Cable Clamps for Single and Multi-Core Cables

Maximum short circuit resistance for all voltage ranges and the most extreme conditions

TÜVRheinland ZERTIFIZIERT
Management System ISO 9001:2015
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www.id-technik.com

id-Technik®
The original since 1977

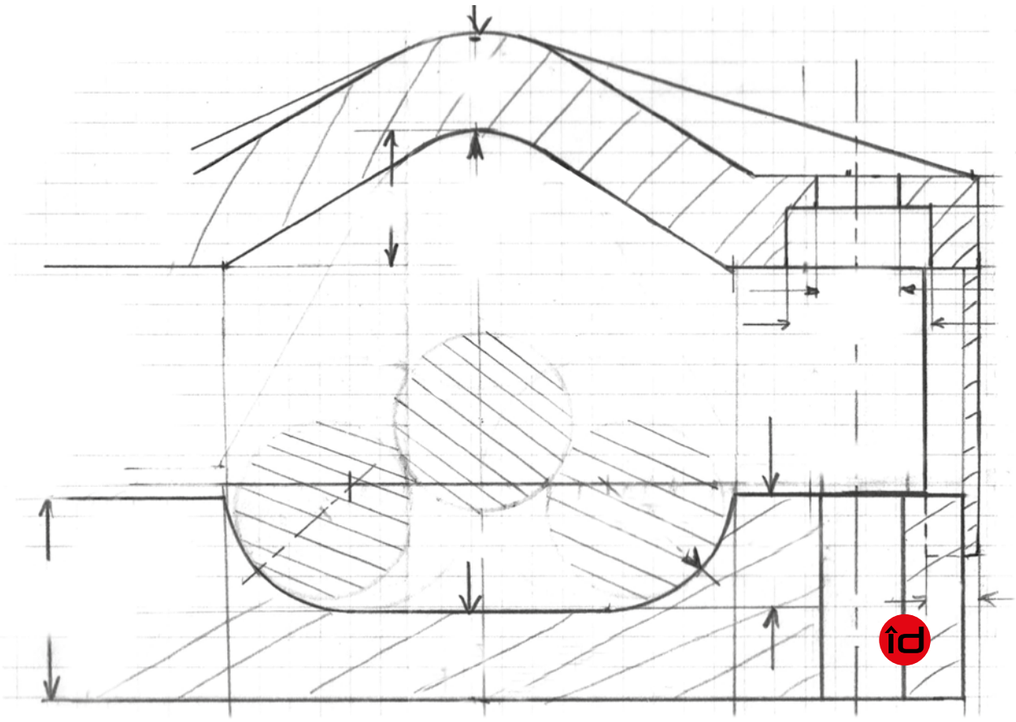
îd-Technik is the original developer

For over four decades we have been engaging in the subject of short-circuit proof fastening of energy cables. In the 1970s the paper-insulated lead-sheathed three-conductor cables got replaced by XLPE-insulated single-core cables. The resulting requirements for the short circuit proof fastening of energy cables could not, or only with high constructive and cost-intensive effort, be met by the clamps commonly used by the market in those times. Besides the thermal design of the cable cross sections for operation and in case of a short circuit the dynamic short circuit forces of the cable connection had to be considered to ensure a reliable operation of the cable system for decades.

Already at that time Klaus Dörrstein, the founder of îd-Technik GmbH, was engaging in the project planning of cable systems. From the necessity to develop Cable Clamps which meet the requirements of the cable constructions, the possible installation conditions and the short-circuit forces the for more than 40 years well-proven and reliable Cable Clamp series from îd-Technik were created. îd-Technik is thus the first manufacturer worldwide, who designed short-circuit-proof, universally applicable Cable Clamps made from a high quality polyamide. With IEC 61914 type tests and our regular ISO 9001 certification we guarantee you a maximum of safety and quality.

Also in the future you can rely on the proven îd-Technik quality.

Dr. Janine Dörrstein



CONTENT

KR Series

K Series

K-Tower Series

KT Series

BE Series NEW

KS-Tower Series NEW

KS Series

KH Series

RS Series NEW

VR3 Series NEW

KP Series

* with Elastic Inlays

* with Elastic Inlays
** Contact îd-Technik for diameter 12-21 mm, please.

The worldwide market leader in polyamide Cable Clamps for power cables

îd-Technik Cable Clamps – for universal applications

Maximum resistance to short circuits for all voltage ranges and under the most extreme conditions

Usable anywhere îd-Technik Cable Clamps guarantee the safe and reliable transmission of electricity in over 120 countries. They secure power cables under the most extreme conditions – in the heat of the desert, the cold of the poles, in aggressive chemical environments, on and offshore.

Across all product ranges, from high voltage to low voltage, each of our products is built on the same philosophy:

- Anything that is designed for the toughest applications and uncompromising short circuit resistance must be usable without ifs and buts and must prove its reliability over decades
- Certificates and continuous testing confirm this unique îd-quality. Throughout our many years in the market, we are not aware that any îd-Technik Cable Clamps in use have failed or become defective

Superior short circuit restraint for cables comes from our continuing design and development work

îd-Technik Cable Clamps are 100% Made in Germany including product design, raw materials and fabrication. Our product range benefits from our wide-ranging expertise acquired through 40 years of cable clamping experience.

We are an owner-led technically focused company with an uncompromising goal of providing complete technical solutions for customer requirements. This traditional business philosophy ensures that there is never conflict between short-term business goals and our obligation to meet customer expectations. When it comes to technical perfection and quality, we do not compromise.

Our Cable Clamps are also used in your industry

Worldwide, our customers include major electrical companies, cable and switchgear manufacturers, installation companies, energy suppliers, utility companies and manufacturers of on and offshore wind farms. Beyond the energy industry, our products ensure reliable electrical installation in all sectors, from the transport industry, through chemical companies, to the mining, oil and gas industries, machine and automobile manufacturing and in cable, train and road tunnels.

You can therefore rest assured that our product portfolio already contains a solution that will cater to the particularities of your sector and the associated requirements. If not, we will sit down with you to develop a tailored solution that suits your needs. It is this combination of a comprehensive range of services and personal consultation that has made us into the global market leader in polyamide Cable Clamps.

Electricity always takes the shortest route – and our products do, too

We understand that the delivery of Cable Clamps can be critical for project schedules. We prioritize our delivery capabilities and pull out all the stops to ensure you receive your delivery quickly and directly – on the agreed day, at the specified location specified in 120 countries around the world.

- ✔ OVER 40 YEARS ON THE MARKET
- ✔ EXPORTS TO 120 COUNTRIES
- ✔ OVER 2000 CUSTOMERS
- ✔ 24 WORLWIDE DISTRIBUTION LOCATIONS

- ✔ 100% MADE IN GERMANY
- ✔ 0 FAILURES IN 40+ YEARS
- ✔ APPLICATION FROM -60°C TO +120°C

Technical advantages to benefit you

1 Universal range of application

îd-Technik Cable Clamps are designed for use in all outdoor and indoor locations where power cables can be installed. The Clamps are designed to withstand the toughest environments and are resistant to UV radiation and exposure to chemicals. Ambient temperature ranges and other significant characteristics are clearly identified on each product. We welcome all opportunities to consult with end-users in order to develop cooperative solutions for specific installation challenges.

Our Clamps are being used under the most extreme conditions.

In regions with extreme climates, such as deserts, the tropics, high mountains, polar and coastal areas. In temperatures as low as -60°C. In sustained temperatures of up to 120°C. Subject to cyclical load changes. Under salt water, in atmospheres containing ozone and with radioactive radiation. Exposed to mineral oils, fuels, salts, alkaline solutions, alcohols, hydrocarbons, ketones, ether and termites.

2 Clear design, easy to use

All îd-Technik Clamps are manufactured from a special, high-grade plastic (polyamide). Each Clamp consists of just two parts: an top part and a bottom part, which are secured together by fasteners that also provide the attachment to the structure. The bottom part can be pre-installed for ease of installation. Thanks to the versatile range of attachment options, Clamp installation methods can be easily adapted to suit local circumstances.

With nine different product series, short circuit-proof clamping is possible for cables all voltage ranges with diameters between 12-250 mm.

Our quality:
100% Made in Germany

3 Easy installation

No special tools are needed to install our Cable Clamps. Any competent electrical fitter will have the necessary expertise. îd-Technik Cable Clamps are also easy to reuse after renovations or temporary use.

You only have to observe the tightening torque to be used on the fixing screws to protect the fragile cables.

A system you can rely on.

Each of our Cable Clamps can accommodate a wide range of cable diameters. Along with overlapping clamping ranges, this prevents assembly problems if cable diameters vary. Clamp variability also minimises your stock requirements, as you can cover all possible applications for your cable system using a few standard types.

4 Maintenance-free, even after multiple short circuits

Restraint of cable movement and the prevention of cable system component failure during short circuit events is critically important for power cable systems. They must be able to withstand repeated short circuit events without sustaining damage and be immediately available for full operation afterwards, without requiring maintenance or repair work. We achieve excellent dynamic resistance thanks to the advanced design and construction of our Cable Clamps and by using a polyamide, which has been specially developed to meet these requirements.

This means that your installation can withstand a high level of dynamic forces.

Our Clamps are specifcally designed to restrain the high dynamic forces which develop within milliseconds and pulse at twice the fundamental frequency during short circuit currents. The large clamping area minimises the surface pressure and prevents damage to the cables, including in the event of a short circuit. Thanks to the special polyamide and the construction of the Cable Clamps, the tightening torques on the fixing screws are very low, thus avoiding any impact on the cable shape and construction.

Exhaustive testing at accredited test institutes has confirmed the dynamic resistance capabilities of our Clamps under realistic installation conditions and fault current levels.

5 More operational safety thanks to Elastic Inlays

Elastic Inlays are recommended for cables with an outer diameter of 60 mm or more. Our Elastic Inlays (EE) are designed to accommodate cable diameter changes resulting from variations in cable loading or ambient temperature. The Inlay compressibility prevents excessive pressure being applied to the cable jacket, avoiding jacket deformation or other types of jacket damage.

By increasing axial retention, they allow cables to be fixed precisely and securely for the long-term (from 120° to -60°C) and enable the absorption of weight forces, especially on cable ladders and vertical surfaces. The Elastic Inlays balance out the vibrations that occur in wind turbines, for example, without reducing the retention forces. They also permit the use of cables with a smaller outer diameter, as the Clamps' clamping area is expanded.

Elastic Inlays must be placed with the ribs parallel to the cable. To assist with installations on inclines, series K, KT, KS and KP Cable Clamps can be supplied with the Elastic Inlays fixed in our factory. This includes cutting the Elastic Inlays to size. To avoid negative impact on cable retention, Inlays should only be fixed by îd-Technik. Inlays must not be fixed to the clamp using glue, silicone or paste during field installation. Any installation where inlays have been fixed using adhesives of any kind on site are not protected by our warranty.

6 Safety thanks to certified quality

îd-Technik Cable Clamps are type-tested by accredited test institutes for the highest classification to the international standard IEC 61914.

Since 1998, our quality management system has regularly been certified to the current version of standard DIN EN ISO 9001.

7 Sustainability and environmental protection

The excellent material in îd-Technik Clamps is non-toxic, not harmful to health, fully recyclable, self-extinguishing, low-smoke and zero halogen (LSZH). It is compliant with directive 2015/863/EU (RoHS) and regulation (EC) no. 1907/2006 (REACH regulation). Furthermore, it is non-metallic, non-magnetic and corrosion-resistant. It does not interact with the cable's electromagnetic field.

Unlike metal clamps, no additional polymer coating or similar is needed to protect the cable against mechanical damage. Our Cable Clamps do not need to be earthed.

PLANNING

Dimensioning a short circuit-resistant cable system

A cable system includes the following components:

- Cable
- Cable terminations
- Cable joints
- Cable Clamps
- Mounting hardware
- Cable racks
- Support systems

Each individual component must be capable to safely control the dynamic forces which occur during a short circuit.

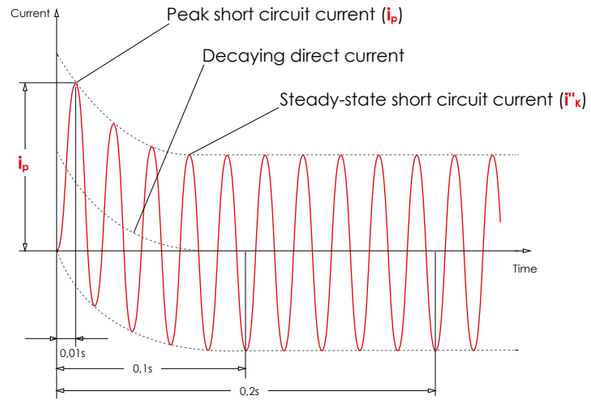
The following factors should be considered when designing a cable support system:

- Peak short circuit current i_p (kA)
- Sustained short circuit current i''_k (kA)
- Operating voltage U_N (kV)
- Cable type, cable design, sectional view and maximum permitted deflection of the cable
- Maximum outer diameter of the cable (m)
- For single cable routing, the centre-to-centre distance of the cables (m)
- Distance between Cable Clamps (m)
- Length of the cable route (m)
- Dynamic short circuit resistance of the Cable Clamp (N)
- Dynamic resistance to short circuits of the substructure and of the fastening material (N)

Suitable separation between Cable Clamps depends on:

- **Peak short circuit current**
- **Dynamic short circuit resistance of the Cable Clamp**
- **Cable design, including bending stiffness (bending modulus).**

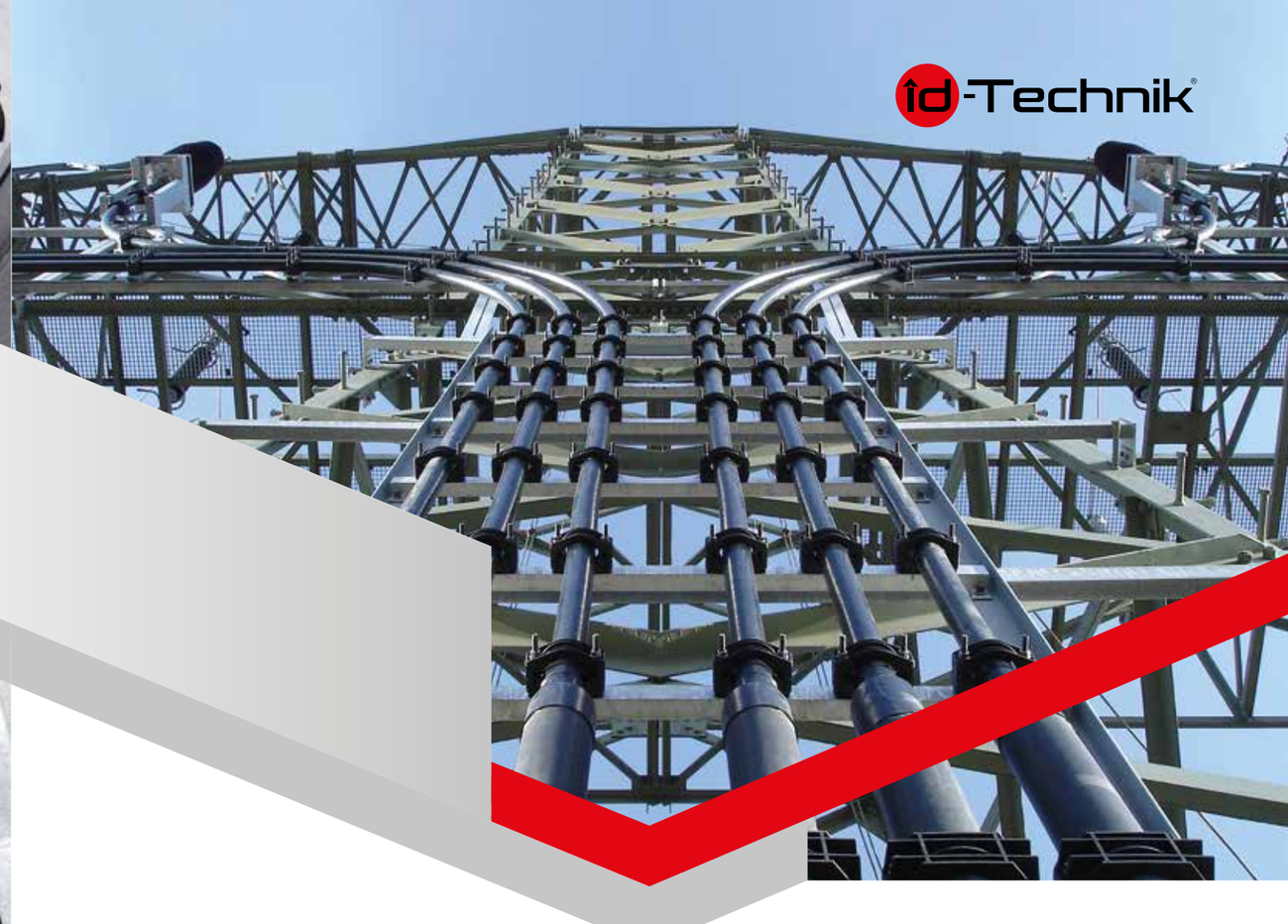
During short circuit events, sharp deflections of the cable must be avoided. If the maximum deflection of the cable is exceeded, it can be irreparably damaged and require complete replacement, including re-installation of the entire cable system.

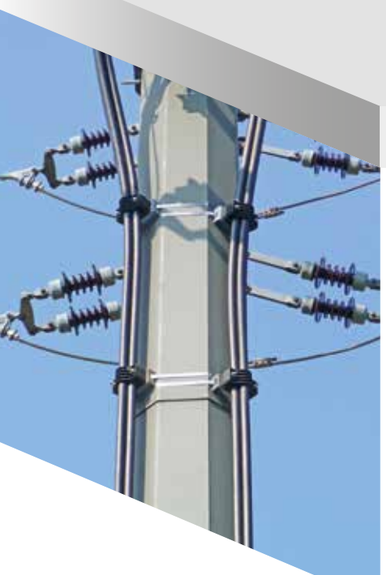


schematic diagram: short cuircuit current characteristic

A Blackout of Only One Hour Causes in Germany Costs of Nearly 600 Million Euro.

(Study of the Hamburg Institut of International Economics [HWWI])
Piaszeck, S. et el (2013). Regional Diversity in the Costs of Electricity Outages: Results for German Counties.
HWWI Research Paper, 2013 (142), p. 16-30





Clarifying questions and selection

1 Type of fastening

- Single, trefoil, parallel, bundled or stacked installation of cables
- Single Clamps: K, KT or KR series
- Trefoil Clamps: KS, KP or KH series
- Parallel installation: VR, RS and BE series
- Stacked installation: K, KR, KS, VR, RS and BE series
- Bundling of multiple cables (including of different diameters): possible with all Cable Clamps

îd-Technik will be happy to assist you in choosing the suitable Cable Clamps (e.g. including for bundling multiple cables in one Clamp).

2 Cable outer diameter

The Cable Clamps offer a clamping range for cable outer diameters of 19 mm to 250 mm. To enable simple allocation, the type descriptors are named according to their clamping range: e.g. K66/90 is suitable for cables with diameters between 66 mm and 90 mm and KH 115/140 is suitable for three cables, each with a diameter of 115 mm to 140 mm.

Neighbouring Clamps of each product series have overlapping diameter ranges, to ensure ease of use at the range limits. We recommend the application of the smallest suitable Clamp. The clamping area of each individual Clamp is deliberately kept wide. Thanks to the large cable diameter range of each Clamp, a small number of different Cable Clamp types can cover a large range of cable diameters (including for different projects). This simplifies and reduces stock requirements, with the associated reduction in costs. It also makes planning and installation easier. In case of production related deviations in the cable diameter, the existing Clamp type can still be used. This avoids the need to re-determine and reorder other Cable Clamps (incl. the associated time delay).

Where there are overlaps between diameter ranges of different Clamp series, the short circuit dynamic resistance should be the primary selection factor.

Please note that the dynamic resistance to short circuits should not be confused with mechanical resistance.

Clarifying questions and selection

3 Max. peak short circuit current

The most important parameter in choosing a Clamp is the dynamic short circuit resistance provided. This determines whether the Clamp can restrain the dynamic forces that occur during a short circuit and protect the cable against damage. The entire cable system must be fully operational afterwards, without needing repair or maintenance.

Thanks to their excellent quality, îd-Technik Cable Clamps can withstand multiple short circuits. Type-tested to the international standard IEC 61914, the product series have undergone several short circuit tests by an accredited test institute. In order to use realistic values, the short circuit tests were conducted with Cable Clamp separations and short circuit current values derived from practice. To simplify project planning, all Cable Clamps in a product series have the same dynamic resistance to short circuits.

The **dynamic strength (N)** is the material-specific property of our cable clamps, successfully determined during type testing, in order to be able to withstand the electrodynamic forces occurring in the event of a short circuit. This very fast and steeply rising high electrodynamic "pulse force" is generated within only 1/100 of a second and then pulses in an attenuated manner at 100 pulses per second.

The **mechanical strength (N)** is the material-specific property of our cable clamp which was successfully determined during the type test. Due to tensile tests (continuous, slow force build-up over minutes), this property acts quasi statically on the cable clamp. This determines the ability of a cable clamp to withstand lateral loads caused by the weight of the cable including possible longitudinal elongation.

It is important not to confuse the **mechanical (static)** strength (N) with the **dynamic (short-circuit)** strength (N) of cable clamps!

Static tensile tests do not permit conclusions to be drawn about the short circuit dynamic force restraint capabilities.

The dynamic resistance of a Cable Clamp to short circuits can only be proven through short circuit testing.

