AL V2A	365 250	266
SH ZS 16 M8 V2A	275 116	62	SVPK 8.10 8.10 FL30 STTZN	308 060	82	UPTSK 140X140 V2A AF8 10 L200 STTZN	476 010	67
SH ZS 16 VKS100 STTZN	260 106	62	SVPK 8.10 8.10 FL30 ZP STTZN	308 070	82	UPTSK 140X140 V2A AL16CU	476 016	67
SK RD10 FL30X3.5 GRGE PVC	478 099	21				UTK 16 FL30 ZP V2A	459 159	92
SKO TE 20 STBLANK	620 002	244	TBM 10M SCFU STTZN AL	103 125	105	UTK 200 2X10 FL30 ZP V2A	459 200	94
SKO TE 25 STBLANK	625 002	244	TBM 11M SCFU STTZN AL	103 126	105	UTK 200 8.10 16 ZP V2A	459 219	94
SPB 14X0.3 L50M V2A	540 931	52	TBM 13.35M FP400 STTZN	103 013	105	UTK 7.10 16 S ZP STTZN	459 000	91
SPB 25X0.3 L100M V2A	540 901	118	TBM 16.35M FP400 STTZN	103 016	105	UTK 7.10 7.10 S ZP STTZN	459 003	91
SPK 100X100 FSP10 300 7.10 V2A	146 309	39	TBM 19.35M FP565 STTZN	103 019	105	UTK 8.10 16 STTZN	459 010	92
SPK 14X0.3 V2A	540 930	52	TBM 22.35M FP565 STTZN	103 022	105	UTK 8.10 16 V2A	459 019	92
SPK 25 BRS AQ4 25 V2A	540 900	264	TBM 24.85M FP565 STTZN	103 025	105	UTK 8.10 16 ZP V2A	459 119	91
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This catalogue replaces the Main Lightning Protection / Earthing Catalogue 2016.

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*) GTIN (EAN code)

In the catalogue, you will find the GTIN (EAN code) next to the Part No. For reasons of clarity, only the individual GTIN part is specified.

The country and DEHN + SÖHNE code (40 13364) must be put in front of this number.

Abbreviations:

PG	Product Group
PU	Packing Unit
SU	Sales Unit (Piece, Meter, Set or Pair)
Pc(s)	Piece(s)
m	Meter
Sa	Set
Pa	Pair
Weight	Weight per sales unit

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1.2 Our terms of sale only apply to entrepreneurs within the meaning of section 310, paragraph 1 of the German Civil Code (BGB), to current business relationships and to all future transactions with the customer.

2. Offer and Order, Reservation of Right of Modification and Copyright

2.1 Except where expressly identified by us as binding, documents such as diagrams, drawings and measurements, in particular in print media and online on our website www.dehn-international.com, are only indicative.

2.2 Should our order confirmation contain reasonable expansions, limitations, or other modifications with respect to the order, then the customer's agreement is implied, if he/she does not immediately, at the latest however within 3 business days from receipt of the order confirmation, oppose it.

2.3 Any order placed in our web shop shall be regarded as an offer to conclude a sales contract. A sales contract only comes into existence if the customer receives a written order confirmation or the goods are delivered / services are rendered.

2.4 Our goods are only delivered in the packaging units indicated in the catalogues. If a different number of items is ordered, the amount and price of the next larger packaging unit is considered agreed upon.

2.5 We reserve the right to make technical modifications to our services, insofar as such modifications promote technical progress or are unavoidable based on other circumstances and are reasonable for the customer.

2.6 We reserve ownership and copyright rights to diagrams, drawings, calculations, and other documents; these may not be made available to third parties without our express written consent.

3. Prices, Value-Added Tax, Packaging Costs

3.1 Our prices are subject to change without notice.

3.2 Prices include, insofar as nothing else is arranged, customary packaging from our plant without value-added tax. On the day of invoicing, the legally identified VAT amount is to be reimbursed to us.

3.3 The cost of non-customary packaging, e.g., collective or seaworthy packaging, is invoiced separately. The customer bears the cost of the disposal or return of packaging.