4 Use of Elastic Inlays "EE"

The use of the Elastic Inlay is particularly recommended for technical reasons in the following cases:

- As a cushion for accommodating cable diameter variations caused by changes in operational load and/or ambient temperature, in order to prevent excessive pressure and deformation or damage to the cable jackets. It is generally recommended for use with cable diameters of 60 mm or more
- Precise cable positioning and absorption of gravitational forces, for cables installed on inclines or attached to vertical surfaces, where restraint of axial movement is essential
- Dampening of vibrations, e.g. in wind turbines, without loss of cable holding capability
- Expansion of the Clamp's clamping area, for installation of cables that are at the low end of their diameter range

Clarifying questions and selection

Easy selection of the appropriate Cable Clamp for any application.

Type of fastening	Number of cables / Clamp	Cable Clamp series	Cable outer diameter (mm)*	Dynamic resistance to short circuits (N)**
Single	1	K	24-38	12.500
			36-52	
			50-75	
			66-90	
		KT	25-39	25.000
		KR	75-100	30.000
			100-130	
			130-160	
			160-200	
			200-250	
Trefoil	3	KS	25-36	13.000
			33-46	
		KP	29-41	25.000
			39-53	
			51-64	
		KH	62-75	30.000
			73-86	
			84-97	
			95-107	
			105-117	
			115-140	
			138-165	
Parallel	individually customisable +	NEW VR	12-45 ++	10.000
	3	NEW RS	12-45 ++	10.000
	3	NEW BE	50-76	15.000
Stacked	individually customisable +	NEW VR	12-45 ++	10.000
	(3, 6, 9,... cables) x (2, 3,... layers)	NEW RS	12-45 ++	10.000
	2-3	K	24-38	10.000
			36-52	
			50-75	
			60-90	
	3x2	NEW KS	25-36	10.000
			33-46	
	3x2	NEW BE	50-76	15.000
Bundled	> 3	all	as above	acc. to series
Made to order	acc. to customer specification			

* Using the Elastic Inlay changes the Cable Clamp's clamping area. Diameter allocations can be found on the catalogue pages pertaining to the specific product series.
** Further explanations page 87 ff.
\+ Further explanations page 60 ff.
++ Contact id-Technik for diameter 12-21mm, please.

The appropriate clamping separation requires knowledge of the peak short circuit current and the dynamic resistance of the Cable Clamps.

5 Mounting the Clamps

All îd-Technik Clamps can be universally mounted in any direction (horizontally, vertically, hanging from the ceiling, attached to the side of a structure...). Screws attach directly to the substructure through the holes on both sides, taking into account the tightening torque indicated for the fastening material, which is specific to each series of Cable Clamps.

In the case of Clamps attached to a substructure, all of the dynamic forces during a short circuit are transferred to the structure. The substructure must be mechanically compatible with the Clamp's dynamic resistance capability.

îd-Technik Cable Clamps are quick and simple to install, with no need for special tools. No extra adapter components are needed to install and assemble the Clamps. The mounting of Clamps can be adapted to local conditions and can also be carried out retroactively for cables, which have been laid already.

The Clamp construction minimizes surface pressure, thereby avoiding damage to the cable in case of a short circuit. The low tightening torque of the nuts (5 Nm - 8 Nm) on the top part avoids cable damage or deformation but, due to the advanced design of the Clamp, guarantees that the cables are held securely.

6 Selection of fastening material:

Material and corrosion resistance:
the choice of material for the fasteners is dependent on the installation environment and operating conditions (e.g. galvanised, stainless steel, etc.), strength grade 4.8 - 8.8

Type of screw:
depends on the substructure (e.g. hexagon screws, T-head screws, threaded rod, etc.); not included in delivery

Fastener diameter:
depends on the Cable Clamp (dimension: metric screw thread (m), which are shown in this catalogue)

Fastener Length:
depends on the Cable Clamp (dimension **H**), the cable outer diameter and type of substructure

Only flat washers may be used. No spring or snap rings!

Do not use self-securing/self-locking nuts, this prohibits a defined tightening torque.

Screw diameter	Max. height of the Clamp (mm)	Height of washer and nut (mm)	Additional length depending on dimension of substructure (mm)	Recommended length of thread** (mm)
M 10	Max. value of **H*** (rounded up)	+ 10	+ x	**H** + 10 + x
M 12	Max. value of **H*** (rounded up)	+ 15	+ x	**H** + 15 + x
M 16	Max. value of **H*** (rounded up)	+ 20	+ x	**H** + 20 + x

* H varies depending on the cable outer diameter.
H_1 for VR, RS, BE
H_2 for VR, RS
H_3 for VR, RS
H_4 for K Double/Trible Tower, KS Tower
** For maximum permited outer cable diameter (can be reduced accordingly for smaller diameters)

Efficient installation without special tools and adapter components.

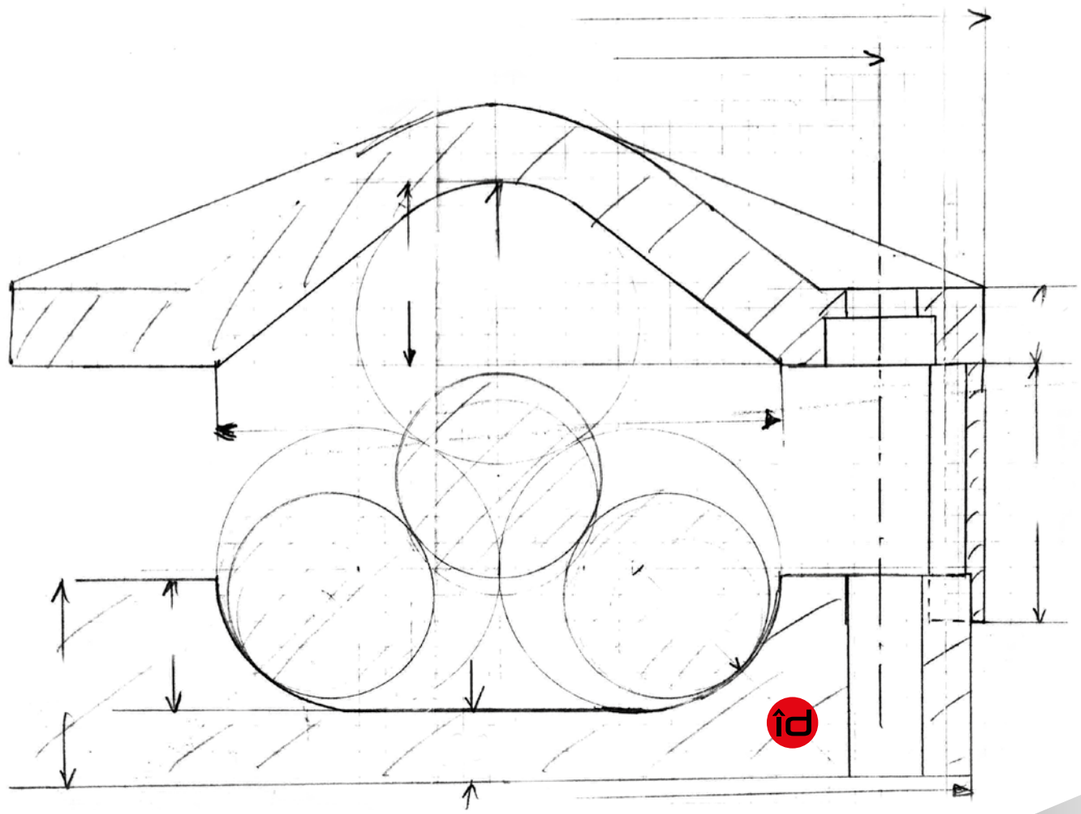
Service

In our direct product portfolio you will find Clamps for power cables of all voltages. The diameters range from 12 mm to 250 mm. With our Elastic Inlay you can also enlarge the diameter range of each Cable Clamp for smaller cables.

We deliver all îd-Technik products quickly and reliably, in the usual quantities. If you have questions about particular applications or installation, you can rely on the support of our technical department.

An overview of our product ranges:

- Single Clamps for fastening of one cable
- Trefoil Clamp to secure three cables
- Block Clamps and stacked Clamps to secure cables in parallel formation
- Bundling of multiple cables (including of different diameters) in one Cable Clamp

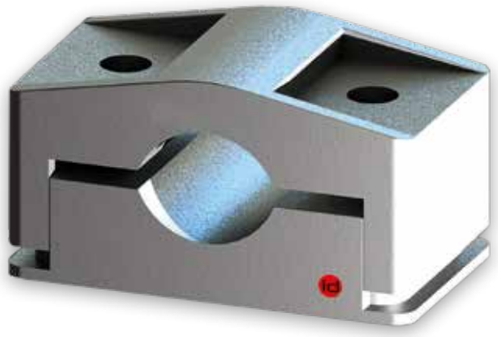


Customer-specific items made to order

Naturally, we develop solutions which are tailored and customised to you – just contact us.

If you do not find a Cable Clamp to suit your application in our comprehensive range of products, we are happy to advise you and develop a suitable solution which meets your requirements and technical specifications.

Block Clamps can also be supplied for other diameter ranges, distances, cable arrangements and outer dimensions.



When it comes to technical perfection and quality, we do not compromise.

Technical details

Application

- Short circuit resistant fastening of all types of single and multi-core cables from extra high to low voltage
- Single, trefoil, parallel, bundled or stacked fastening of single and multi-core cables

Material

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), free from fluorine, chlorine, bromine, iodine, non-toxic, non-corrosive, non-metallic, non-magnetic

100%
MADE IN GERMANY

Properties

Resistance to
Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays*

Flame resistance
UL 94 5 VA (IEC 60695-11-20)
500 Watt flame test method

UL 94 V-0 (IEC 60695-11-10)
50 Watt flame test method

IEC 61914 following IEC 60695-11-5
Needle-flame test method

Classification following DIN 5510, part 2: flammability class S3

Thermal expansion
0,01 % per 10°C temperature increase

Tensile strength
120 N/mm²

Flexural strength
210 N/mm²

Resistance to impact
Very heavy, type-tested to IEC 61914, at -60°C

Lateral load test
Type-tested to IEC 61914, in x- and y-direction, at 120°C

Axial load test (N)
Type-tested to IEC 61914, at 120°C

Dynamic resistance to short circuits
Type-tested to IEC 61914, suitable to withstand multiple short circuits

Temperature range

Ambient temperatures
down to -60°C*

Continuous operation
up to 120°C

Permitted short-term heating
up to 220°C

Operation life
more than 40 years of maintenance- and failure-free operation

Legislation

Legal compliance
- Regulation (EG) Nr. 1907/2006 (REACH regulation)
- Directive 2015/863/EG (RoHS)
- SJ/T 11363-2006 (China RoHS)
- United Arab Emirates Restrictions No. 10 (UAE RoHS)

IEC 61914 STANDARD
îd-Technik Cable Clamps have been type-tested by accredited test institutes to the international standard IEC 61914.

Constructional features

- Particularly high dynamic and mechanical strength and heat resistance due to special fibreglass-reinforced polyamide
- Safe restraint of dynamic forces of high short circuit currents, without damage to the cables, also for multiple short circuits
- Type-tested to IEC 61914 – cable cleats for electrical installations - reports from accredited institutes regarding dynamic short circuit currents, the fire-resistance of the material, and mechanical properties of the Cable Clamps are available
- Very low surface pressure on cables due to Cable Clamps' large contact area
- Universal application both indoor and outdoor in extreme climates such as deserts, tropics, high altitudes, arctic climate, coastal salt fogs, flooding, ozone due to special resistance to ageing, ultraviolet rays and ozone
- Easy to mount without special instruments and maintenance-free
- Fastening of Cable Clamps adaptable to all local conditions

* For more information contact îd-Technik, please.

CABLE CLAMPS

K SERIES

100% MADE IN GERMANY

PROPERTIES

Resistance to:	**Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays***
Flame resistance:	**UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3**
Thermal expansion:	**0.01% per 10°C temperature increase**
Tensile strength:	**120 N/mm²**
Flexural strength:	**210 N/mm²**

TEMPERATURE RANGE

Ambient temperature:	**down to -60°C***
Continuous operation:	**up to 120°C**
Permitted short-term heating:	**up to 220°C**
Operation life:	**more than 40 years of maintenance- and failure-free operation**

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

Applications:

Fastening of single- and multi-core cables. Universal application indoors and outdoors between -60°C and +120°C. Fastening in single, parallel, stacked and bundled formation.

Outer diameter of cables:

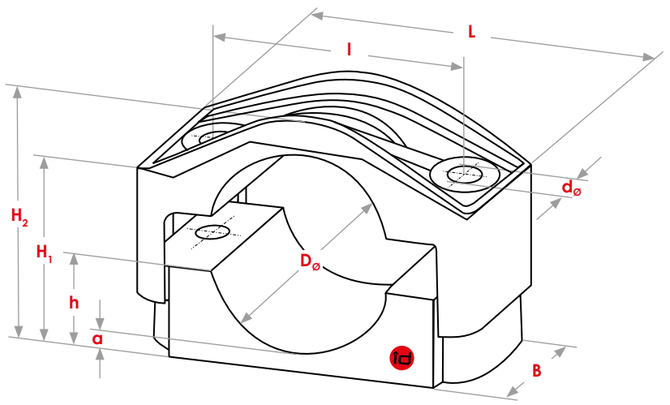
19 mm to 90 mm

Dynamic resistance to short circuits:

12.500 N

Tightening Torque for fixing material:

Top part: 5 Nm**
Bottom part: 20 Nm



Dimensions in mm

Type	$D_ø$	$D_ø$+	$D_ø$++	L	B	l	H_1	H_2	h	a	$d_ø$	Screw thread
K 26/38	24-38	21-35	19-32	91	60	60	34-48	46-60	19	7	12	M10/12
K 36/52	36-52	33-49	30-46	108	60	75	43-59	56-72	24	8	12	M10/12
K 50/75	50-75	47-72	44-69	126	60	95	52-77	74-99	30	9	12	M10/12
K 66/90	66-90	63-87	60-84	158	70	120	65-89	91-115	42	10	14	M12

$D_ø$: Outer cable diameter
$D_ø$+: ~ with one Elastic Inlay
$D_ø$++: ~ with two Elastic Inlays

* For more information contact îd-Technik, please.
** Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

îd-Technik

CERTIFIED IEC 61914 CERTIFIED

Standard IEC 61914 îd-Technik Cable Clamps have been type-tested by accredited test institutes to the international standard IEC 61914.

Legal compliance

- Directive 2015/863/EU (RoHS)
- Regulation (EC) No. 1907/2006 (REACH regulation)

Constructional features

- Particularly high dynamic and mechanical strength and heat resistance due to special fibreglass-reinforced polyamide
- Safe restraint of dynamic forces of high short circuit currents, without damage to the cables, also for multiple short circuits
- Type-tested to IEC 61914 – cable cleats for electrical installations - reports from accredited institutes regarding dynamic short circuit currents, the fire-resistance of the material, and mechanical properties of the Cable Clamps are available
- Very low surface pressure on cables due to Cable Clamps' large contact area
- Universal application both indoor and outdoor in extreme climates such as deserts, tropics, high altitudes, arctic climate, coastal salt fogs, flooding and ozone due to special resistance to ageing, ultraviolet rays and ozone
- Easy to mount without special instruments and maintenance-free
- Fastening of Cable Clamps adaptable to all local conditions

Type-Tests to IEC 61914 on Series K Cable Clamps approved results in highest classification

Classification	Test conditions	Approved results	Paragraph
Material: non-metallic	high-grade polyamide		6.1.2
Operating temperature	-60°C / +120°C	passed	6.2
Resistance to impact	-60°C, 5 kg at 400 mm height	very heavy	6.3.5
Lateral load test (N) – in x-direction – in y-direction	At +120°C	10.000 N 19.000 N	6.4.1
Axial load test (N) – without Elastic Inlays – *with Elastic Inlays*	At +120°C	600 N *800 N*	6.4.2
Resistance to electrodynamic forces (N) suited to withstand multiple short circuits	Peak short circuit current: 109 kA Cable Clamp spacing: 1,11 m	12.500 N	6.4.4
UV-resistance	high	passed	6.5.1
Flame propagation	1 x 30s, needle flame method	passed	10.1 (IEC 60695-11-5)
	2 x 10s, 50 W test flame method	V-0	UL 94 V (IEC 60695-11-10)
	5 x 5s, 500 W test flame method	5VA	UL 94 5V (IEC 60695-11-20)
	3 min	S3	DIN 5510

Installation with Elastic Inlays:

- As a cushion for elastic adjustment of cable diameter changes due to operational load changes and/or changes in the ambient temperature
- Precise cable fixation and absorption of weight forces, primarily on cables installed along inclines or attached to vertical surfaces where restraint of axial movement is essential
- Compensation of vibrations, e.g. in wind turbines, without reducing retention forces
- Expansion of the Clamp's clamping area, for cables with a smaller outer diameter

CABLE CLAMPS

K SERIES with factory fixed Elastic Inlays (EE)

100% MADE IN GERMANY

PROPERTIES

Resistance to:	Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays*
Flame resistance:	UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3
Thermal expansion:	0.01% per 10°C temperature increase
Tensile strength:	120 N/mm²
Flexural strength:	210 N/mm²

TEMPERATURE RANGE

Ambient temperature:	down to -60°C*
Continuous operation:	up to 120°C
Permitted short-term heating:	up to 220°C
Operation life:	more than 40 years of maintenance- and failure-free operation

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

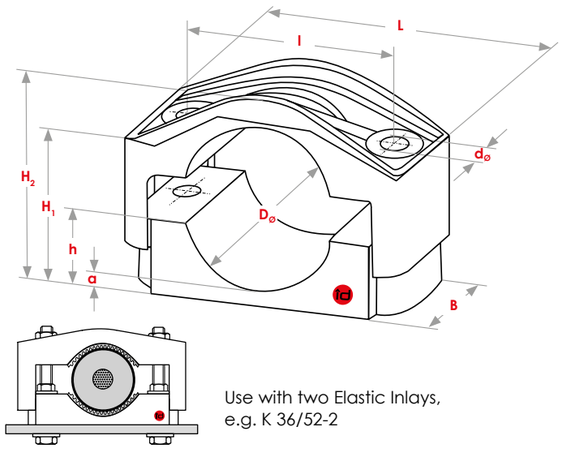
Applications:
Fastening of single- and multi-core cables. Universal application indoors and outdoors between -60°C and +120°C. Fastening in single, parallel, stacked and bundled formation.

Outer diameter of cables: 19 mm to 84 mm

Dynamic resistance to short circuits: 12.500 N

Tightening Torque for fixing material:
Top part: 5 Nm**
Bottom part: 20 Nm

Material Elastic Inlays: EPDM, one-side ribbed



Use with two Elastic Inlays, e.g. K 36/52-2

Dimensions in mm

Type	DØ+	DØ++	L	B	l	H1	H2	h	a	dØ	Screw thread
K 26/38-1	21-35	–	91	60	60	34-48	46-60	19	7	12	M10/12
K 26/38-2	–	19-32									
K 36/52-1	33-49	–	108	60	75	43-59	56-72	24	8	12	M10/12
K 36/52-2	–	30-46									
K 50/75-1	47-72	–	126	60	95	52-77	74-99	30	9	12	M10/12
K 50/75-2	–	44-69									
K 66/90-1	63-87	–	158	70	120	65-89	91-115	42	10	14	M12
K 66/90-2	–	60-84									

DØ+: ~ with one Elastic Inlay
DØ++: ~ with two Elastic Inlays

* For more information contact id-Technik, please.
** Contact id-Technik for trailing cables (EPDM, rubber, etc.), please.

CABLE CLAMPS

K-Tower
SERIES

100% MADE IN GERMANY

PROPERTIES

Resistance to:	Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays*
Flame resistance:	UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3
Thermal expansion:	0.01% per 10°C temperature increase
Tensile strength:	120 N/mm²
Flexural strength:	210 N/mm²

TEMPERATURE RANGE

Ambient temperature:	down to -60°C*
Continuous operation:	up to 120°C
Permitted short-term heating:	up to 220°C
Operation life:	more than 40 years of maintenance- and failure-free operation

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

Applications:

For stacking, fastening of single- and multi-conductor cables. Universal application indoors and outdoors between -60°C and +120°C.

Outer diameter of cables:

24 mm to 90 mm

Dynamic resistance to short circuits:

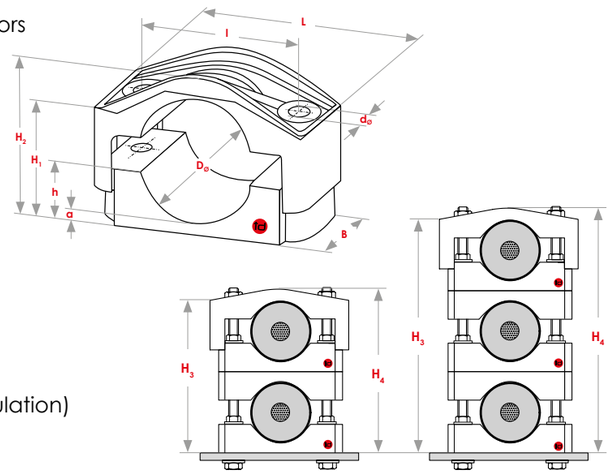
10.000 N

Tightening Torque for fixing material:

Lowest bottom part: 20 Nm
All other parts: 5 Nm**

Legal compliance

- Directive 2015/863/EU (RoHS)
- Regulation (EC) No. 1907/2006 (REACH regulation)



Dimensions in mm

Type	$D_ø$	L	B	l	H_1	H_2	H_3	H_4	h	a	$d_ø$	Screw thread
Double Tower K 26/38	24-38	91	60	60	34-48	46-60	74-100	86-112	19	7	12	M10/12
Triple Tower K 26/38							114-152	126-164				
Double Tower K 36/52	36-52	108	60	75	43-59	56-72	95-127	111-143	24	8	12	M10/12
Triple Tower K 36/52							147-195	163-211				
Double Tower K 50/75	50-75	126	60	95	52-77	74-99	120-170	145-195	30	9	12	M10/12
Triple Tower K 50/75							188-263	213-288				
Double Tower K 66/90	66-90	158	70	120	65-89	91-115	151-199	175-223	42	10	14	M12
Triple Tower K 66/90							237-309	262-333				

$D_ø$: Outer cable diameter

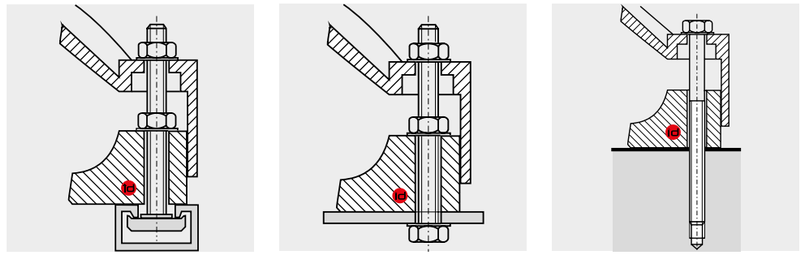
* For more information contact îd-Technik, please.
** Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

K Series

100% MADE IN GERMANY

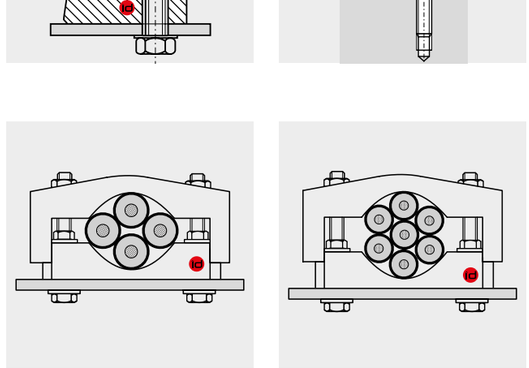
K SERIES

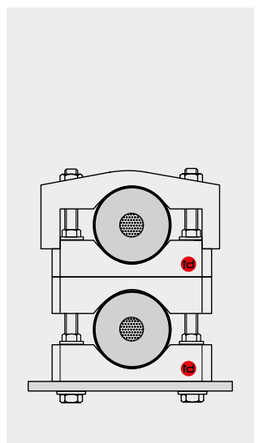
EXAMPLES OF MOUNTING METHODS

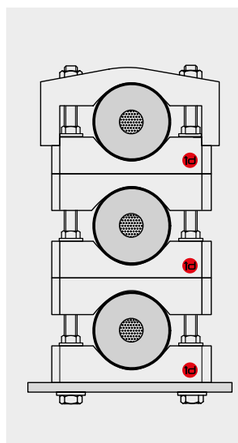


▲ **Mounting types**

► **Bundling:**
Suitable for bundled installation of multiple cables (including of different diameters)







◄ **Double Tower left:**
1 complete Clamp (= 1 top part + 1 bottom part) plus 2 additional bottom parts

Triple Tower right:
1 complete Clamp (= 1 top part + 1 bottom part) plus 4 additional bottom parts

Multiple systems can be secured parallel with several towers next to each other.

Torque for tightening the fastening material:
Lowest bottom part: 20 Nm
All other parts: 5 Nm*

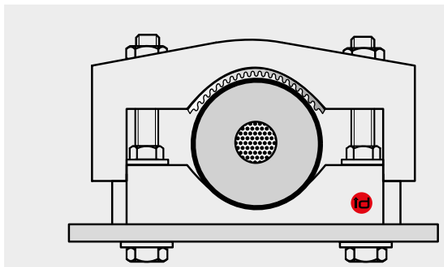
* Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

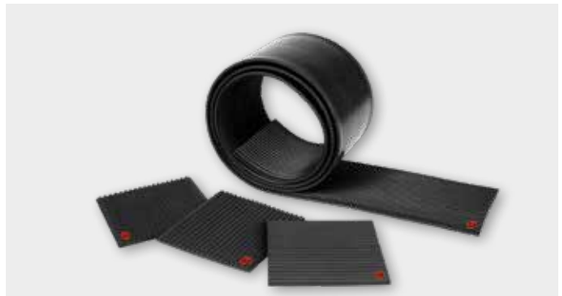
1 **UNIVERSAL MOUNTING OPTIONS**
adaptable to local conditions

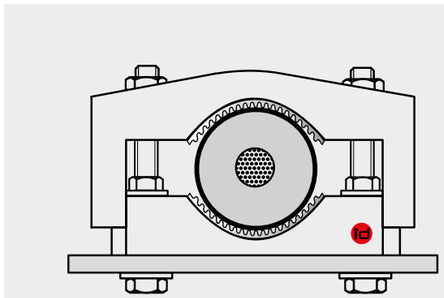
2 **EASY TO MOUNT**
respecting the tightening torques of the fastening material

3 **MAINTENANCE-FREE**
more than 40 years of maintenance- and failure-free operation

▼ **Use with one Elastic Inlay e.g. K 26/38-1**







▲ **Use with two Elastic Inlays, e.g. K 36/52-2**

The Elastic Inlays must ONLY be inserted into the îd-Technik Clamps, not fixed, with the ribs running parallel to the cable lengthways.

To assist with mounting, Cable Clamps can be supplied with the Elastic Inlays cut to size and fixed in our factory. To avoid negative impact on the retention, the Elastic Inlays should ONLY be fixed by îd-Technik.

On-site fixing with any form of adhesive (e.g. glue, silicone or paste) and / or use with third-party products will void the warranty immediately.

KT SERIES

100% MADE IN GERMANY

KT Series

PROPERTIES

Resistance to:	**Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays***
Flame resistance:	**UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3**
Thermal expansion:	**0.01% per 10°C temperature increase**
Tensile strength:	**120 N/mm²**
Flexural strength:	**210 N/mm²**

TEMPERATURE RANGE

Ambient temperature:	**down to -60°C***
Continuous operation:	**up to 120°C**
Permitted short-term heating:	**up to 220°C**
Operation life:	**more than 40 years of maintenance- and failure-free operation**

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

Applications:

Fastening of single- and multi-core cables, for high short circuit fores. Universal application indoors and outdoors between -60°C and +120°C. Fastening in single, parallel and bundled formation.

Outer diameter of cables:

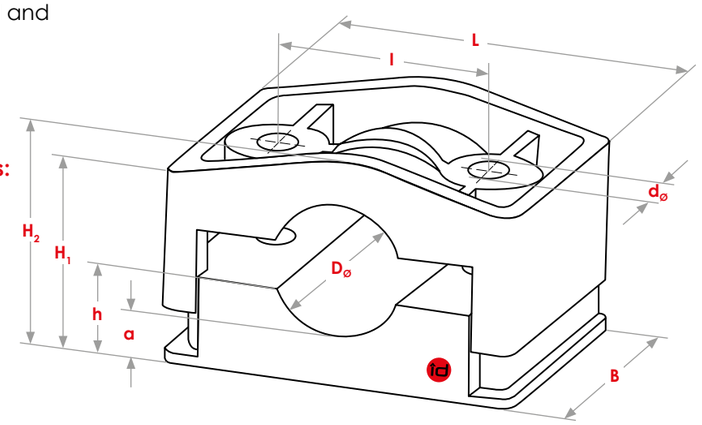
19 mm to 39 mm

Dynamic resistance to short circuits:

25.000 N

Tightening Torque for fixing material:

Top part: 5 Nm**
Bottom part: 20 Nm



Dimensions in mm

Type	$D_ø$	$D_ø$+	$D_ø$++	L	B	l	H_1	H_2	h	a	$d_ø$	Screw thread
KT 25/39	25-39	22-36	19-33	107	60	65	46-60	55-69	27	15	13	M12

$D_ø$: Outer cable diameter
$D_ø$+: ~ with one Elastic Inlay
$D_ø$++: ~ with two Elastic Inlays

* For more information contact îd-Technik, please.
** Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

KT Series

Standard IEC 61914 îd-Technik Cable Clamps have been type-tested by accredited test institutes to the international standard IEC 61914.

CERTIFIED IEC 61914 CERTIFIED

Legal compliance

- Directive 2015/863/EU (RoHS)
- Regulation (EC) No. 1907/2006 (REACH regulation)

Constructional features

- Particularly high dynamic and mechanical strength and heat resistance due to special fibreglass-reinforced polyamide
- Safe restraint of dynamic forces of high short circuit currents, without damage to the cables, also for multiple short circuits
- Type-tested to IEC 61914 – cable cleats for electrical installations - reports from accredited institutes regarding dynamic short circuit currents, the fire-resistance of the material, and mechanical properties of the Cable Clamps are available
- Very low surface pressure on cables due to Cable Clamps' large contact area
- Universal application both indoor and outdoor in extreme climates such as deserts, tropics, high altitudes, arctic climate, coastal salt fogs, flooding and ozone due to special resistance to ageing, ultraviolet rays and ozone
- Easy to mount without special instruments and maintenance-free
- Fastening of Cable Clamps adaptable to all local conditions

Type-Tests to IEC 61914 on Series KT Cable Clamps approved results in highest classification

Classification	Test conditions	Approved results	Paragraph
Material: non-metallic	high-grade polyamide		6.1.2
Operating temperature	-60°C / +120°C	passed	6.2
Resistance to impact	-60°C, 5 kg at 400 mm height	very heavy	6.3.5
Lateral load test (N) – in x-direction – in y-direction	+120°C	20.000 N 30.000 N	6.4.1
Axial load test (N) – without Elastic Inlays – *with Elastic Inlays*	+120°C	600 N *800 N*	6.4.2
Dynamic resistance to short circuits (N) suited to withstand multiple short circuits	Peak short circuit current: 151 kA Cable Clamp spacing: 0,84 m	25.000 N	6.4.4
UV-resistance	high	passed	6.5.1
Flame propagation	1 x 30s, needle flame method	passed	10.1 (IEC 60695-11-5)
	2 x 10s, 50 W test flame method	V-0	UL 94 V (IEC 60695-11-10)
	5 x 5s, 500 W test flame method	5VA	UL 94 5V (IEC 60695-11-20)
	3 min	S3	DIN 5510

Installation with Elastic Inlays:

- As a cushion for elastic adjustment of cable diameter changes due to operational load changes and/or changes in the ambient temperature
- Precise cable fixation and absorption of weight forces, primarily on cables installed along inclines or attached to vertical surfaces where restraint of axial movement is essential
- Compensation of vibrations, e.g. in wind turbines, without reducing retention forces
- Expansion of the Clamp's clamping area, for cables with a smaller outer diameter

KT SERIES with factory fixed Elastic Inlays (EE)

100% MADE IN GERMANY

PROPERTIES

Resistance to:	Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays*
Flame resistance:	UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3
Thermal expansion:	0.01% per 10°C temperature increase
Tensile strength:	120 N/mm²
Flexural strength:	210 N/mm²

TEMPERATURE RANGE

Ambient temperature:	down to -60°C*
Continuous operation:	up to 120°C
Permitted short-term heating:	up to 220°C
Operation life:	more than 40 years of maintenance- and failure-free operation

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

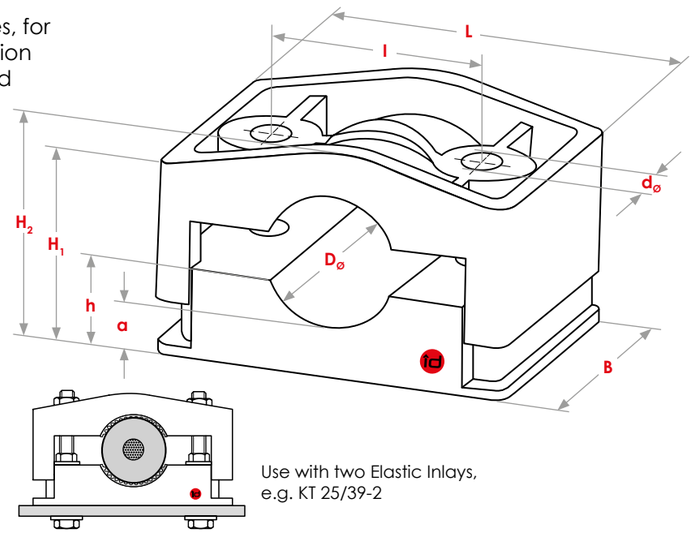
Applications:
Fastening of single- and multi-core cables, for high short circuit fores. Universal application indoors and outdoors between -60°C and +120°C. Fastening in single, parallel and bundled formation.

Outer diameter of cables:
19 mm to 36 mm

Dynamic resistance to short circuits:
25.000 N

Tightening Torque for fixing material:
Top part: 5 Nm**
Bottom part: 20 Nm

Material Elastic Inlay:
EPDM, one-side ribbed



Use with two Elastic Inlays, e.g. KT 25/39-2

Dimensions in mm

Type	$D_ø$+	$D_ø$++	L	B	l	H_1	H_2	h	a	$d_ø$	Screw thread
KT 25/39-1	22 - 36	–	107	60	65	46-60	55-69	27	15	13	M12
KT 25/39-2	–	19-33	107	60	65	46-60	55-69	27	15	13	M12

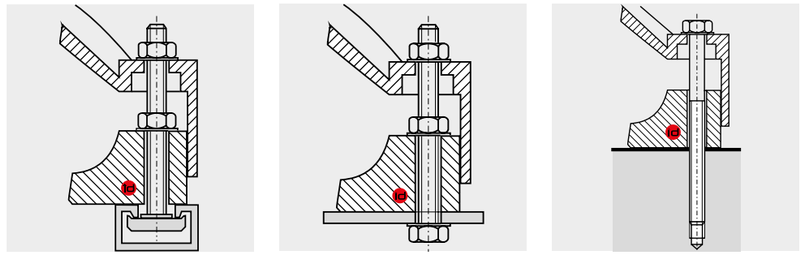
$D_ø$: Outer cable diameter
$D_ø$+: ~ with one Elastic Inlay
$D_ø$++: ~ with two Elastic Inlays

* For more information contact îd-Technik, please.
** Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

100% MADE IN GERMANY

KT SERIES

EXAMPLES OF MOUNTING METHODS



▲ Mounting types

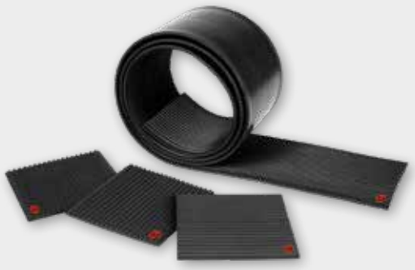
Torque for tightening the fastening material:
Top part: 5 Nm*
Bottom part: 20 Nm

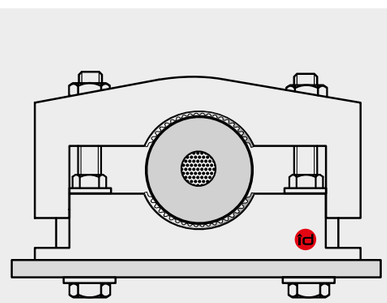
* Contact id-Technik for trailing cables (EPDM, rubber, etc.), please.

1 **UNIVERSAL MOUNTING OPTIONS**
adaptable to local conditions

EASY TO MOUNT
respecting the tightening torques of the fastening material **2**

3 **MAINTENANCE-FREE**
more than 40 years of maintenance- and failure-free operation





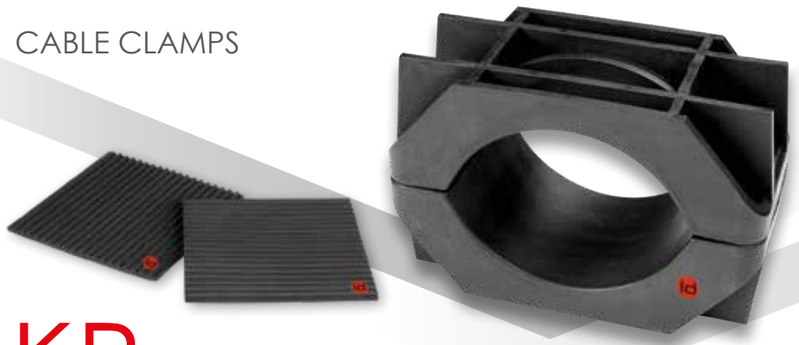
The Elastic Inlays must ONLY be inserted into the id-Technik Clamps, not fixed, with the ribs running parallel to the cable lengthways.

To assist with mounting, Cable Clamps can be supplied with the Elastic Inlays cut to size and fixed in our factory. To avoid negative impact on the retention, the Elastic Inlays should ONLY be fixed by id-Technik.

The guarantee expires immediately if any form of adhesive is applied on site and/or any compination with third-party products is installed (e.g. glue, silicone or paste).

▲ Use with two Elastic Inlays, e.g. KT 25/39-2

KT Series



KR SERIES

100% MADE IN GERMANY

PROPERTIES

Resistance to:	**Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays***
Flame resistance:	**UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3**
Thermal expansion:	**0.01% per 10°C temperature increase**
Tensile strength:	**120 N/mm²**
Flexural strength:	**210 N/mm²**

TEMPERATURE RANGE

Ambient temperature:	**down to -60°C***
Continuous operation:	**up to 120°C**
Permitted short-term heating:	**up to 220°C**
Operation life:	**more than 40 years of maintenance- and failure-free operation**

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

Applications:

Fastening of single- and multi-core cables for high short circuit fores. Universal application indoors and outdoors between -60°C and +120°C. Fastening in single, parallel, bundled formation.

Outer diameter of cables:

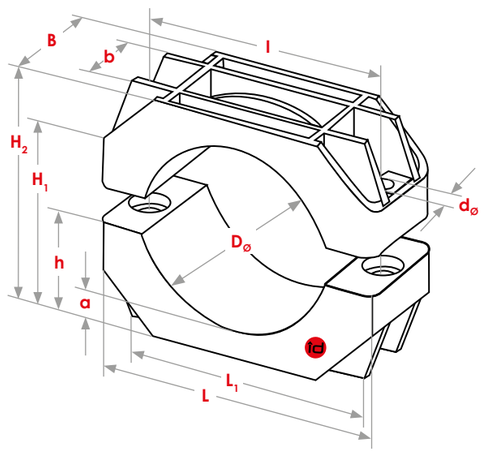
70 mm to 250 mm

Dynamic resistance to short circuits:

30.000 N

Tightening Torque for fixing material:

Top part: 8 Nm**
Bottom part: 20 Nm



Dimensions in mm

Type	$D_ø$	$D_ø$++	L	L_1	B	b	l	H_1	H_2	h	a	$d_ø$	Screw thread
KR 75/100	75-100	70-95	180	172	77	44	150	71-97	109-134	52	17	14	M12
KR 100/130	100-130	95-125	210	197	97	54	175	99-129	140-170	69	20	14	M12
KR 130/160	130-160	125-155	250	213	97	54	210	116-146	176-206	87	23	18	M16
KR 160/200	160-200	155-195	290	258	120	60	250	172-212	230-270	113	35	18	M16
KR 200/250	200-250	195-245	340	300	120	61	300	190-240	280-330	130	40	18	M16

$D_ø$: Outer cable diameter
$D_ø$++: ~ with two Elastic Inlays

* For more information contact îd-Technik, please.
** Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

îd-Technik®

Standard IEC 61914 îd-Technik Cable Clamps have been type-tested by accredited test institutes to the international standard IEC 61914.