4. Passing of Risk, Optional Insurance

The risk of accidental loss and deterioration passes to the customer upon dispatch to the customer from our warehouse or plant, even if carriage-paid delivery is agreed upon. At the request and expense of the customer, we will insure the delivery against breakage, damage to goods in transit and fire damage.

5. Payment Due Dates, Discounts, Right of Refusal, Default, Small Order Quantity Surcharge

5.1 Unless otherwise agreed, invoices are payable net 10 days. The customer shall pay the costs of payment. Discount amounts are deductible only if they have been agreed on with us and all accounts payable due have been paid.

5.2 If the customer is in default with his payments, interest on the outstanding amount shall be payable at the rate of 9 % above the base interest rate. We reserve the right to prove and allege higher default damages. The right of early notice of default remains unchanged. If we are required to advance performance and, if after the execution of the contract, it becomes apparent that our claim, in particular for payment, may be jeopardised by the customer's inability to perform, we may refuse performance.

5.3 The customer cannot change counter-claims against our due payment claims or exercise a right of retention, unless the customer is entitled to a claim recognised by declaratory judgement that is not contested by us and if, while exercising the right of retention, the counter-claim from the customer is based on the same contractual relationship.

5.4 Orders, with the exception of cash sales, for which the net amount (invoiced amount without shipping costs and value-added tax) is less than €75.00, a small order surcharge of €25.00 will be charged.

6. Retention of Title, Assignment, Release of Securities

6.1 Delivered goods remain our property until the payment of all open business claims up to the point of invoicing. The claims of the customer including value-added tax from the resale of reserved goods, i.e., from a work performance using our goods, should already be transferred to us in the amount of the open invoice. In the case that the reserved

goods from the customer are sold together with other goods that do not belong to us, whether it be without or after processing, or are delivered within the framework of a working contract, the assignment of the resulting claim of the reserve buyer is calculated in the amount of the value of the reserved goods.

6.2 Should the value of the granted securities exceed the claims by more than 10 %, we are obliged to retransfer or release the securities upon request. We shall select the securities to be released.

6.3 Our goods may only be transferred within the framework of proper business activity. The customer is not allowed to pawn or transfer the ownership of goods that are still in our possession.

6.4 At our request, the customer is obliged to inform us of the purchaser and the arranged price and to show the assignment to its debtor.

7. Delivery Period and Date

7.1 The start of the delivery period presupposes the involvement of the customer for the clarification of all technical questions.

7.2 Delivery periods as well as delivery dates will be appropriately extended if they cannot be adhered to as a result of military mobilisation, war, uprising, strike or lockout, delayed delivery of raw and auxiliary materials, late delivery by our suppliers, or similar circumstances beyond our control. A lasting obstruction under these circumstances gives us the right to withdraw from the contract without liability for damages.

8. Liability for Material and Title Defects

8.1 We shall assume liability without restriction in compliance with the statutory regulations, provided that the customer asserts claims for damage compensation, which are attributable to wilful intent or gross negligence, including wilful intent and gross negligence on the part of our representatives or vicarious agents.

8.2 We shall assume liability without restriction in compliance with the statutory regulations, in case of culpable injury to life, limb or health; this shall also apply to the mandatory liability under the Product Liability Act.

8.3 In so far as a defect of the subject of the contract exists for which we are liable, we shall at our discretion either remedy the defect or deliver a non-defective object of the contract (subsequent performance).

8.4 If said subsequent performance should fail or if it is unreasonable for the customer, or if we refuse seriously and conclusively to do so or if we have delayed rectification unreasonably or if other circumstances prevail, which justify immediate withdrawal or damage compensation, taking account of the interests on both sides, then the customer shall be entitled to reduce the contract price or to withdraw from the contract and/or to demand damage compensation. In the event of only a slight infringement of contract, in particular in the event of only slight defects, the customer shall not be entitled to withdraw.

8.5 If the customer should choose only damage compensation after the failure of subsequent performance, then the subject of the contract shall remain with the customer, if this can be reasonably expected. Damage compensation shall be restricted – subject to item 8.1 and 8.2 – to the difference between the purchase price (without value added tax) and the value of the defective subject of the contract remaining with the purchaser.

8.6 Insofar as not otherwise specified above, liability shall be excluded.

8.7 The limitation period for claims based on defects, – subject to item 8.1 and 8.2 – shall be 12 months from delivery of the goods.

8.8 Items 8.1 to 8.7 shall not affect the rights of the customer, if we have fraudulently concealed a defect or have assumed a guarantee for quality.

9. Overall liability

9.1 Any further liability for compensation than that provided in item 8 – irrespective of the legal nature of the asserted claim – shall be excluded. This shall in particular apply to damage claims for liabilities resulting from culpa in contrahendo, for other breaches of duty or for tortious claims for damage compensation acc. to § 823 BGB (German code civil law).

9.2 Limitation according to 9.1 shall also apply, insofar as the customer claims reimbursement for useless expenditures instead of claiming compensation for damages in place of performance.

9.3 As far as the liability for compensation against us is excluded or restricted, this shall also apply with regard to the personal liability for damages of our employees, workers, representatives and vicarious agents.

10. Return of Goods without Legal Liability

10.1 If no legal claim to return exists, delivered goods will be accepted only with previous agreement from us. Returns

without previous agreement will be send back – postage due – to the sender without inspection. The customer bears the shipping costs for the return delivery in No. 10.1.

10.2 The goods must still be in the original packaging. Special orders or deliveries dating back further than three months cannot be returned. In order to cover the costs of goods returns, a processing fee of 20 % of the net value of the goods or €25.00, whichever is the greater, shall be applied, unless the customer can prove to us that we have incurred no or considerably smaller damage. If the goods can no longer be resold at the list price at the time of the return, an additional deduction (old goods deduction) will be made in addition to the processing fee. If we make an exception and agree to accept the return of parts that are unpackaged or that are no longer in their original packaging, an expense remuneration of at least 15 % will be charged for reworking and repackaging in addition to the processing fee and, if applicable, the old goods deduction, unless the customer can prove to us that we have incurred no or considerably smaller damage.

10.3 Returned goods will only be credited to a new invoice. Credits cannot be used to clear invoices due at the time of the return.

11. Product Information, No Advisory Obligation

Our deliveries are intended only for speciality stores or skilled users. Our user information and instructions are limited to the details of each written product information (e.g., installation instructions, catalogues, data sheets). Further advisory obligations do not exist. Application, use, and processing of the products lie solely in the customer's realm of responsibility.

12. Additional Conditions for the Provision of Services

12.1 We make our offers without conducting a separate test to ascertain the suitability of the products for the relevant customer project. Our liability is excluded unless we were aware of anything contrary to suitability or we were not so aware due to gross negligence. The customer is responsible for conducting the requisite test.

12.2 We also make our offers on the basis of the specifications submitted by the customer without conducting a separate test to ascertain the suitability of the products on an individual basis. Our liability is excluded unless we were aware of anything contrary to suitability or we were not so aware due to gross negligence when checking the specifications. The customer is responsible for conducting the requisite test.

12.3 Our application proposals with product recommendations are of a general nature and are neither designed for application to an individual case nor intended to enable such application. Our application proposals are therefore non-binding. We do not accept any liability in this respect. It is absolutely essential to conduct an appropriate test on an individual basis. The customer is responsible for conducting such a test.

12.4 Our concept proposals with product recommendations do not replace the prevailing recognised engineering standards. The concept proposals with product recommendations do not claim to be exhaustive, unless expressly agreed otherwise. Our conceptual suggestions with product recommendations do not replace a concrete planning and inspection procedure. The ordering party must perform this procedure, whereby any liability whatsoever on our part is excluded; as an optional extra, you may wish to separately order the DEHNconcept planning services.

12.5 The sole purpose of the seminars we organise for the customer is to broaden his knowledge and to enable him to check his level of knowledge. We do not monitor and test the knowledge that the customer acquires and applies. We do not accept any liability in this respect. The seminars will always be kept up to date so that they meet the requirements of the recognised engineering standards.