CERTIFIED IEC 61914 CERTIFIED

Legal compliance

- Directive 2015/863/EU (RoHS)
- Regulation (EC) No. 1907/2006 (REACH regulation)

Constructional features

- Particularly high dynamic and mechanical strength and heat resistance due to special fibreglass-reinforced polyamide
- Safe restraint of dynamic forces of high short circuit currents, without damage to the cables, also for multiple short circuits
- Type-tested to IEC 61914 – cable cleats for electrical installations - reports from accredited institutes regarding dynamic short circuit currents, the fire-resistance of the material, and mechanical properties of the Cable Clamps are available
- Very low surface pressure on cables due to Cable Clamps' large contact area
- Universal application both indoor and outdoor in extreme climates such as deserts, tropics, high altitudes, arctic climate, coastal salt fogs, flooding and ozone due to special resistance to ageing, ultraviolet rays and ozone
- Easy to mount without special instruments and maintenance-free
- Fastening of Cable Clamps adaptable to all local conditions

KR Series

Type-Tests to IEC 61914 on Series KR Cable Clamps approved results in highest classification

Classification	Test conditions	Approved results	Paragraph
Material: non-metallic	high-grade polyamide		6.1.2
Operating temperature	-60°C / +120°C	passed	6.2
Resistance to impact	-60°C, 5 kg at 400 mm height	very heavy	6.3.5
Lateral load test (N) – in x-direction – in y-direction	+120°C	18.000 N 15.000 N	6.4.1
Axial load test (N) – with Elastic Inlays	+120°C	1.500 N	6.4.2
Dynamic resistance to short circuits (N) suited to withstand multiple short circuits	Peak short circuit current: 181 kA Cable Clamp spacing: 1,10 m	30.000 N	6.4.4
UV-resistance	high	passed	6.5.1
Flame propagation	1 x 30s, needle flame method	passed	10.1 (IEC 60695-11-5)
	2 x 10s, 50 W test flame method	V-0	UL 94 V (IEC 60695-11-10)
	5 x 5s, 500 W test flame method	5VA	UL 94 5V (IEC 60695-11-20)
	3 min	S3	DIN 5510

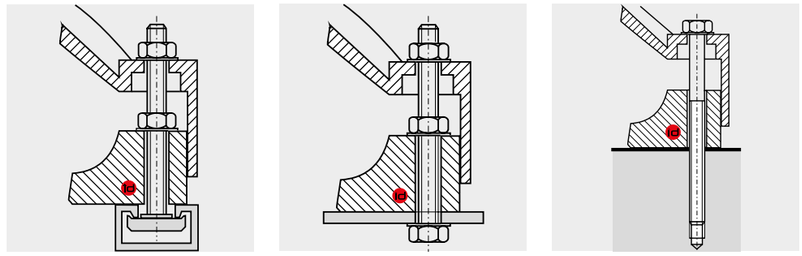
Installation with Elastic Inlays:

- As a cushion for elastic adjustment of cable diameter changes due to operational load changes and/or changes in the ambient temperature
- Precise cable fixation and absorption of weight forces, primarily on cables installed along inclines or attached to vertical surfaces where restraint of axial movement is essential
- Compensation of vibrations, e.g. in wind turbines, without reducing retention forces
- Expansion of the Clamp's clamping area, for cables with a smaller outer diameter
- Elastic Inlay 100 mm x 100 mm for KR 75/100, KR 100/130
- Elastic Inlay 150 mm x 140 mm for KR 130/160, KR 160/200, KR 200/250

100% MADE IN GERMANY

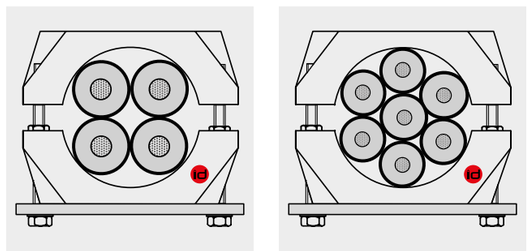
KR SERIES

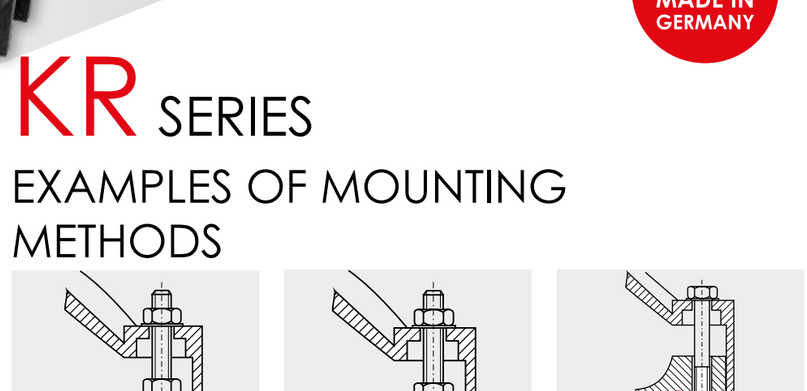
EXAMPLES OF MOUNTING METHODS



▲ **Mounting types**

▶ **Bundling:**
Suitable for bundled fastening of multiple cables with different cable outer diameters





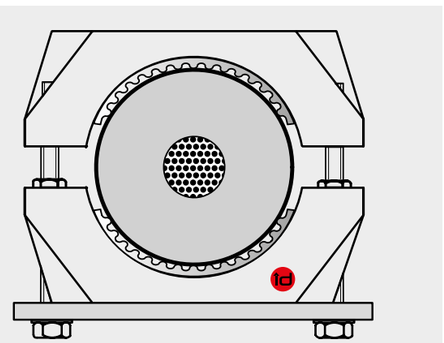
Torque for tightening the fastening material:
Top part: 8 Nm*
Bottom part: 20 Nm

* Contact id-Technik for trailing cables (EPDM, rubber, etc.), please.

1 **UNIVERSAL MOUNTING OPTIONS**
adaptable to local conditions

2 **EASY TO MOUNT**
respecting the tightening torques of the fastening material

3 **MAINTENANCE-FREE**
more than 40 years of maintenance- and failure-free operation



▲ **Use with Elastic Inlays**

The Elastic Inlays must ONLY be inserted into the id-Technik Clamps, not fixed, with the ribs running parallel to the cable lengthways.

To avoid negative impact on the retention, the Elastic Inlays should NOT be fixed.

The guarantee expires immediately if any form of adhesive is applied on site and / or any compination with third-party products is installed (e.g. glue, silicone or paste).

KS SERIES

100% MADE IN GERMANY

PROPERTIES

Resistance to:	**Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays***
Flame resistance:	**UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3**
Thermal expansion:	**0.01% per 10°C temperature increase**
Tensile strength:	**120 N/mm²**
Flexural strength:	**210 N/mm²**

TEMPERATURE RANGE

Ambient temperature:	**down to -60°C***
Continuous operation:	**up to 120°C**
Permitted short-term heating:	**up to 220°C**
Operation life:	**more than 40 years of maintenance- and failure-free operation**

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

KS Series

Applications:

For trefoil formation and stacked fastening of single- and multi-core cables. Universal application indoors and outdoors between -60°C and +120°C.

Outer diameter of cables:

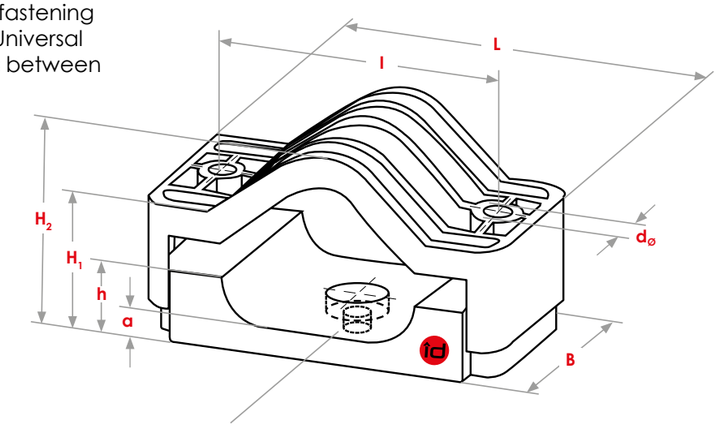
22 mm to 46 mm

Dynamic resistance to short circuits:

13.000 N

Torque for tightening the fastening material:

Top part: 5 Nm**
Bottom part: 15 Nm



The assembly hole in the bottom part of the KS series allows a direct fastening to lattice, concrete and wooden masts, suitable for M10 rod threaded.

Dimensions in mm

Type	$D_ø$	$D_ø$++	L	B	l	H_1	H_2	h	a	$d_ø$	Screw thread
KS 25/36	25-36	22-33	150	80	110	55-75	77-97	33	17	12	M10/12
KS 33/46	33-46	30-43	170	80	130	55-85	95-116	33	15	12	M10/12

$D_ø$: Outer cable diameter
$D_ø$++: ~ with two Elastic Inlays

* For more information contact îd-Technik, please.
** Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

îd-Technik

CERTIFIED IEC 61914 CERTIFIED

Standard IEC 61914 îd-Technik Cable Clamps have been type-tested by accredited test institutes to the international standard IEC 61914.

Legal compliance

- Directive 2015/863/EU (RoHS)
- Regulation (EC) No. 1907/2006 (REACH regulation)

Constructional features

- Particularly high dynamic and mechanical strength and heat resistance due to special fibreglass-reinforced polyamide
- Safe restraint of dynamic forces of high short circuit currents, without damage to the cables, also for multiple short circuits
- Type-tested to IEC 61914 – cable cleats for electrical installations - reports from accredited institutes regarding dynamic short circuit currents, the fire-resistance of the material, and mechanical properties of the Cable Clamps are available
- Very low surface pressure on cables due to Cable Clamps' large contact area
- Universal application both indoor and outdoor in extreme climates such as deserts, tropics, high altitudes, arctic climate, coastal salt fogs, flooding and ozone due to special resistance to ageing, ultraviolet rays and ozone
- Easy to mount without special instruments and maintenance-free
- Fastening of Cable Clamps adaptable to all local conditions

Type-Tests to IEC 61914 on Series KS Cable Clamps approved results in highest classification

Classification	Test conditions	Approved results	Paragraph
Material: non-metallic	high-grade polyamide		6.1.2
Operating temperature	-60°C / +120°C	passed	6.2
Resistance to impact	-60°C, 5 kg at 400 mm height	very heavy	6.3.5
Lateral load test (N) – in x-direction – in y-direction	+120°C	11.000 N 19.000 N	6.4.1
Axial load test (N) – without Elastic Inlays – *with Elastic Inlays*	+120°C	1.000 N *1.250 N*	6.4.2
Dynamic resistance to short circuits (N) suited to withstand multiple short circuits	Peak short circuit current: 66,4 kA Cable Clamp spacing: 0,61 m	13.000 N	6.4.4
UV-resistance	high	passed	6.5.1
Flame propagation	1 x 30s, needle flame method	passed	10.1 (IEC 60695-11-5)
	2 x 10s, 50 W test flame method	V-0	UL 94 V (IEC 60695-11-10)
	5 x 5s, 500 W test flame method	5VA	UL 94 5V (IEC 60695-11-20)
	3 min	S3	DIN 5510

Installation with Elastic Inlays:

- As a cushion for elastic adjustment of cable diameter changes due to operational load changes and/or changes in the ambient temperature
- Precise cable fixation and absorption of weight forces, primarily on cables installed along inclines or attached to vertical surfaces where restraint of axial movement is essential
- Compensation of vibrations, e.g. in wind turbines, without reducing retention forces
- Expansion of the Clamp's clamping area, for cables with a smaller outer diameter

KS Series

KS SERIES with factory fixed Elastic Inlays (EE)

100% MADE IN GERMANY

PROPERTIES

Resistance to:	Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays*
Flame resistance:	UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3
Thermal expansion:	0.01% per 10°C temperature increase
Tensile strength:	120 N/mm²
Flexural strength:	210 N/mm²

TEMPERATURE RANGE

Ambient temperature:	down to -60°C*
Continuous operation:	up to 120°C
Permitted short-term heating:	up to 220°C
Operation life:	more than 40 years of maintenance- and failure-free operation

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

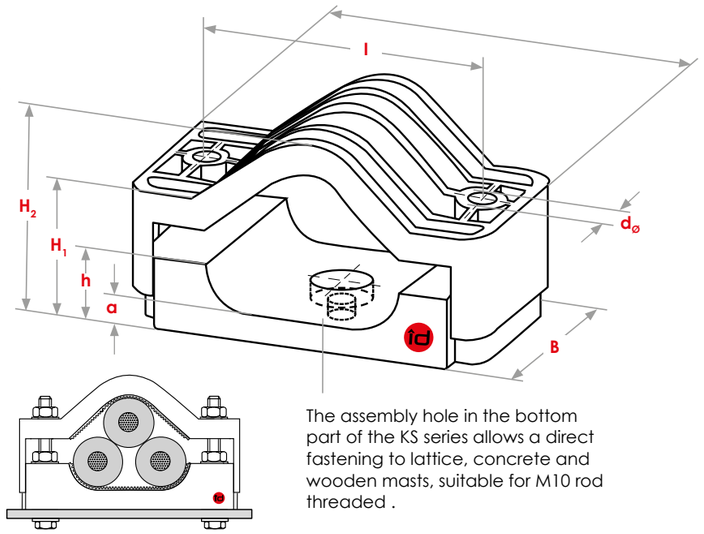
Applications:
For trefoil formation and stacked fastening of single- and multi-core cables. Universal application indoors and outdoors between -60°C and +120°C.

Outer diameter of cables:
22 mm to 43 mm

Dynamic resistance to short circuits:
13.000 N

Tightening Torque for fixing material:
Top part: 5 Nm**
Bottom part: 15 Nm

Material Elastic Inlay:
EPDM, one-side ribbed



The assembly hole in the bottom part of the KS series allows a direct fastening to lattice, concrete and wooden masts, suitable for M10 rod threaded .

Use with Elastic Inlays, e.g. KS 25/36-2

Dimensions in mm

Type	Dø++	L	B	l	H_1	H_2	h	a	dø	Screw thread
KS 25/36-2	22-33	150	80	110	55-75	77-97	33	17	12	M10/12
KS 33/46-2	30-43	170	80	130	55-85	85-115	33	15	12	M10/12

Dø++: ~ with two Elastic Inlays

* For more information contact īd-Technik, please.
** Contact īd-Technik for trailing cables (EPDM, rubber, etc.), please.

id-Technik®

100% MADE IN GERMANY

NEW

KS-Tower SERIES WITH ADAPTER SET ***

PROPERTIES

Resistance to:	Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays*
Flame resistance:	UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3
Thermal expansion:	0.01% per 10°C temperature increase
Tensile strength:	120 N/mm²
Flexural strength:	210 N/mm²

TEMPERATURE RANGE

Ambient temperature:	down to -60°C*
Continuous operation:	up to 120°C
Permitted short-term heating:	up to 220°C
Operation life:	more than 40 years of maintenance- and failure-free operation

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

Applications:
For trefoil formation and stacked fastening of single- and multi-core cables. Universal application indoors and outdoors between -60°C and +120°C.

Outer diameter of cables:
25 mm to 46 mm

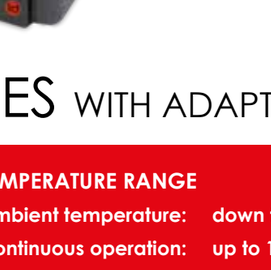
Dynamic resistance to short circuits:
10.000 N

Tightening Torque for fixing material:
Lowest bottom part: 15 Nm
All other parts: 5 Nm**

Double-Tower:
2 complete Clamps plus Adapter Set

Legal compliance

- Directive 2015/863/EU (RoHS)
- Regulation (EC) No. 1907/2006 (REACH regulation)



For the fastening to the substraction the outer screw holes are to be used (not the center hole!)

Adapter-Set refer to page 72.

Dimensions in mm

Type	Dø	L	B	l	H_1	H_2	H_3	H_4	h	a	dø	Screw thread
Double Tower KS 25/36-AS	25-36	150	80	110	55-75	77-97	141-181	163-203	33	17	12	M10/12
Double Tower KS 33/46-AS	33-46	170	80	130	55-85	66-116	141-201	172-232	33	15	12	M10/12

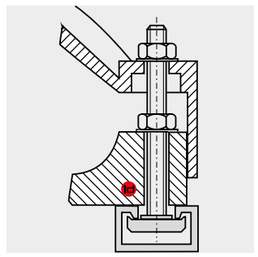
Dø: Outer cable diameter

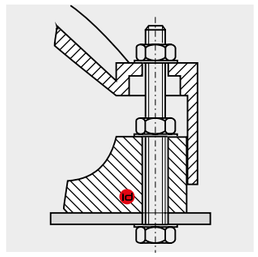
* For more information contact īd-Technik, please.
** Contact īd-Technik for trailing cables (EPDM, rubber, etc.), please.
*** Universal Adapter Set, suitable for all KS-Clamps.

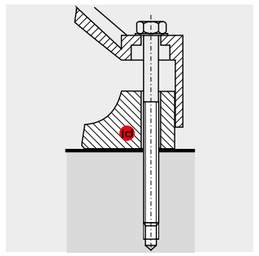
100% MADE IN GERMANY

KS SERIES

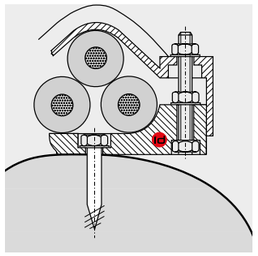
EXAMPLES OF MOUNTING METHODS



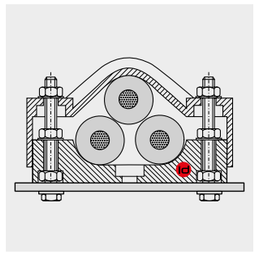




▲▼ **Mounting types**

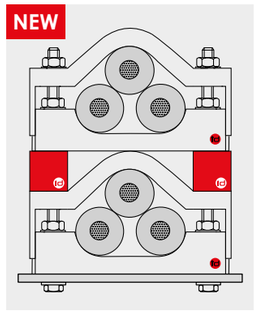


◀ The assembly hole in the bottom part of the KS series allows a direct fastening to lattice, concrete and wooden masts, suitable for M10 threaded rod.



Double-Tower: ▶
2 complete Clamps plus Adapter Set

NEW



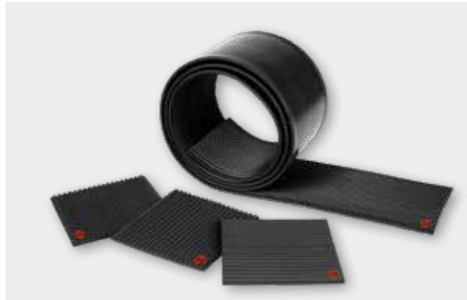
Torque for tightening the fastening material:
Top part: 5 Nm*
Bottom part: 15 Nm

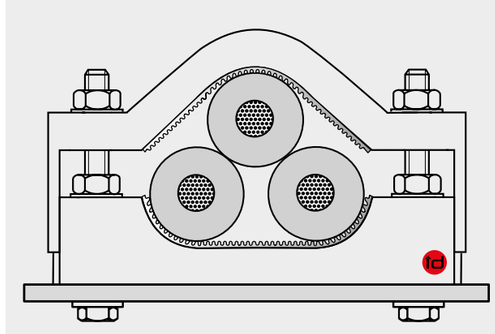
* Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

1 **UNIVERSAL MOUNTING OPTIONS**
adaptable to local conditions

2 **EASY TO MOUNT**
respecting the tightening torques of the fastening material

3 **MAINTENANCE-FREE**
more than 40 years of maintenance- and failure-free operation





▲ **Use with Elastic Inlays, e.g. KS 25/36-2**

The Elastic Inlays must ONLY be inserted into the îd-Technik Clamps, not fixed, with the ribs running parallel to the cable lengthways.

To assist with mounting, Cable Clamps can be supplied with the Elastic Inlays cut to size and fixed in our factory. To avoid negative impact on the retention, the Elastic Inlays should ONLY be fixed by îd-Technik.

The guarantee expires immediately if any form of adhesive is applied on site and/or any compination with third-party products is installed (e.g. glue, silicone or paste).

KP SERIES

100% MADE IN GERMANY

PROPERTIES

Resistance to:	**Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays***
Flame resistance:	**UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3**
Thermal expansion:	**0.01% per 10°C temperature increase**
Tensile strength:	**120 N/mm²**
Flexural strength:	**210 N/mm²**

TEMPERATURE RANGE

Ambient temperature:	**down to -60°C***
Continuous operation:	**up to 120°C**
Permitted short-term heating:	**up to 220°C**
Operation life:	**more than 40 years of maintenance- and failure-free operation**

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

Applications:

For trefoil formation of single- and multi-core cables. Universal application indoors and outdoors between -60°C and +120°C.

Outer diameter of cables:

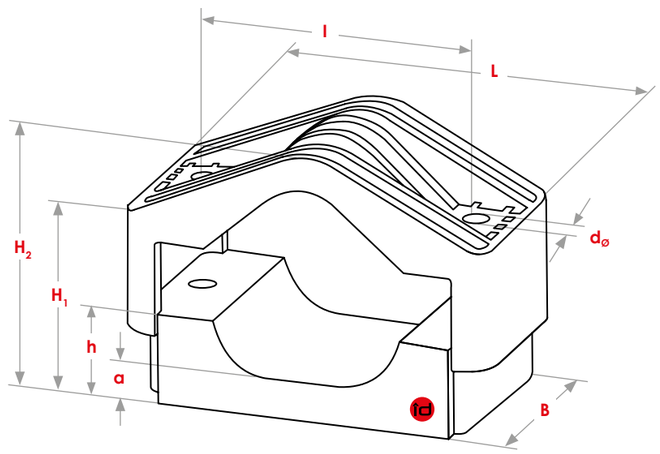
26 mm to 64 mm

Dynamic resistance to short circuits:

25.000 N

Tightening Torque for fixing material:

Top part: 8 Nm**
Bottom part: 15 Nm



Dimensions in mm

Type	$D_ø$	$D_ø$++	L	B	l	H_1	H_2	h	a	$d_ø$	Screw thread
KP 29/41	29-41	26-38	172	80	125	60-90	81-111	40	20	14	M12
KP 39/53	39-53	36-50	190	80	145	63-93	101-131	45	20	14	M12
KP 51/64	51-64	48-61	205	90	160	95-123	130-158	70	25	14	M12

$D_ø$: Outer cable diameter
$D_ø$++: ~ with two Elastic Inlays

* For more information contact îd-Technik, please.
** Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

îd-Technik®

CERTIFIED IEC 61914 CERTIFIED

Standard IEC 61914 îd-Technik Cable Clamps have been type-tested by accredited test institutes to the international standard IEC 61914.

Legal compliance

- Directive 2015/863/EU (RoHS)
- Regulation (EC) No. 1907/2006 (REACH regulation)

Constructional features

- Particularly high dynamic and mechanical strength and heat resistance due to special fibreglass-reinforced polyamide
- Safe restraint of dynamic forces of high short circuit currents, without damage to the cables, also for multiple short circuits
- Type-tested to IEC 61914 – cable cleats for electrical installations - reports from accredited institutes regarding dynamic short circuit currents, the fire-resistance of the material, and mechanical properties of the Cable Clamps are available
- Very low surface pressure on cables due to Cable Clamps' large contact area
- Universal application both indoor and outdoor in extreme climates such as deserts, tropics, high altitudes, arctic climate, coastal salt fogs, flooding and ozone due to special resistance to ageing, ultraviolet rays and ozone
- Easy to mount without special instruments and maintenance-free
- Fastening of Cable Clamps adaptable to all local conditions

Type-Tests to IEC 61914 on Series KP Cable Clamps approved results in highest classification

Classification	Test conditions	Approved results	Paragraph
Material: non-metallic	high-grade polyamide		6.1.2
Operating temperature	-60°C / +120°C	passed	6.2
Resistance to impact	-60°C, 5 kg at 400 mm height	very heavy	6.3.5
Lateral load test (N) – in x-direction – in y-direction	+120°C	18.000 N 25.000 N	6.4.1
Axial load test (N) – without Elastic Inlays *– with Elastic Inlays*	+120°C	1.500 N *1.900 N*	6.4.2
Dynamic resistance to short circuits (N) suited to withstand multiple short circuits	Peak short circuit current: 66,4 kA Cable Clamp spacing: 0,61 m	25.000 N	6.4.4
UV-resistance	high	passed	6.5.1
Flame propagation	1 x 30s, needle flame method	passed	10.1 (IEC 60695-11-5)
	2 x 10s, 50 W test flame method	V-0	UL 94 V (IEC 60695-11-10)
	5 x 5s, 500 W test flame method	5VA	UL 94 5V (IEC 60695-11-20)
	3 min	S3	DIN 5510

Installation with Elastic Inlays:

- As a cushion for elastic adjustment of cable diameter changes due to operational load changes and/or changes in the ambient temperature
- Precise cable fixation and absorption of weight forces, primarily on cables installed along inclines or attached to vertical surfaces where restraint of axial movement is essential
- Compensation of vibrations, e.g. in wind turbines, without reducing retention forces
- Expansion of the Clamp's clamping area, for cables with a smaller outer diameter

KP SERIES with factory fixed Elastic Inlays (EE)

100% MADE IN GERMANY

PROPERTIES

Resistance to:	Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays*
Flame resistance:	UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3
Thermal expansion:	0.01% per 10°C temperature increase
Tensile strength:	120 N/mm²
Flexural strength:	210 N/mm²

TEMPERATURE RANGE

Ambient temperature:	down to -60°C*
Continuous operation:	up to 120°C
Permitted short-term heating:	up to 220°C
Operation life:	more than 40 years of maintenance- and failure-free operation

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

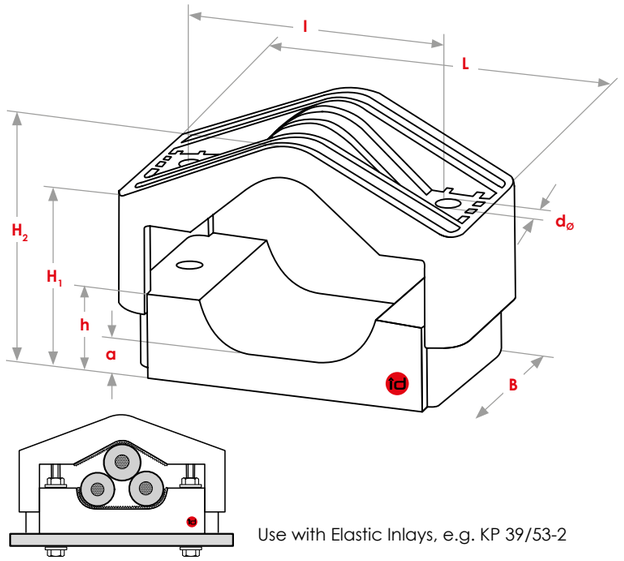
Applications:
For trefoil formation of single- and multi-core cables. Universal application indoors and outdoors between -60°C and +120°C.

Outer diameter of cables:
26 mm to 61 mm

Dynamic resistance to short circuits:
25.000 N

Tightening Torque for fixing material:
Top part: 8 Nm**
Bottom part: 15 Nm

Material Elastic Inlay:
EPDM, one-side ribbed



Use with Elastic Inlays, e.g. KP 39/53-2

Dimensions in mm

Type	DØ++	L	B	l	H1	H2	h	a	dØ	Screw thread
KP 29/41-2	26-38	172	80	125	60-90	81-111	40	20	14	M12
KP 39/53-2	36-50	190	80	145	63-93	101-131	45	20	14	M12
KP 51/64-2	48-61	205	90	160	95-123	130-158	70	25	14	M12

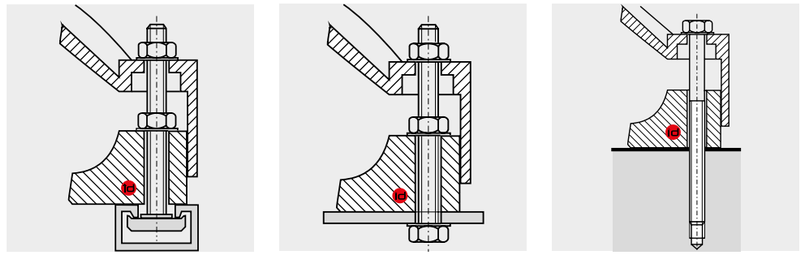
DØ++: ~ with two Elastic Inlays

* For more information contact id-Technik, please.
** Contact id-Technik for trailing cables (EPDM, rubber, etc.), please.

100% MADE IN GERMANY

KP SERIES

EXAMPLES OF MOUNTING METHODS



▲ **Mounting types**

Bundling with fibre-glass reinforced bundling adhesive tapes, functional breakdown of the tapes due to ageing

Replacement with îd-Technik Cable Clamps: KP Series

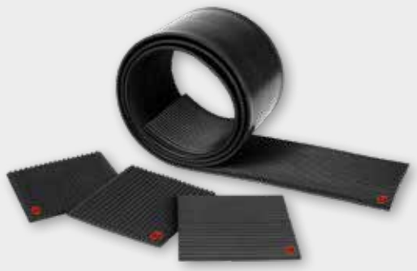
Torque for tightening the fastening material:
Top part: 8 Nm*
Bottom part: 15 Nm

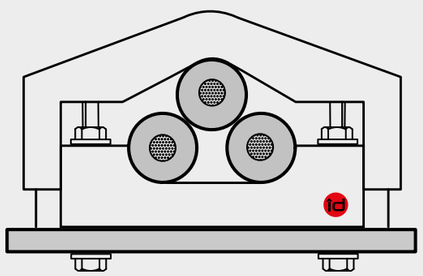
* Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

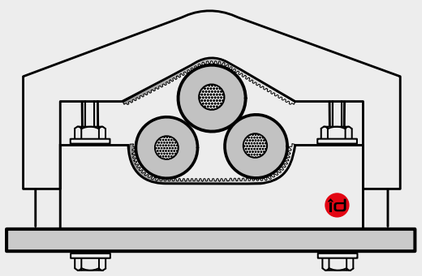
1 **UNIVERSAL MOUNTING OPTIONS**
adaptable to local conditions

2 **EASY TO MOUNT**
respecting the tightening torques of the fastening material

3 **MAINTENANCE-FREE**
more than 40 years of maintenance- and failure-free operation







▲ **Use with Elastic Inlays, e.g. KP 39/53-2**

The Elastic Inlays must ONLY be inserted into the îd-Technik Clamps, not fixed, with the ribs running parallel to the cable lengthways.

To assist with mounting, Cable Clamps can be supplied with the Elastic Inlays cut to size and fixed in our factory. To avoid negative impact on the retention, the Elastic Inlays should ONLY be fixed by îd-Technik.

The guarantee expires immediately if any form of adhesive is applied on site and/or any compination with third-party products is installed (e.g. glue, silicone or paste).

KH SERIES

100% MADE IN GERMANY

PROPERTIES

Resistance to:	**Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays***
Flame resistance:	**UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3**
Thermal expansion:	**0.01% per 10°C temperature increase**
Tensile strength:	**120 N/mm²**
Flexural strength:	**210 N/mm²**

TEMPERATURE RANGE

Ambient temperature:	**down to -60°C***
Continuous operation:	**up to 120°C**
Permitted short-term heating:	**up to 220°C**
Operation life:	**more than 40 years of maintenance- and failure-free operation**

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

Applications:

For trefoil formation of single- and multi-core cables. Universal application indoors and outdoors between -60°C and +120°C.

Outer diameter of cables:

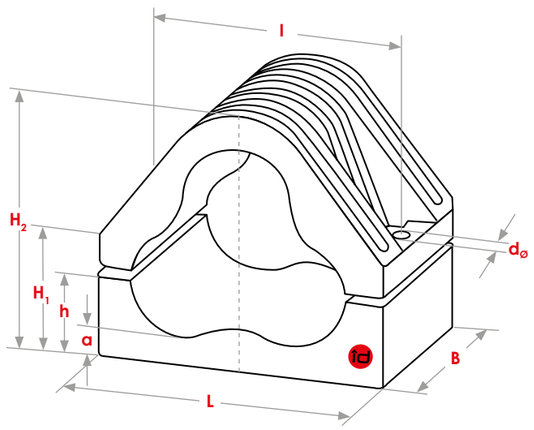
59 mm to 165 mm

Dynamic resistance to short circuits:

30.000 N

Tightening Torque for fixing material:

Top part: 8 Nm**
Bottom part: 15 Nm



Dimensions in mm

Type	$D_ø$	$D_ø$+++	L	B	l	H_1	H_2	h	a	$d_ø$	Screw thread
KH 62/75	62-75	59-72	230	90	185	114-142	172-200	80	30	18	M16
KH 73/86	73-86	70-83	250	100	210	119-147	192-220	85	30	18	M16
KH 84/97	84-97	81-94	270	100	230	128-156	214-242	95	30	18	M16
KH 95/107	95-107	92-104	290	100	250	136-164	244-262	103	30	18	M16
KH 105/117	105-117	102-114	310	100	270	144-178	248-282	108	30	18	M16
KH 115/140	115-140	112-137	365	120	320	182-242	270-330	145	35	18	M16
KH 138/165	138-165	135-162	505	140	420	215-310	295-390	155	40	20	M18

$D_ø$: Outer cable diameter
$D_ø$+++ ~ with three Elastic Inlays

* For more information contact îd-Technik, please.
** Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

îd-Technik®

Standard IEC 61914 îd-Technik Cable Clamps have been type-tested by accredited test institutes to the international standard IEC 61914.

CERTIFIED IEC 61914 CERTIFIED

Legal compliance

- Directive 2015/863/EU (RoHS)
- Regulation (EC) No. 1907/2006 (REACH regulation)

Constructional features

- Particularly high dynamic and mechanical strength and heat resistance due to special fibreglass-reinforced polyamide
- Safe restraint of dynamic forces of high short circuit currents, without damage to the cables, also for multiple short circuits
- Type-tested to IEC 61914 – cable cleats for electrical installations - reports from accredited institutes regarding dynamic short circuit currents, the fire-resistance of the material, and mechanical properties of the Cable Clamps are available
- Very low surface pressure on cables due to Cable Clamps' large contact area
- Universal application both indoor and outdoor in extreme climates such as deserts, tropics, high altitudes, arctic climate, coastal salt fogs, flooding and ozone due to special resistance to ageing, ultraviolet rays and ozone
- Easy to mount without special instruments and maintenance-free
- Fastening of Cable Clamps adaptable to all local conditions

Type-Tests to IEC 61914 on Series KH Cable Clamps approved results in highest classification

Classification	Test conditions	Approved results	Paragraph
Material: non-metallic	high-grade polyamide		6.1.2
Operating temperature	-60°C / +120°C	passed	6.2
Resistance to impact	-60°C, 5 kg at 400 mm height	very heavy	6.3.5
Lateral load test (N) – in x-direction – in y-direction	+120°C	35.000 N 35.000 N	6.4.1
Axial load test (N) – with three Elastic Inlays	+120°C	1.500 N	6.4.2
Dynamic resistance to short circuits (N) suited to withstand multiple short circuits	Peak short circuit current: 149 kA Cable Clamp spacing: 0,90 m	30.000 N	6.4.4
UV-resistance	high	passed	6.5.1
Flame propagation	1 x 30s, needle flame method	passed	10.1 (IEC 60695-11-5)
	2 x 10s, 50 W test flame method	V-0	UL 94 V (IEC 60695-11-10)
	5 x 5s, 500 W test flame method	5VA	UL 94 5V (IEC 60695-11-20)
	3 min	S3	DIN 5510

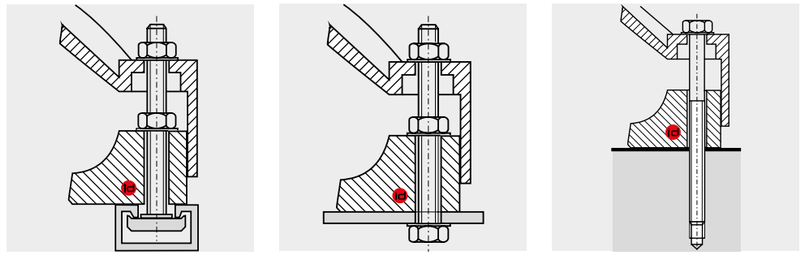
Installation with Elastic Inlays:

- As a cushion for elastic adjustment of cable diameter changes due to operational load changes and/or changes in the ambient temperature
- Precise cable fixation and absorption of weight forces, primarily on cables installed along inclines or attached to vertical surfaces where restraint of axial movement is essential
- Compensation of vibrations, e.g. in wind turbines, without reducing retention forces
- Expansion of the Clamp's clamping area, for cables with a smaller outer diameter
- Elastic Inlay 100 mm x 100 mm for KH 62/75, KH 73/86, KH 84/97, KH 95/107, KH 105/117
- Elastic Inlay 150 mm x 140 mm for KH 115/140, KH 138/165

100% MADE IN GERMANY

KH SERIES

EXAMPLES OF MOUNTING METHODS



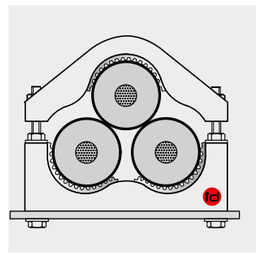
Torque for tightening the fastening material:
Top part: 8 Nm*
Bottom part: 15 Nm

* Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

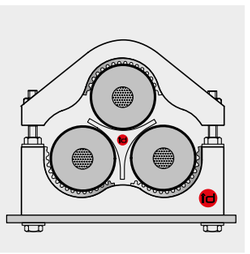
1 **UNIVERSAL MOUNTING OPTIONS**
adaptable to local conditions

2 **EASY TO MOUNT**
respecting the tightening torques of the fastening material

3 **MAINTENANCE-FREE**
more than 40 years of maintenance- and failure-free operation



▲ **Use with three Elastic Inlays**



▲ **Additional fixation of cables for high- and extra high-voltage in trefoil formation, especially with impregnated paper insulation and at vertical installations. See page 73.**

The Elastic Inlays must ONLY be inserted into the îd-Technik Clamps, not fixed, with the ribs running parallel to the cable lengthways.

To avoid negative impact on the retention, the Elastic Inlays should NOT be fixed.

The guarantee expires immediately if any form of adhesive is applied on site and / or any comp-ination with third-party products is installed (e.g. glue, silicone or paste).

100% MADE IN GERMANY

NEW

VR SERIES

EXAMPLES OF MOUNTING METHODS

1

Design features

The design of the VR-series allows the variable lining up and stacking of the individual Clamp types. An even and undisturbed power transmission is guaranteed by the innovative design, as the the parallel and vertical phase distance of the cables with 75 mm always remains the same.

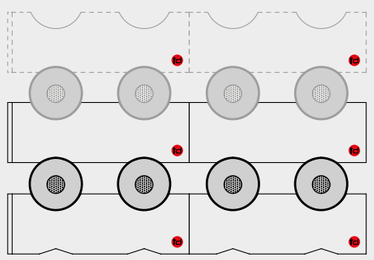
2

Like a custom-made product

The dovetail connection enables flexible arrangement of the individual VR-Clamps and adaptation to the respective application.

Torque for tightening the fastening material:
Lowest bottom part: 20 Nm
All other parts: 8 Nm*

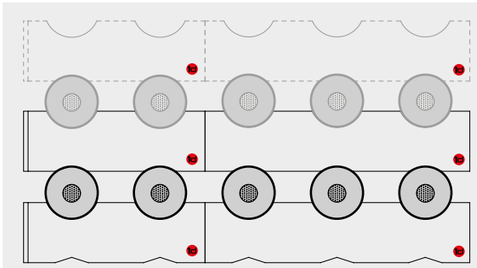
Arrangement of 4



◀ **VR4:** Consisting of 2x VR2. For parallel and stacked mounting of 4-8 cables. Required are 2-6 x VR2.

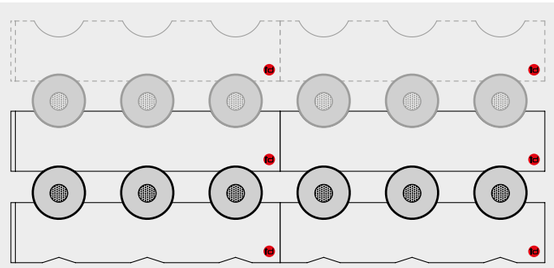
* Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

Arrangement of 5



▲ **VR5:** Consisting of 1x VR2 and 1x VR3. For parallel and stacked mounting of 5-10 cables. Required are 2-3 x VR2 and 2-3 x VR3.

Arrangement of 6



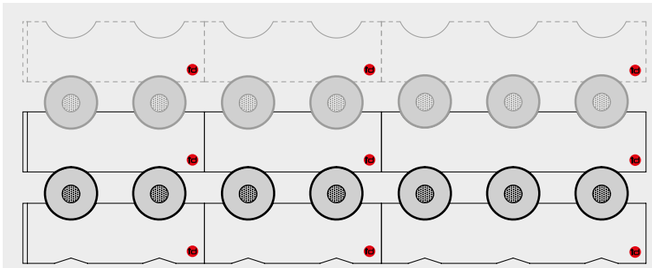
▲ **VR6:** Consisting of 2x VR3. For parallel and stacked mounting of 6-12 cables. Required are 4-6 VR3.

3

Different cable diameters

Within different vertical levels cables with variating cable outside diameters can also be fastened. For each level the cables must have the same outer diameter, in order to ensure a secure fastening.*

Arrangement of 7



▲ **VR7:** Consisting of 2x VR2 and 1x VR3. For parallel and stacked mounting of 7-14 cables. Required are 4-6 VR2 and 2-3 x VR3.

For fastening cables with an outer diameter of 12-21 mm contact îd-Technik, please.

* For more information contact îd-Technik, please.

VR2 NEW SERIES

100% MADE IN GERMANY

PROPERTIES

Resistance to:	Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays*
Flame resistance:	UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3
Thermal expansion:	0.01% per 10°C temperature increase
Tensile strength:	120 N/mm²
Flexural strength:	210 N/mm²

TEMPERATURE RANGE

Ambient temperature:	down to -60°C*
Continuous operation:	up to 120°C
Permitted short-term heating:	up to 220°C
Operation life:	more than 40 years of maintenance- and failure-free operation

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

Applications:

For variable fastening of single- and multi-core cables. Universal application indoors and outdoors between -60°C and +120°C. Parallel and stacked formation. For vertical fastening of VPE cables we recommend the use of Elastic Inlays.*

Outer diameter of cables:

12 mm to 45 mm**

Dynamic resistance to short circuits:

10.000 N

Axial retention:

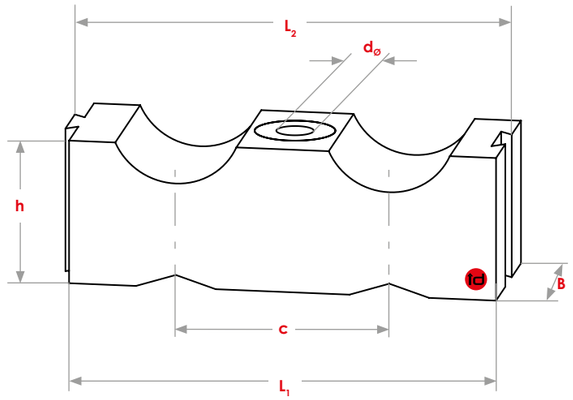
400 N

Tightening Torque for fixing material:

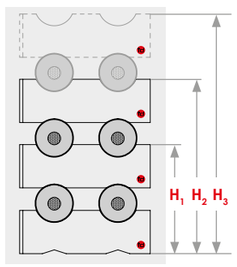
Lowest bottom part: 20 Nm
All other parts: 8 Nm

Legal compliance

- Directive 2015/863/EU (RoHS)
- Regulation (EC) No. 1907/2006 (REACH regulation)



Mounting example



Dimensions for cable outer diameter 21-45 mm.

Dimensions in mm

Type	Dø	L1	L2	B	l	h	H1	H2+	H3+	c	dø	Screw thread
VR2 12-45	12-45	60	64	53	75	51	105-130	159-209	213-288	75	13	M12

Dø: Outer cable diameter

* For more information contact îd-Technik, please.

** Contact îd-Technik for diameter 12-21 mm, please.

*** Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

+ For more information see page 60.

VR3 NEW SERIES

100% MADE IN GERMANY

PROPERTIES

Resistance to:	Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays*
Flame resistance:	UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3
Thermal expansion:	0.01% per 10°C temperature increase
Tensile strength:	120 N/mm²
Flexural strength:	210 N/mm²

TEMPERATURE RANGE

Ambient temperature:	down to -60°C*
Continuous operation:	up to 120°C
Permitted short-term heating:	up to 220°C
Operation life:	more than 40 years of maintenance- and failure-free operation

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

Applications:

For variable fastening of single- and multi-core cables. Universal application indoors and outdoors between -60°C and +120°C. Parallel and stacked formation. For vertical fastening of VPE cables we recommend the use of Elastic Inlays.*

Outer diameter of cables:

12 mm to 45 mm**

Dynamic resistance to short circuits:

10.000 N

Axial retention:

400 N

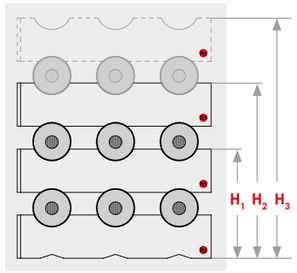
Tightening Torque for fixing material:

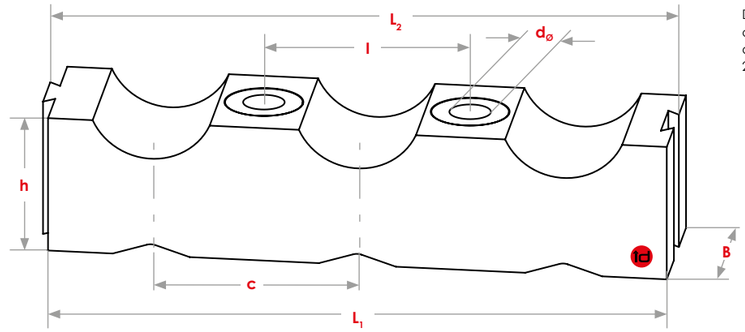
Lowest bottom part: 20 Nm
All other parts: 8 Nm

Legal compliance

- Directive 2015/863/EU (RoHS)
- Regulation (EC) No. 1907/2006 (REACH regulation)

Mounting example





Dimensions for cable outer diameter 21-45 mm.