13. Use and Protection of Customer Data

We use customer data, which concern the business dealings with the customer, in terms of the Federal Data Protection Act.

14. Applicable Law, Jurisdiction

14.1 German law applies to the mutual contractual obligations, their materialisation, interpretation, and implementation as well as all resulting contractual and business relationships. The application of the UN Agreement on Contracts on the International Purchase of Goods and the thereafter enacted laws of the Federal Republic of Germany is excluded.

14.2 Place of performance and jurisdiction for delivery, payment, and for all obligations, including those from exchange and cheque payments – if the customer is a businessperson, legal entity of public law or of special fund under public law – is exclusively Nuremberg.

15. VAT Identification Number

VAT ID No. DE 133251475

DEHN + SÖHNE GmbH + Co.KG.
Nürnberg – Neumarkt

* The original German text shall be the governing version.

Classification	Title
IEC 62305-1 (EN 62305-1):2010-12	Protection against lightning Part 1: General principles
IEC 62305-2 (EN 62305-2):2010-12	Protection against lightning Part 2: Risk management
IEC 62305-3 (EN 62305-3):2010-12	Protection against lightning Part 3: Physical damage to structures and life hazard
IEC 62305-4 (EN 62305-4):2010-12	Protection against lightning Part 4: Electrical and electronic systems within structures

Standard	Supplement	Title
DIN EN 62305-2	1	Lightning threat in Germany
	2	Calculation assistance for assessment of risk for structures
	3	Additional information for the application of DIN EN 62305-2 (VDE 0185-305-2)
DIN EN 62305-3	1	Additional information for the application of DIN EN 62305-3 (VDE 0185-305-3)
	2	Additional information for special structures
	3	Additional information for the testing and maintenance of lightning protection systems
	4	Use of metallic roofs in lightning protection systems
	5	Lightning and overvoltage protection for photovoltaic power supply systems
DIN EN 62305-4	1	Sharing of the lightning current

Classification	Title
IEC 62561-1 (EN 0185-561-1)	Protection against lightning Part 1: Requirements for connection components
IEC 62561-2 (EN 0185-561-2)	Protection against lightning Part 2: Requirements for conductors and earth electrodes
IEC 62561-3 (EN 0185-561-3)	Protection against lightning Part 3: Requirements for isolating spark gaps
IEC 62561-4 (EN 0185-561-4)	Protection against lightning Part 4: Requirements for conductor fasteners
IEC 62561-5 (EN 0185-561-5)	Protection against lightning Part 5: Requirements for earth electrode inspection housings an earth electrode seals

Conversion Table

Description	Part No.	Length	Weight	Weight	Length
Round Wire St/tZn , 8 mm	800 008	1 m	393 g	1 kg	2.54 m
Round Wire St/tZn , 10 mm	800 010 / 800 310	1 m	617 g	1 kg	1.62 m
Round Wire St/tZn , with plastic coating, 8 mm	800 108	1 m	440 g	1 kg	2.30 m
Round Wire St/tZn , with plastic coating, 10 mm	800 110	1 m	680 g	1 kg	1.48 m
Round Wire Al , semi-rigid/soft, 8 mm	840 008 / 840 018 840 108 / 840 028	1 m	135 g	1 kg	7.40 m
Round Wire StSt (V2A) / (V4A) , 8 mm	860 008 / 860 908	1 m	395 g	1 kg	2.54 m
Round Wire StSt (V2A) / (V4A) , 10 mm	860 010 / 860 020 860 910 / 860 920	1 m	617 g	1 kg	1.62 m
Round Wire Cu , semi-rigid/soft, 8 mm	830 008 / 830 108 830 038	1 m	448 g	1 kg	2.22 m
Strip St/tZn , 20 x 2.5 mm, Z500	810 225	1 m	400 g	1 kg	2.50 m
Strip St/tZn , 30 x 3.5 mm, Z500	810 335 / 852 335	1 m	840 g	1 kg	1.19 m
Strip St/tZn , 30 x 4 mm, Z500	810 304	1 m	960 g	1 kg	1.04 m
Strip St/tZn , 40 x 4 mm, Z500	810 404	1 m	1.280 kg	1 kg	0.78 m
Strip St/tZn , 40 x 5 mm, Z500	810 405	1 m	1.600 kg	1 kg	0.63 m
Strip StSt (V2A) / (V4A) , 30 x 3.5 mm	860 335 / 860 325 860 900 / 860 925 861 325 / 861 335	1 m	825 g	1 kg	1.21 m
Strip StSt (V4A) , 40 x 4 mm	860 404	1 m	1.248 kg	1 kg	0.80 m
Strip StSt (V4A) , 40 x 5 mm	860 405	1 m	1.560 kg	1 kg	0.64 m
Strip Cu , 20 x 2.5 mm	831 225	1 m	450 g	1 kg	2.22 m