Dimensions in mm

Type	Dø	L1	L2	B	l	h	H1	H2+	H3+	c	dø	Screw thread
VR3 12-45	12-45	224	228	53	75	51	105-130	159-209	213-288	75	13	M12

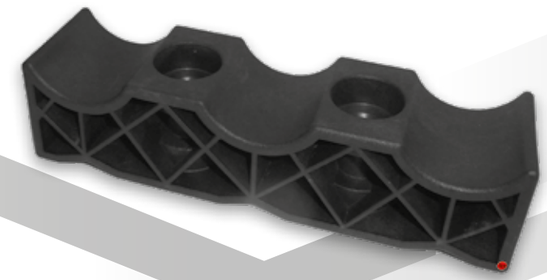
Dø: Outer cable diameter

* For more information contact îd-Technik, please.

** Contact îd-Technik for diameter 12-21 mm, please.

*** Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

+ For more information see page 60.



RS NEW SERIES

PROPERTIES

Resistance to:	Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays*
Flame resistance:	UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3
Thermal expansion:	0.01% per 10°C temperature increase
Tensile strength:	120 N/mm²
Flexural strength:	210 N/mm²

TEMPERATURE RANGE

Ambient temperature:	down to -60°C*
Continuous operation:	up to 120°C
Permitted short-term heating:	up to 220°C
Operation life:	more than 40 years of maintenance- and failure-free operation

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

Applications:

For variable fastening of single- and multi-core cables. Universal application indoors and outdoors between -60°C and +120°C. Parallel and stacked formation. For vertical fastening of VPE cables we recommend the use of Elastic Inlays.*

Outer diameter of cables:

12 mm to 45 mm**

Dynamic resistance to short circuits:

10.000 N

Axial retention:

400 N

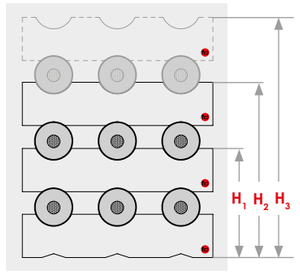
Tightening Torque for fixing material:

Lowest bottom part: 20 Nm
All other parts: 8 Nm**

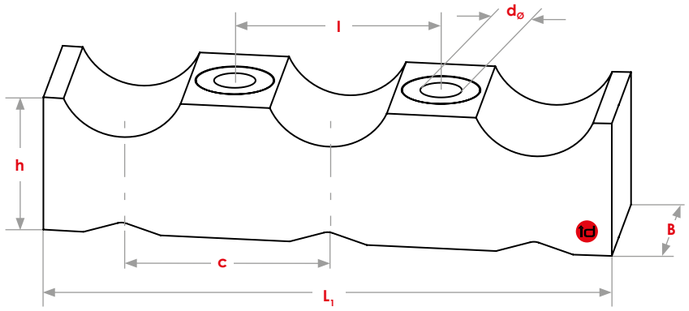
Legal compliance

- Directive 2015/863/EU (RoHS)
- Regulation (EC) No. 1907/2006 (REACH regulation)

Mounting example



Dimensions for cable outer diameter 21-45 mm.



Dimensions in mm

Type	$D_ø$	L_1	B	l	h	H_1	H_2+	H_3+	c	$d_ø$	Screw thread
RS3 12/45	12-45	202	53	75	51	105-130	159-209	213-288	75	13	M12

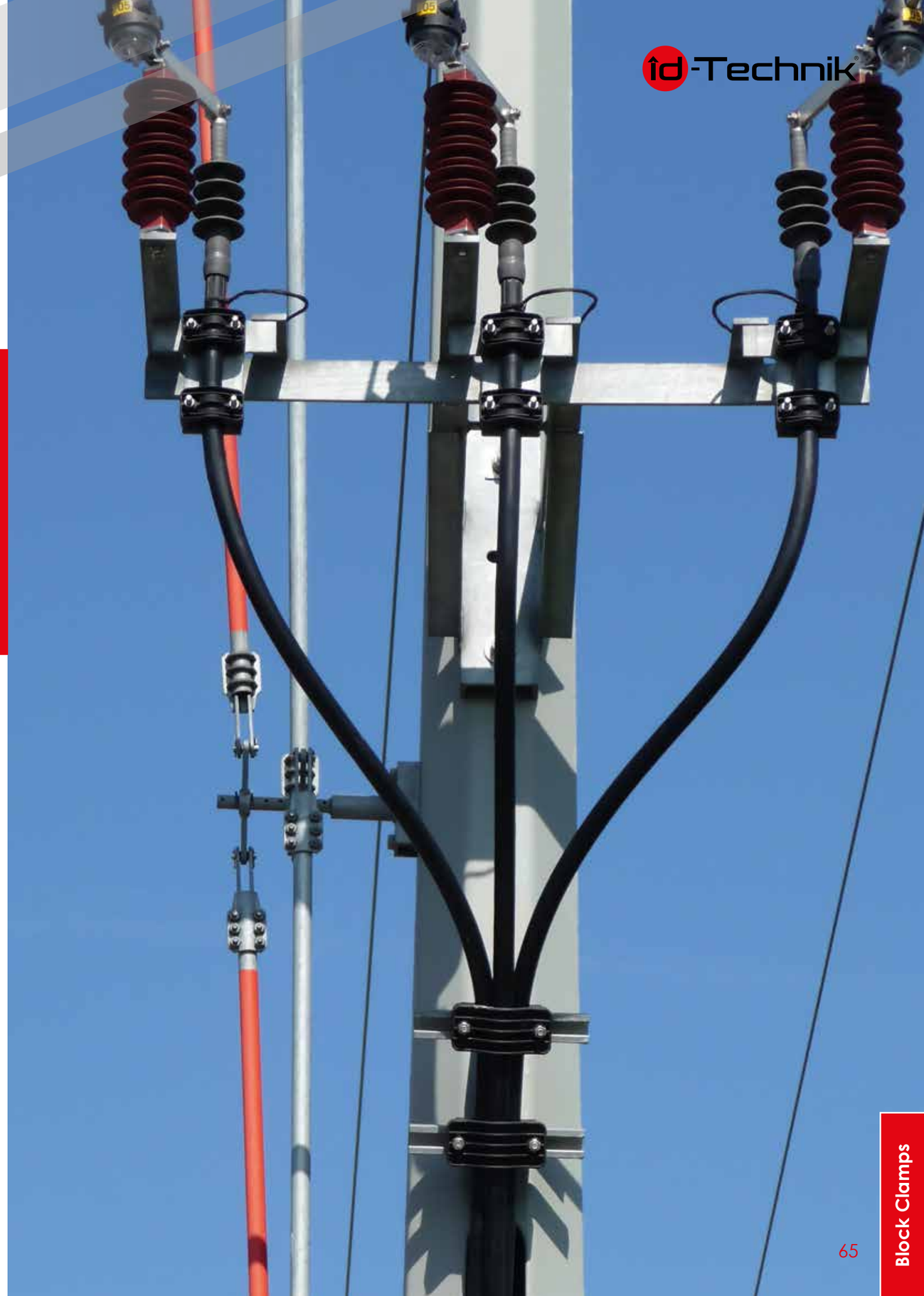
$D_ø$: Outer cable diameter

* For more information contact id-Technik, please.

** Contact id-Technik for diameter 12-21 mm, please.

*** Contact id-Technik for trailing cables (EPDM, rubber, etc.), please.

+ For more information see page 60.



BE NEW SERIES

100% MADE IN GERMANY

PROPERTIES

Resistance to:	Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays*
Flame resistance:	UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3
Thermal expansion:	0.01% per 10°C temperature increase
Tensile strength:	120 N/mm²
Flexural strength:	210 N/mm²

TEMPERATURE RANGE

Ambient temperature:	down to -60°C*
Continuous operation:	up to 120°C
Permitted short-term heating:	up to 220°C
Operation life:	more than 40 years of maintenance- and failure-free operation

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

Applications:
Parallel and/or stacked fastening of trailing cables (single- and multicore). Universal application indoors and outdoors between -60°C and +120°C. For vertical fastening of VPE cables we recommend the use of Elastic Inlays.*

Outer diameter of cables:
50 mm to 76 mm

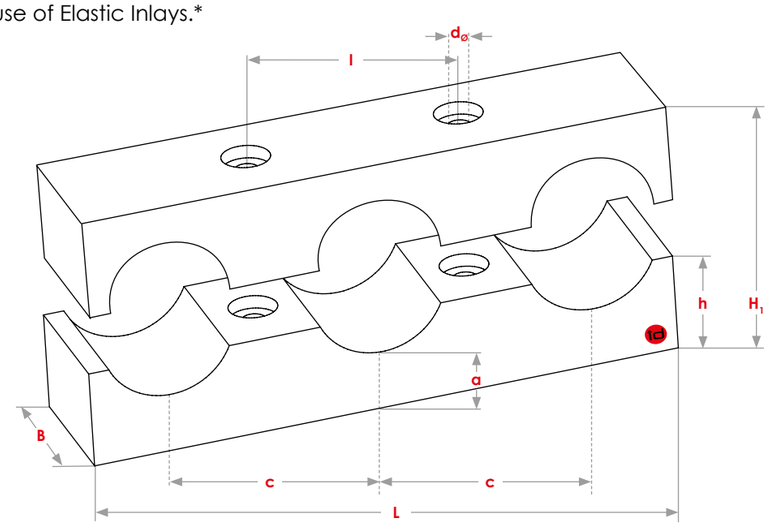
Dynamic resistance to short circuits:
15.000 N

Tightening Torque for fixing material:
Top part: 8 Nm**
Bottom part: 20 Nm

Different diameters and dimensions upon request.

Legal compliance

- Directive 2015/863/EU (RoHS)
- Regulation (EC) No. 1907/2006 (REACH regulation)



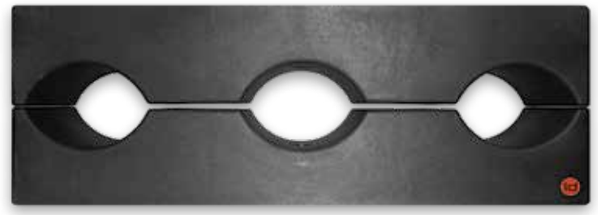
Dimensions in mm

Type	Dø	L	B	l	h	H1	a	c	dø	Screw thread
BE3 50/76	50-76	345	80	125	58	120-146	35	125	13,5	M12

Dø: Outer cable diameter

* For more information contact id-Technik, please.
** Contact id-Technik for trailing cables (EPDM, rubber, etc.), please.

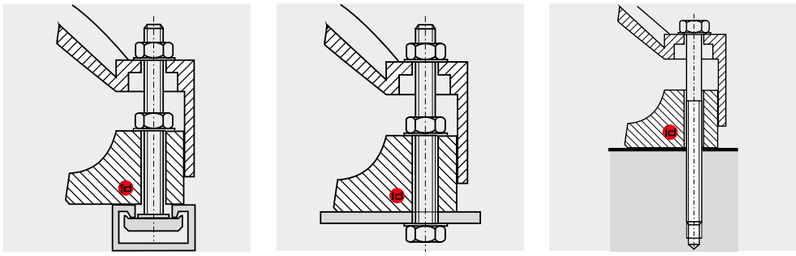
Torque for tightening the fastening material:
Top part: 8 Nm*
Bottom part: 20 Nm



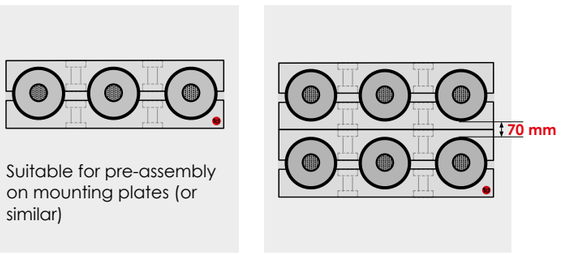
100% MADE IN GERMANY

BE SERIES

EXAMPLES OF MOUNTING METHODS



▲ Mounting types



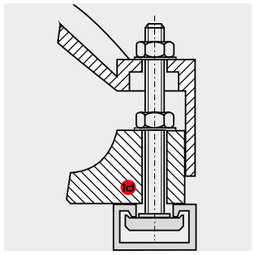
Suitable for pre-assembly on mounting plates (or similar)

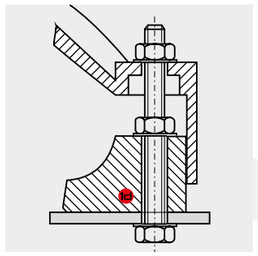
One fastening unit consists of 2 parts e.g. BE3 50/76

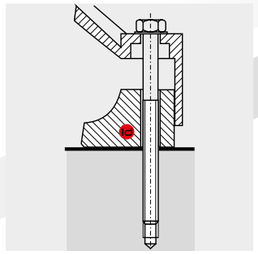
* Contact id-Technik for trailing cables (EPDM, rubber, etc.), please.

MOUNTING EXAMPLES

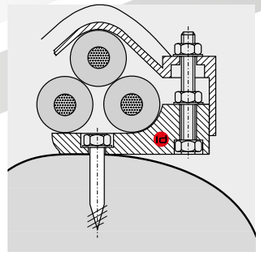
All Series



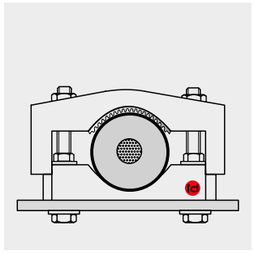


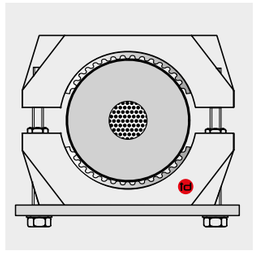


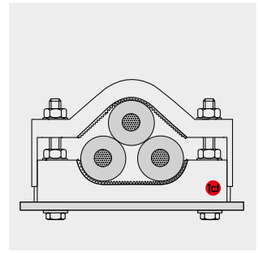
▼ Only KS Serie

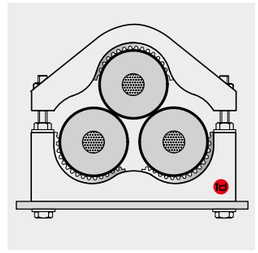


All Series with Elastic Inlays



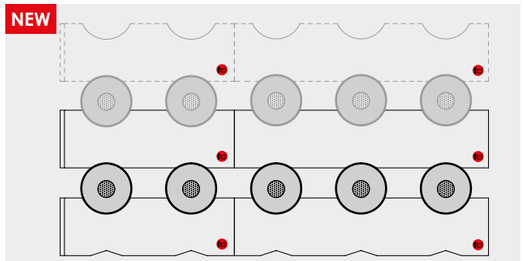




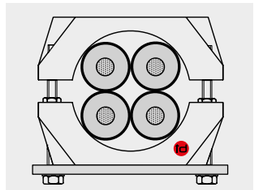


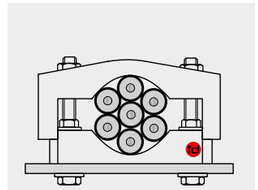
VR Series

NEW



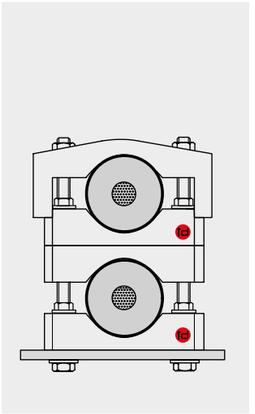
K, KT, KR Series

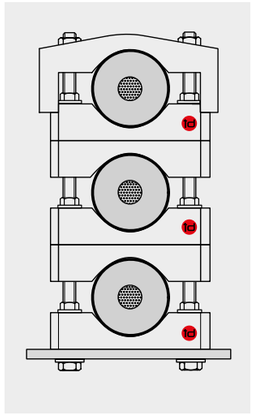




▲ Bundling of multiple cables (including of different diameters)

K-Tower Series

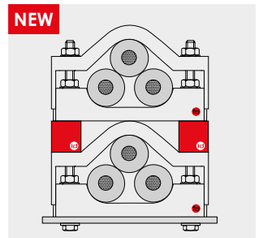




▲ With additional bottom parts

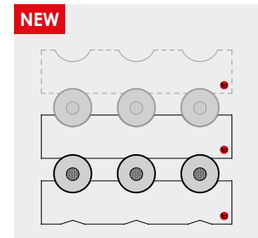
KS-Tower Series

NEW



RS Series

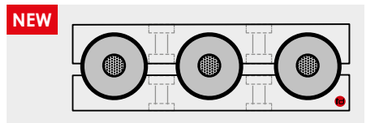
NEW



▲ **Double-Tower:** 2 complete Clamps plus Adapter Set

BE Series

NEW



Elastic Inlays (EE)

Application:

- Padding of cables (for outer cable diameters ≥ 60 mm) for elastic compression of diameter variations to avoid damaging of cables caused by changes of load and ambient temperature
- Precise cable fixation and absorption of weight forces, primarily on cables installed along inclines or attached to vertical surfaces where restraint of axial movement is essential
- Compensation of vibrations, e.g. in wind turbines, without reducing retention forces
- Expansion of the Clamp's clamping area, for cables with a smaller outer diameter
- To assist with mounting, Cable Clamps can be supplied with the Elastic Inlays cut to size and fixed in our factory (ONLY K, KT, KS, KP)

Material:

EPDM, one-side ribbed, black

Application and sale only in combination with îd-Technik Cable Clamps

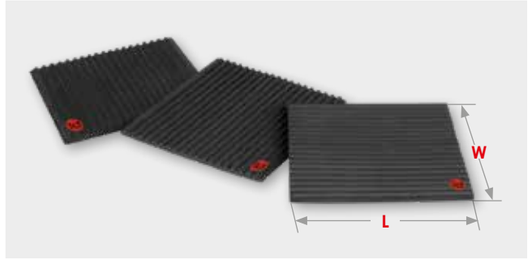
Properties of Elastic Inlays:

- Suitable for outdoor or indoor use on cable installations where ambient temperatures may range from -60°C to + 120°C
- The Elastic Inlays are highly flexible due to their unilateral convex shaping (groove structure)
- The elasticity of the Inlay absorbs vibrations and moderates vibration transfer to the cables
- Constant inlay-elasticity down to -60°C
- The physical characteristics of Elastic Inlays resist changes despite exposure to changing pressure and temperature conditions; this ensures decades of continuous functionality
- Highly resistant to UV, ozone and salt spray conditions
- Excellent chemical resistance
- Recyclable

Legal compliance

- Directive 2015/863/EU (RoHS)
- Regulation (EC) No. 1907/2006 (REACH regulation)

Delivery in pieces



Dimensions: 150 mm (W) x 140 mm (L)
100 mm (W) x 100 mm (L)

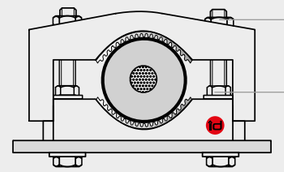
Delivery in rolls

Dimensions: 150 mm (W) x 4.2 m (L)
100 mm (W) x 3 m (L)

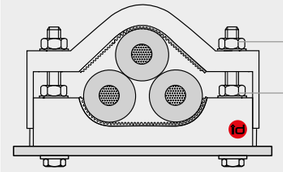
Elastic Inlay 150 mm x 140 mm for KR 130/160, KR 160/200, KR 200/250, KH 115/140 and KH 138/165
Elastic Inlay 100 mm x 100 mm for all other Cable Clamps

ELASTIC INLAYS MOUNTING EXAMPLES

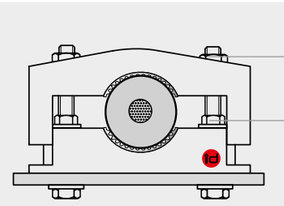
The special Elastic Inlays must ONLY be inserted into îd-Technik Clamps, not fixed, with the ribs facing the cable and running parallel to the cable. On-site fixing with any form of adhesive (e.g. glue, silicone or paste) and / or use with third-party products will void the warranty immediately.



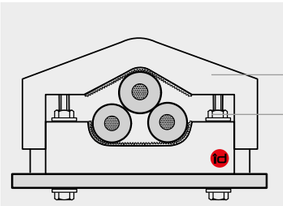
Tightening Torque: 5 Nm
Tightening Torque: 20 Nm
◀ Series K with two Elastic Inlays



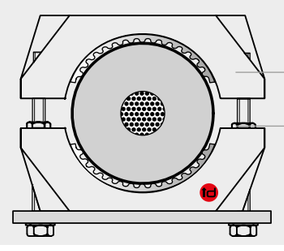
Tightening Torque: 5 Nm*
Tightening Torque: 15 Nm
◀ Series KS with Elastic Inlays



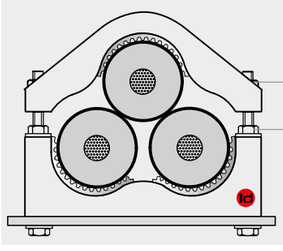
Tightening Torque: 5 Nm
Tightening Torque: 20 Nm
◀ Series KT with two Elastic Inlays



Tightening Torque: 8 Nm
Tightening Torque: 15 Nm
◀ Series KP with Elastic Inlays



Tightening Torque: 8 Nm
Tightening Torque: 20 Nm
◀ Series KR with two Elastic Inlays



Tightening Torque: 8 Nm
Tightening Torque: 15 Nm
◀ Series KH with three Elastic Inlays

* For more information contact îd-Technik, please.

NEW

Universal Adapter-Set (AS)**

100% MADE IN GERMANY

PROPERTIES

Resistance to:	Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays*
Flame resistance:	UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3
Thermal expansion:	0.01% per 10°C temperature increase
Tensile strength:	120 N/mm²
Flexural strength:	210 N/mm²

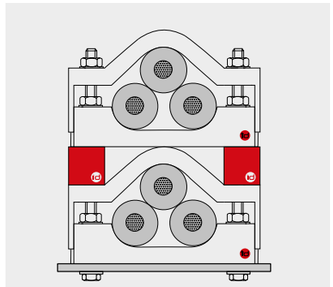
TEMPERATURE RANGE

Ambient temperature:	down to -60°C*
Continuous operation:	up to 120°C
Permitted short-term heating:	up to 220°C

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic

Mounting example

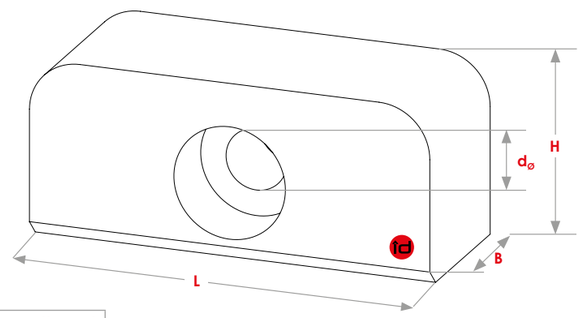


Legal compliance

- Directive 2015/863/EU (RoHS)
- Regulation (EC) No. 1907/2006 (REACH regulation)

Applications:

For secure stacking of KS Cable Clamps to a Double Tower



Dimensions in mm

Type	L	B	H	dø	Screw thread
AS	78	31	34	12	M10

* For further details, please contact îd-Technik.
** An AS-Set consists of 2 identical parts.

Distance Wedge for KH-Series

100% MADE IN GERMANY

PROPERTIES

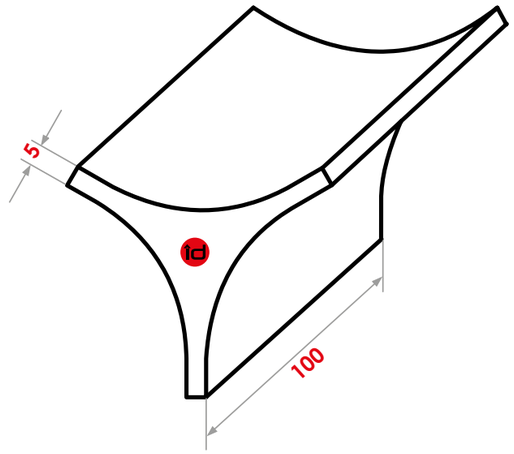
Resistance to:	Ultraviolet rays, ozone, mineral oils, fuels, salts, alkalis, alcohol, hydrocarbons, ketones, ether, termites and radioactive rays*
Flame resistance:	UL94 5VA (IEC 60695-11-20) UL94 V-0 (IEC 60695-11-10) IEC 61914 following IEC 60695-11-5 Classification following DIN 5510, part 2 Flammability class: S3
Thermal expansion:	0.01% per 10°C temperature increase
Tensile strength:	120 N/mm²
Flexural strength:	210 N/mm²

TEMPERATURE RANGE

Ambient temperature:	down to -60°C*
Continuous operation:	up to 120°C
Permitted short-term heating:	up to 220°C
Operation life:	more than 40 years of maintenance- and failure-free operation

MATERIAL

High-grade polyamide, fibreglass-reinforced, coloured black, with special UV protection, fully recyclable, self-extinguishing, low-smoke, zero halogen (LSZH), non-toxic, non-corrosive, non-metallic, non-magnetic



Dimensions in mm

Wedge Type	Dø+	Cable Clamp type
S 57/92	57-70	KH 62/75
	68-81	KH 73/86
	79-92	KH 84/97
S 90/112	90-102	KH 95/107
	100-112	KH 105/117

Dø+: outer cable diameter of the single cables using Distance Wedge and Elastic Inlays

Legal compliance

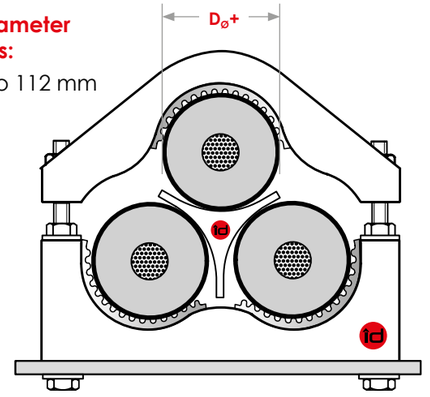
- Directive 2015/863/EU (RoHS)
- Regulation (EC) No. 1907/2006 (REACH regulation)

Applications:

Fixing support for non-dimensionally stable single conductor cable designs such as high-voltage oil cables, trailing cables (HEPR, EPR, etc.) in trefoil formation.

Outer diameter of cables:

57 mm to 112 mm



* For more information contact îd-Technik, please.

Assembly instructions

General information

In the following instructions, step by step descriptions are provided for the installation of the îd-Technik Cable Clamps and accessories. It is important that the sequence of the assembly steps is adhered to, without any deviations or changes. Only employ trained staff.

Important: For an appropriate use and to guarantee an optimized installation all components, such as Cable Clamps, Elastic Inlays, cables, trailing cables etc. need to be clean and dust free!

Liability and warranty

The information shown in these assembly instructions describes approved methods for safe and proper handling of îd-Technik products. They incorporate the requirements of applicable industry standards and regulations, as well as state-of-the-art cable support and restraint developments and the experience gained by îd-Technik through many years of assisting in a wide range of cable system applications.

It should be noted that the illustrations are not drawn to scale. These assembly instructions must be read in their entirety and fully understood before starting any work! The manufacturer assumes no liability for damage and malfunctions resulting from the use of non-approved installation methods.

Intended use

The operational safety of the îd-Technik products is guaranteed provided the products are used as intended. In order to ensure optimum performance and avoid hazards, these products must not be modified, extended or changed in any manner without the express approval of the manufacturer. Any use of these products other than in the manner described in these instructions is prohibited and is considered to be improper use.

îd-Technik GmbH and/or its authorised representatives are not liable for any claims resulting from improper use of the products. The operator alone is liable for any damage or injury caused by improper use of, or changes to, the products.

The manufacturer reserves the right to make technical changes to the instructions.

The special Elastic Inlays must ONLY be inserted into îd-Technik Clamps, not fixed, with the ribs facing the cable and running parallel to the cable.

Changes to the products

In order to avoid hazards and to ensure optimum performance, the products may not be modified, extended or changed if not expressly approved by the manufacturer.

In order not to jeopardise the retention, the Elastic Inlays should not be fixed. On-site fixing with any form of adhesive (e.g. glue, silicone or paste) and / or use with third-party products will void the warranty immediately.

Assembly instructions for K and KT Series

Selection of fastening material:

Material and corrosion resistance:
the choice of material for the fasteners is dependent on the installation environment and operating conditions (e.g. galvanised, stainless steel, etc.), strength grade 4.8 - 8.8

Type of screw:
depends on the substructure (e.g. hexagon screws, T-head screws, rod threaded, etc.); not included in delivery

Fastener diameter:
depends on the Cable Clamp (dimension: metric screw thread [M])

Fastener Length:
depends on the Cable Clamp dimension and type of substructure

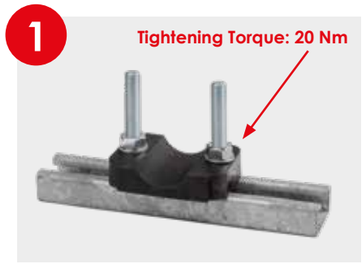
Application with Elastic Inlays:
on-site fixing with any form of adhesive (e.g. glue, silicone or paste) will void the warranty immediately

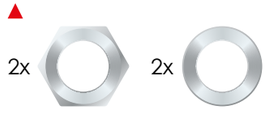
List of individual components:

Cable Clamp type	Outer diameter of cable	Metric screw thread (M)	Recommended length of thread*
K 26/38	24-38 mm	M10/12	70 mm + x
K 36/52	36-52 mm	M10/12	79 mm + x
K 50/75	50-75 mm	M10/12	100 mm + x
K 66/90	66-90 mm	M12	112 mm + x
KT 25/39	25-39 mm	M12	83 mm + x

* For maximum permited outer cable diameter (can be reduced accordingly for smaller diameters)
X corresponds to the height of the substructur.

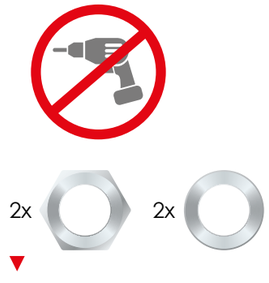
1





Only flat washers may be used.
No spring or snap rings!

2



3

Alternating, tighten nuts with an appropriate torque wrench. Do not use self-securing/self-locking nuts, this prohibits a defined tightening torque.

It is essential to respect the specified tightening torques, especially for the top part, to guarantee perfect and reliable functioning of the cable installation for the long-term.**

** Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

Assembly instructions for K-Tower Series

Selection of fastening material:

Material and corrosion resistance:
the choice of material for the fasteners is dependent on the installation environment and operating conditions (e.g. galvanised, stainless steel, etc.), strength grade 4.8 - 8.8

Type of screw:
depends on the substructure (e.g. hexagon screws, T-head screws, rod threaded, etc.); not included in delivery

Fastener diameter:
depends on the Cable Clamp (dimension: metric screw thread [M])

Fastener Length:
depends on the number of stacked Cable Clamps, the cable outer diameter and type of substructure

Application with Elastic Inlays:
on-site fixing with any form of adhesive (e.g. glue, silicone or paste) will void the warranty immediately

List of individual components Double Tower:

Cable Clamp type	Quantity Cable Clamp	Quantity Bottom part	Outer diameter of cable	Metric screw thread (M)	Recommended length of thread*
K 26/38	1	2	24-38 mm	M10/12	135 mm + x
K 36/52	1	2	36-52 mm	M10/12	165 mm + x
K 50/75	1	2	50-75 mm	M10/12	205 mm + x
K 66/90	1	2	66-90 mm	M10	235 mm + x

List of individual components Triple Tower:

Cable Clamp type	Quantity of- Cable Clamp	Quantity of Bottom part	Outer diameter of cable	Metric screw thread (M)	Recommended length of thread*
K 26/38	1	4	24-38 mm	M10/12	185 mm + x
K 36/52	1	4	36-52 mm	M10/12	230 mm + x
K 50/75	1	4	50-75 mm	M10/12	300 mm + x
K 66/90	1	4	66-90 mm	M10	345 mm + x

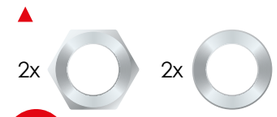
* For maximum permited outer cable diameter (can be reduced accordingly for smaller diameters)
x corresponds to the height of the substructur.

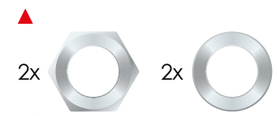
Only flat washers may be used. No spring or snap rings!

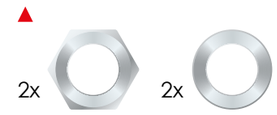
Alternating, tighten nuts with an appropriate torque wrench. Do not use self-securing/self-locking nuts, this prohibits a defined tightening torque.

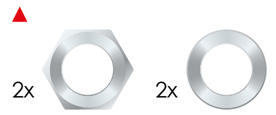
It is essential to respect the specified tightening torques, to guarantee perfect and reliable functioning of the cable installation for the long-term.**

** Contact id-Technik for trailing cables (EPDM, rubber, etc.), please.









Assembly instructions for KR Series

Selection of fastening material:

Material and corrosion resistance:
the choice of material for the fasteners is dependent on the installation environment and operating conditions (e.g. galvanised, stainless steel, etc.), strength grade 4.8 - 8.8

Type of screw:
depends on the substructure (e.g. hexagon screws, T-head screws, rod threaded, etc.); not included in delivery

Fastener diameter:
depends on the Cable Clamp (dimension: metric screw thread [M])

Fastener Length:
depends on the cable outer diameter and type of substructure

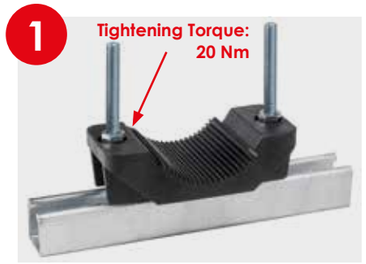
Application with Elastic Inlays:
on-site fixing with any form of adhesive (e.g. glue, silicone or paste) will void the warranty immediately

List of individual components:

Cable Clamp type	Outer diameter of cable	Dimension Elastic Inlays	Outer diameter of cable with Elastic Inlays	Metric screw thread (M)	Recommended length of thread*
KR 75/100	75-100 mm	100 x 100 mm	70-95 mm	M12	120 mm + x
KR 100/130	100-130 mm	100 x 100 mm	95-125 mm	M12	152 mm + x
KR 130/160	130-160 mm	150 x 140 mm	125-155 mm	M16	175 mm + x
KR 160/200	160-200 mm	150 x 140 mm	155-195 mm	M16	243 mm + x
KR 200/250	200-250 mm	150 x 140 mm	195-245 mm	M16	270 mm + x

* For maximum permited outer cable diameter (can be reduced accordingly for smaller diameters)
X corresponds to the height of the substructur.

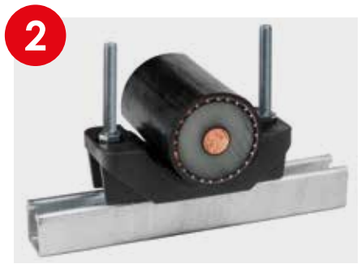
1



2x 2x

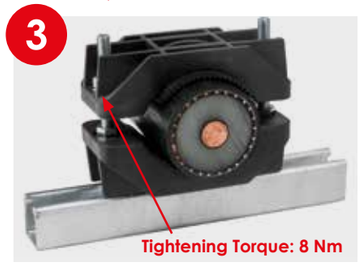
Only flat washers may be used.
No spring or snap rings!

2



2x 2x

3



Alternating, tighten nuts with an appropriate torque wrench. Do not use self-securing/self-locking nuts, this prohibits a defined tightening torque.

It is essential to respect the specified tightening torques, especially for the top part, to guarantee perfect and reliable functioning of the cable installation for the long-term.**

** Contact id-Technik for trailing cables (EPDM, rubber, etc.), please.

Assembly instructions for KS Series

Selection of fastening material:

Material and corrosion resistance:
the choice of material for the fasteners is dependent on the installation environment and operating conditions (e.g. galvanised, stainless steel, etc.), strength grade 4.8 - 8.8

Type of screw:
depends on the substructure (e.g. hexagon screws, T-head screws, rod threaded, etc.); not included in delivery

Fastener diameter:
depends on the Cable Clamp (dimension: metric screw thread [M])

Fastener Length:
depends on the cable outer diameter and type of substructure

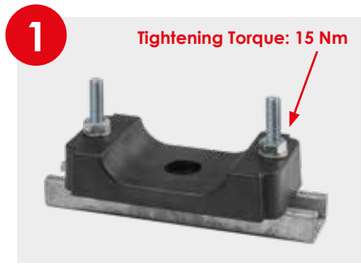
Application with Elastic Inlays:
on-site fixing with any form of adhesive (e.g. glue, silicone or paste) will void the warranty immediately

List of individual components:

Cable Clamp type	Outer diameter of cable	Metric screw thread (M)	Recommended length of thread*
KS 25/36	25-36 mm	M10/12	95 mm + x
KS 33/46	33-46 mm	M10/12	105 mm + x

* For maximum permited outer cable diameter (can be reduced accordingly for smaller diameters)
X corresponds to the height of the substructur.

1



2x 2x

Only flat washers may be used.
No spring or snap rings!

2

2x 2x

3

Tighten nuts with an appropriate torque wrench alternately only up to the specified tightening torque. Do not use self-securing/ self-locking nuts, this prohibits a defined tightening torque.

It is essential to respect the specified tightening torques, especially for the top part, to guarantee perfect and reliable functioning of the cable installation for the long-term.**

** Contact id-Technik for trailing cables (EPDM, rubber, etc.), please.

Assembly instructions for KS-Tower Series

Selection of fastening material:

Material and corrosion resistance:
the choice of material for the fasteners is dependent on the installation environment and operating conditions (e.g. galvanised, stainless steel, etc.), strength grade 4.8 - 8.8

Type of screw:
depends on the substructure (e.g. hexagon screws, T-head screws, rod threaded, etc.); not included in delivery

Fastener diameter:
depends on the Cable Clamp (dimension: metric screw thread [M])

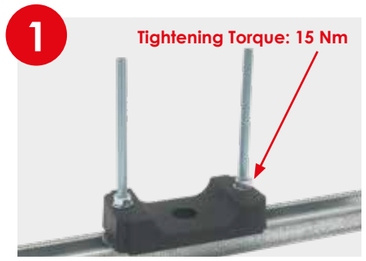
Fastener Length:
depends on the number of stacked Cable Clamps, the cable outer diameter and type of substructure

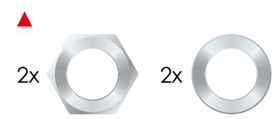
Application with Elastic Inlays:
on-site fixing with any form of adhesive (e.g. glue, silicone or paste) will void the warranty immediately

List of individual components Double Tower:

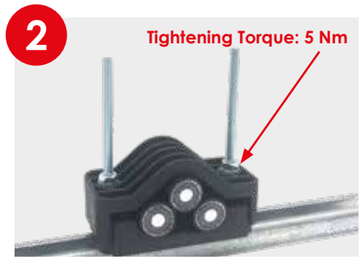
Cable Clamp type	Quantity of Clamp type	Quantity of Universal Adapter-Set (AS)	Outer diameter of cable	Metric screw thread (M)	Recommended length of thread*
KS 25/36	2	1	25-36 mm	M10	220 mm + x
KS 33/46	2	1	33-46 mm	M10	250 mm + x

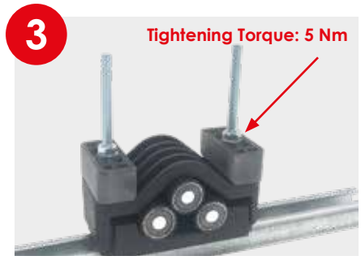
* For maximum permited outer cable diameter (can be reduced accordingly for smaller diameters)
X corresponds to the height of the substructur.





Only flat washers may be used.
No spring or snap rings!





Tighten nuts with an appropriate torque wrench alternately only up to the specified tightening torque. Do not use self-securing/self-locking nuts, this prohibits a defined tightening torque.

It is essential to respect the specified tightening torques, to guarantee perfect and reliable functioning of the cable installation for the long-term.**

** Contact id-Technik for trailing cables (EPDM, rubber, etc.), please.

Assembly instructions for KP Series

Selection of fastening material:

Material and corrosion resistance:
the choice of material for the fasteners is dependent on the installation environment and operating conditions (e.g. galvanised, stainless steel, etc.), strength grade 4.8 - 8.8

Type of screw:
depends on the substructure (e.g. hexagon screws, T-head screws, rod threaded, etc.); not included in delivery

Fastener diameter:
depends on the Cable Clamp (dimension: metric screw thread [M])

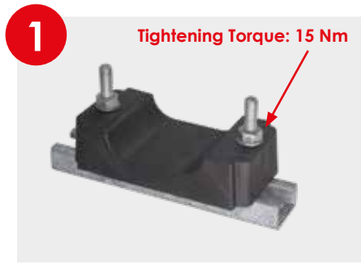
Fastener Length:
depends on the cable outer diameter and type of substructure

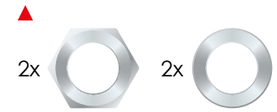
Application with Elastic Inlays:
on-site fixing with any form of adhesive (e.g. glue, silicone or paste) will void the warranty immediately

List of individual components:

Clamps for parallel fastening type	Outer diameter of cable	Metric screw thread (M)	Recommended length of thread*
KP 29/41	29-41 mm	M12	113 mm + x
KP 39/53	39-53 mm	M12	116 mm + x
KP 51/64	51-64 mm	M12	146 mm + x

* For maximum permited outer cable diameter (can be reduced accordingly for smaller diameters)
X corresponds to the height of the substructur.





Only flat washers may be used.
No spring or snap rings!

Alternating, tighten nuts with an appropriate torque wrench. Do not use self-securing/self-locking nuts, this prohibits a defined tightening torque.