Abbreviations

The following list shows and explains all abbreviations mentioned.

Conductor Types:

Abbreviation	Conductor Types
Fl	Flat conductor (strip)
Rd	Round conductor (round wire)

Materials:















Abbreviation	Description
Al	Aluminium
AlMgSi	Aluminium magnesium silicon wrought alloy
Cu	Copper, electrical copper
Cu/bronze	Copper / Bronze
Cu/gal Sn	Copper, tin-coated
EVA	Ethylene vinyl acetate copolymer
GRP	Glass-fibre reinforced plastic
GCI	Grey cast iron
K	Plastic material / Polyethylene / Polyamide / Polystyrene
Ms	Brass
Ms/gal Cu	Brass, copper coated
Ms/gal Sn	Brass, tin-coated
StSt	Stainless steel Material No.: 1.4301 (material No.: ASTM/AISI 304) Material No.: 1.4303 (material No.: ASTM/AISI 305) Material No.: 1.4307 (material No.: ASTM/AISI 304L)
StSt (V4A)	Stainless steel Material No.: 1.4401 (material No.: ASTM/AISI 316) Material No.: 1.4404 (material No.: ASTM/AISI 316L) Material No.: 1.4571 (material No.: ASTM/AISI 316Ti)
StSt / gal Cu	Stainless steel, copper coated
PA	Polyamide
PC	Polycarbonate
PE	Polyethylene
PP	Polypropylene
PS	Polystyrene
PVC	Polyvinyl chloride
ABS	Acrylonitrile butadiene styrene
RCB	Red castin brass
Sn	Tin
St/blank	Steel (black)
St/gal Zn	Steel, galvanised
St/tZn	Steel, hot dip galvanised
St / Cu	Steel, copper coated
MCI	Malleable cast iron
MCI/tZn	Malleable cast iron, hot dip galvanised
UP	Polyester (unsaturated)
XLPE	Cross-linked polyethylene
ZDC	Zinc die casting

Material combinations among air-termination systems as well as down conductors an with parts of the construction

Provided that no especially aggressive environmental influences have to be considered, the material combinations listed below have proved themselves. This is based on practical experience.

	Steel	Aluminium	Copper	StSt	Titanium	Tin
Steel (St/tZn)	yes	yes	no	yes	yes	yes
Aluminium	yes	yes	no	yes	yes	yes
Copper	no	no	yes	yes	no	yes
StSt	yes	yes	yes	yes	yes	yes
Titanium	yes	yes	no	yes	yes	yes
Tin	yes	yes	yes	yes	yes	yes






Symbols:

Screws		Screw heads	
	Half-round wood screw		Slot
	Countersunk head wood screw		Hexagon
	Wood screw with threaded head		Hexagon with slot
	Cheese head screw		Cross recessed
	Truss head screw		Star drive
	Knurled screw		Combined slot
	Countersunk screw		
	Raised head screw		

Recommended values:

Screw	Tightening torque
M5 / M6	≥ 4 Nm
M8	≥ 10 Nm
M10	≥ 20 Nm
M12	≥ 25 Nm
M16	≥ 25 Nm

Sonstige:

Symbols	
	Test according to EN 62561-1 Further information can be found on the Internet
	Installation instructions Further information can be found on the Internet
	New products
	Discontinued products
	Product dimensioned according to Eurocode

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