It is essential to respect the specified tightening torques, especially for the top part, to guarantee perfect and reliable functioning of the cable installation for the long-term.**

** Contact id-Technik for trailing cables (EPDM, rubber, etc.), please.

Assembly instructions for KH Series

Selection of fastening material:

Material and corrosion resistance:
the choice of material for the fasteners is dependent on the installation environment and operating conditions (e.g. galvanised, stainless steel, etc.), strength grade 4.8 - 8.8

Type of screw:
depends on the substructure (e.g. hexagon screws, T-head screws, rod threaded, etc.); not included in delivery

Fastener diameter:
depends on the Cable Clamp (dimension: metric screw thread [M])

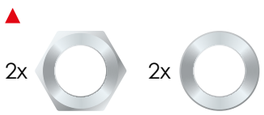
Fastener Length:
depends on the cable outer diameter and type of substructure

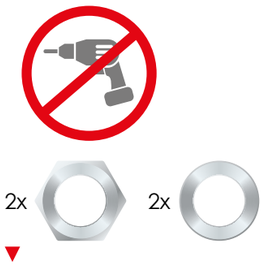
Application with Elastic Inlays:
on-site fixing with any form of adhesive (e.g. glue, silicone or paste) will void the warranty immediately

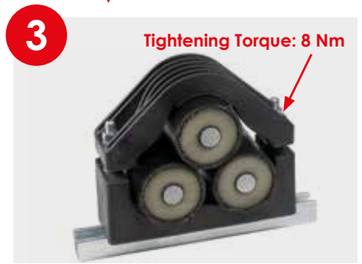
List of individual components:

Clamps for parallel fastening type	Outer diameter of cable	Dimension Elastic Inlays	Outer diameter of cable with Elastic Inlays	Screw size	Recommended length of thread*
KH 62/75	62-75 mm	100 x 100 mm	59-72 mm	M16	170 mm + x
KH 73/86	73-86 mm	100 x 100 mm	70-83 mm	M16	175 mm + x
KH 84/97	84-97 mm	100 x 100 mm	81-94 mm	M16	185 mm + x
KH 95/107	95-107 mm	100 x 100 mm	92-104 mm	M16	197 mm + x
KH 105/117	105-117 mm	100 x 100 mm	102-114 mm	M16	210 mm + x
KH 115/140	115-140 mm	150 x 140 mm	112-137 mm	M16	270 mm + x
KH 138/165	138-165 mm	150 x 140 mm	135-162 mm	M18	340 mm + x

* For maximum permited outer cable diameter (can be reduced accordingly for smaller diameters)
X corresponds to the height of the substructur.







Alternating, tighten nuts with an appropriate torque wrench. Do not use self-securing/self-locking nuts, this prohibits a defined tightening torque.

It is essential to respect the specified tightening torques, especially for the top part, to guarantee perfect and reliable functioning of the cable installation for the long-term.**

** Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

Assembly instructions for VR Series

Selection of fastening material:

Material and corrosion resistance:
the choice of material for the fasteners is dependent on the installation environment and operating conditions (e.g. galvanised, stainless steel, etc.), strength grade 4.8 - 8.8

Type of screw:
depends on the substructure (e.g. hexagon screws, T-head screws, rod threaded, etc.); not included in delivery

Fastener diameter:
depends on the Cable Clamp (dimension: metric screw thread [M])

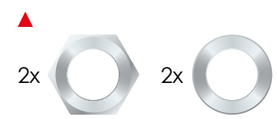
Fastener Length:
depends on the number of stacked VR-Series. Cable Clamp dimension and type of substructure

Application with Elastic Inlays:
on-site fixing with any form of adhesive (e.g. glue, silicone or paste) will void the warranty immediately

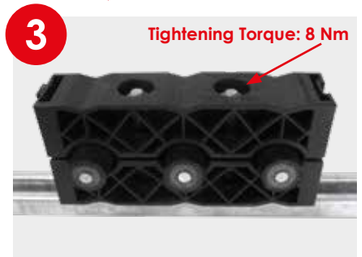
List of individual components:

Clamps for parallel fastening type	Outer diameter of cable	Metric screw thread (M)	Recommended length of thread*
VR2 12-45	21-45 mm**	M12	125 mm + x
VR3 12-45	21-45 mm**	M12	125 mm + x

* For maximum permited outer cable diameter (can be reduced accordingly for smaller diameters)
** Contact îd-Technik for diameter 12-21 mm, please.
X corresponds to the height of the substructur.



Only flat washers may be used.
No spring or snap rings!



Alternating, tighten nuts with an appropriate torque wrench. Do not use self-securing/self-locking nuts, this prohibits a defined tightening torque. Tightening Torque for more rows of VR-Series: 8 Nm

It is essential to respect the specified tightening torques, especially for the top part, to guarantee perfect and reliable functioning of the cable installation for the long-term.***

*** Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

Assembly instructions for RS Series

Selection of fastening material:

Material and corrosion resistance:
the choice of material for the fasteners is dependent on the installation environment and operating conditions (e.g. galvanised, stainless steel, etc.), strenght grade 4.8. – 8.8

Type of screw:
depends on the substructure (e.g. hexagon screws, T-head screws, rod threaded, etc.); not included in delivery

Fastener diameter:
depends on the Cable Clamp (dimension: metric screw thread [M])

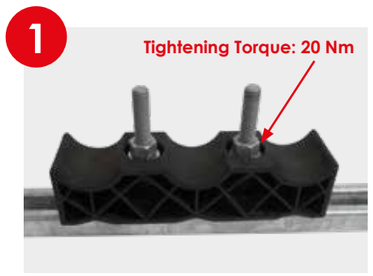
Fastener Length:
depends on the number of stacked RS-Series. Cable Clamp dimension and type of substructure

Application with Elastic Inlays:
on-site fixing with any form of adhesive (e.g. glue, silicone or paste) will void the warranty immediately

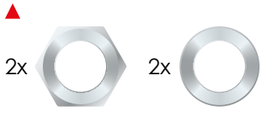
List of individual components:

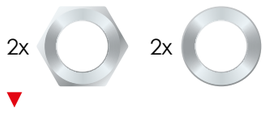
Clamps for parallel fastening type	Outer diameter of cable with Elastic Inlays	Metric screw thread (M)	Recommended length of thread*
RS3 12/45	21-45 mm**	M12	125 mm + x

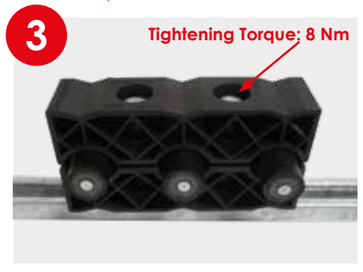
* For maximum permited outer cable diameter (can be reduced accordingly for smaller diameters)
** Contact îd-Technik for diameter 12-21 mm, please.
X corresponds to the height of the substructur.



Only flat washers may be used.
No spring or snap rings!







Alternating, tighten nuts with an appropriate torque wrench. Do not use self-securing/self-locking nuts, this prohibits a defined tightening torque. Tightening Torque for more rows: 8 Nm

It is essential to respect the specified tightening torques, especially for the top part, to guarantee perfect and reliable functioning of the cable installation for the long-term.***

*** Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.

Assembly instructions for BE Series Trailing Cables

Selection of fastening material:

Material and corrosion resistance:
the choice of material for the fasteners is dependent on the installation environment and operating conditions (e.g. galvanised, stainless steel, etc.), strenght grade 4.8. – 8.8

Type of screw:
depends on the substructure (e.g. hexagon screws, T-head screws, rod threaded, etc.); not included in delivery

Fastener diameter:
depends on the Cable Clamp (dimension: metric screw thread [M])

Fastener Length:
depends on the number of stacked BE-Series. Cable Clamp dimension and type of substructure must be determined by the customer

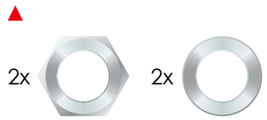
Application with Elastic Inlays:
on-site fixing with any form of adhesive (e.g. glue, silicone or paste) will void the warranty immediately

List of individual components:

Clamps for parallel fastening type*	Outer diameter of cable with Elastic Inlays	Metric screw thread (M)
BE3 50/76	50-76 mm	M12

* A fastening unit consists of 2 pieces BE3.

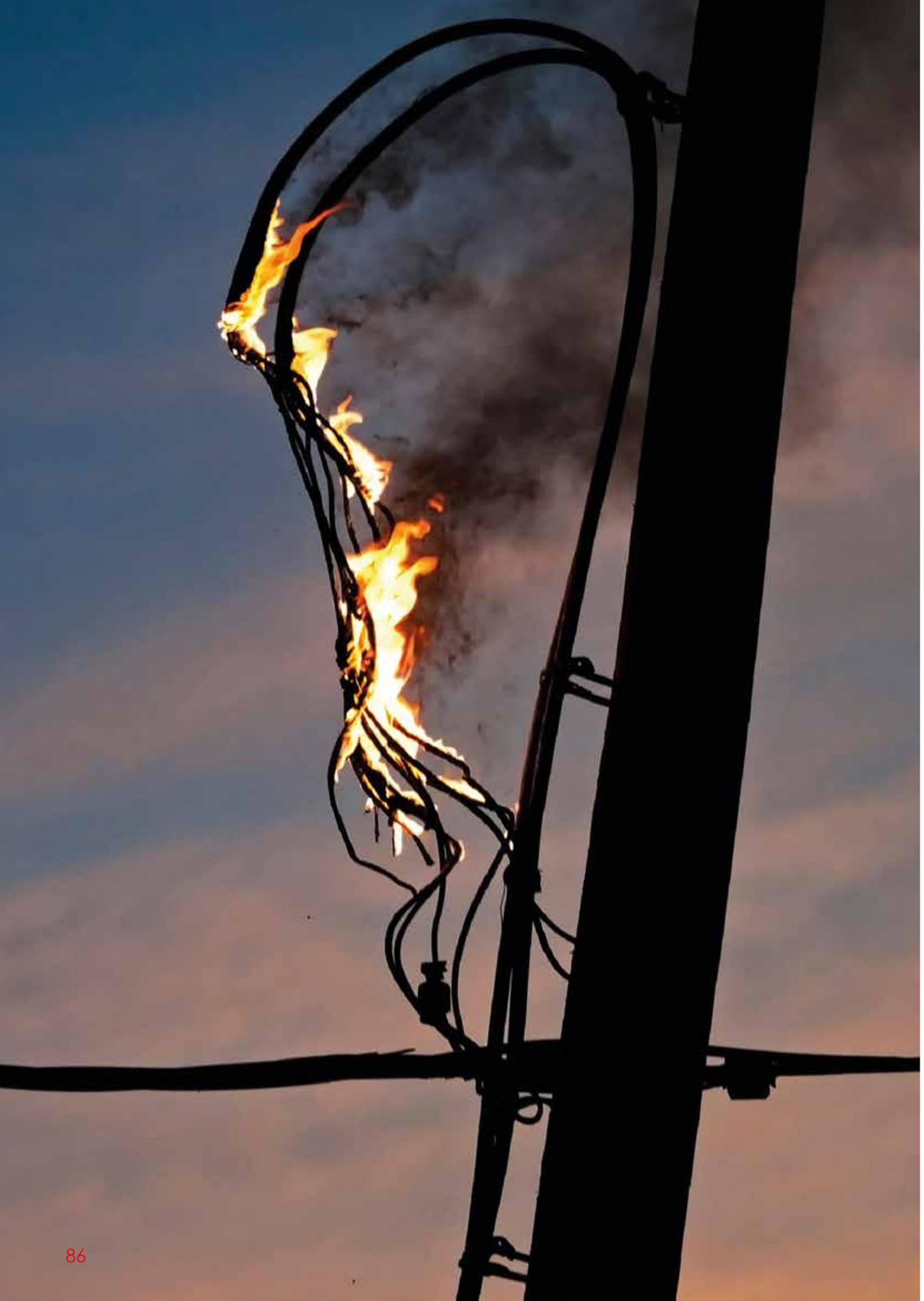
Only flat washers may be used.
No spring or snap rings!



Alternating, tighten nuts with an appropriate torque wrench. Do not use self-securing/self-locking nuts, this prohibits a defined tightening torque. Tightening Torque for more rows: 8 Nm

It is essential to respect the specified tightening torques, especially for the top part, to guarantee perfect and reliable functioning of the cable installation for the long-term.**

** Contact îd-Technik for trailing cables (EPDM, rubber, etc.), please.



Explanatory Notes to IEC 61914 – Cable Cleats for Electrical Installations

1. Requirements of the manufacturer

The IEC 61914 requires from the manufacturer of the cable clamps type tests of mechanical and electro-dynamic properties, of UV and corrosion resistance, and flame tests. These type tests must be performed by an accredited testing institute.

Cable clamps certified according to this standard must be designed and manufactured to guarantee a safe handling and safe fastening for wires / cables in accordance with the below classification as given by the manufacturer.

The tests are performed on specific clamps of each series, whereby the clamps are classified according to various characteristics.

2. Classification (Paragraph 6 of the standard)

Material (6.1)

Metallic 6.1.1	Non-metallic 6.1.2	Composite 6.1.3

Temperature (6.2)

Minimum temperature	Maximum temperature

Resistance to impact (6.3)

Very light 6.3.1	Light 6.3.2	Medium 6.3.3	Heavy 6.3.4	Very heavy 6.3.5

Type of retention (6.4)

With lateral retention 6.4.1 – in x-direction – in y-direction	With axial retention 6.4.2

Resistant to electro-magnetical forces (short circuits):

Withstanding one short circuit 6.4.3	Withstanding more than one short circuit 6.4.4

Reaction to environmental influences (6.5)

UV-light*1 6.5.1		Corrosion / salt spray test*2 6.5.2	
Declared	Not declared	Low	High

Flame propagation (10.1)

Not passed	Passed

Inductive heating (12.2)

Declared*3

*1 only for non-metallic and composite components
*2 only for metallic and composite components
*3 only for ferromagnetic components

3. Marking of the clamps

Furthermore, a marking of the cable clamps and a documentation (7) of the results is required by the IEC 61914.

The marking shall provide following information (7.1):

Manufacturer's or vendor's name / logo / Trademark	Product identification / type

Hereby the marking must be durable and easily legible (7.2).

With the design and manufacturing of cable clamps it has to be ensured that the cable clamps are free of sharp edges, burrs, etc., to avoid damage to the cables and / or conductors and to avoid injury of the assembly staff and operators (8).

4. Required tests for the classification

4.1 Mechanical tests

All mechanical tests are carried out respectively on three samples of the smallest and largest clamp of a series.

Impact test (9.2)

The impact test serves to prove the manufacturer's specified minimum operating temperature and impact strength of the clamp.
Impact tests on non-metallic and composite clamps are carried out after pre-conditioning in an UV-chamber for 700 hours (29 days) at the minimum permanent application temperature as specified by the manufacturer.

Minimum Temperature (°C)
+5
–5
–15
–25
–40
–60

On metallic clamps, the impact test is carried at ambient temperature. The impact energy of the hammer is indicated according to the classification in the following table:

Classification	Impact energy (J)	Equivalent mass (kg)	Height (mm)
Very light	0.5	0.25	200
Light	1.0	0.25	400
Medium	2.0	0.5	400
Heavy	5.0	1.7	300
Very heavy	20.0	5.0	400

After testing, the cable clamps must not have any signs of destruction, no breakage or damage must be visible. If in doubt, lateral load tests (9.3) have to be carried out with these cable clamps.

Documentation to be specified by the manufacturer:
The achieved classification for each series at the minimum permanent application temperature must be documented by the manufacturer in his documentation (if necessary, with an explanation of the torques of the fixing screws).

4.1.2 Lateral load test (9.3)

The lateral load tests serve to demonstrate the manufacturer's specified maximum operating temperature and the maximum lateral restraining forces (N) of the clamps of each series.

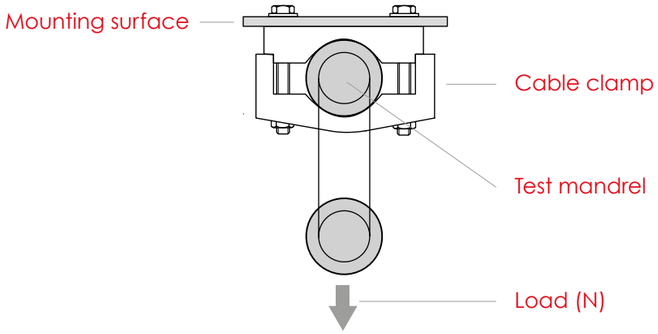
These tests must be performed on non-metallic and composite clamps with the maximum permanent application temperature as specified by the manufacturer.

Maximum Temperature (°C)
+ 40
+ 60
+ 85
+ 105
+ 120

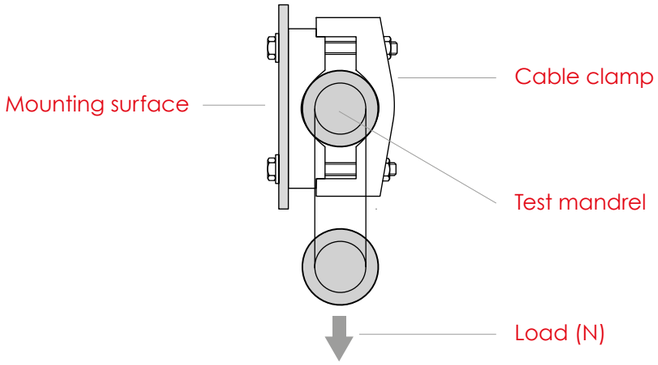
On metallic cable clamps the tests are carried out at ambient temperature.

The lateral load test is carried out with test mandrels, representing the smallest possible cable diameter for each clamp. The lateral load test is carried out in two directions:

Experiment testing the lateral load in x-direction



Experiment testing the lateral load in y-direction



Non-metallic and composite cable clamps must hold the maximum load (N) for 60 minutes.

Metallic clamps must hold the load for 5 minutes.

The maximum movement of the mandrels must be less than 50 % of the mandrel diameter.

The maximum lateral restraining forces (N) for each series at the maximum permanent application temperature are to be documented by the manufacturer in his documents (if necessary, with an explanation of the torques of the mounting screws).

4.1.3 Axial load test (9.4)

The axial load tests serve to demonstrate the manufacturer's specified maximum operating temperature and the maximum axial restraining forces (N) of the clamps of each series.

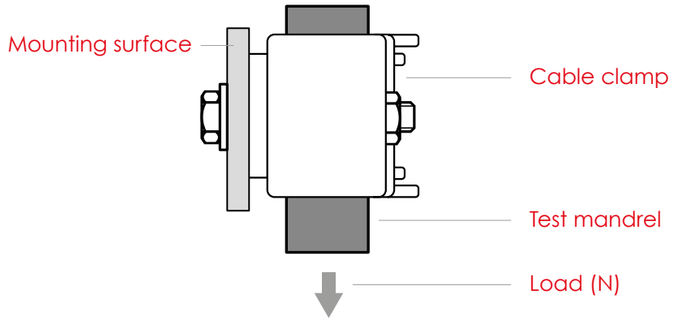
These tests must be performed on non-metallic and composite clamps with the maximum permanent application temperature as specified by the manufacturer.

Maximum Temperature (°C)
+ 40
+ 60
+ 85
+ 105
+ 120

On metallic cable clamps the tests are carried out at ambient temperature.

The lateral load test is carried out with test mandrels, representing the smallest possible cable diameter for each clamp.

Experiment testing the axial load



Clamps of all materials must hold the maximum load (N) for 5 minutes.

After the test the axial displacement of the mandrel with respect to the clamp must not exceed 5 mm.

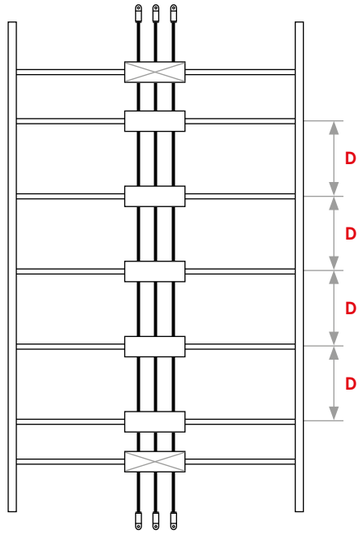
Documentation to be specified by the manufacturer:
The maximum axial restraining forces (N) for each series at the maximum permanent application temperature are to be documented by the manufacturer in his documents (if necessary, with an explanation of the torques of the mounting screws).

4.2 Electrodynamic tests

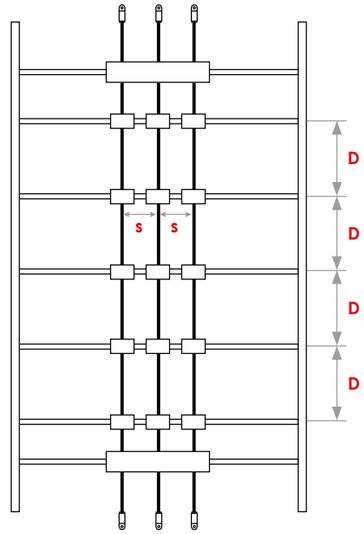
4.2.1 Test for resistance to electromechanical forces (9.5)

The short circuit tests serve to demonstrate the manufacturer's specified maximum dynamic short circuit resistance of the clamps of each series.

The short circuit tests are carried out on one type of each series.



Bundling clamps with security clamps

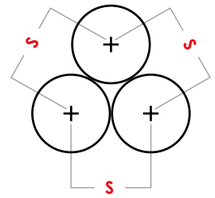


Single clamps with security clamps

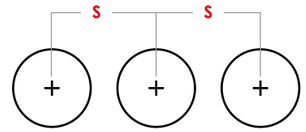
îd-Technik Cable Clamps for trefoil formation before the test

îd-Technik Cable Clamps for single formation before the test

At a cable section with five clamp positions at equal intervals (D) the following arrangements are distinguished:



Three cables in trefoil formation with bundling clamp:



Three cables in parallel arrangement with single clamps:

For each arrangement the test must be carried out with a three-phase short-circuit at the peak short-circuit current (i_p) as specified by the manufacturer.

One end of the cable route is connected to a three-phase power supply and the other end to a three-phase short-circuiting busbar.

The maximum force on the conductor is given by:

$$F = \frac{0.17 * i_p^2}{s}$$

F = maximum force on the conductor (N/m)
i_p = peak short-circuit current (kA)
s = cable centre-line distance (m)

The peak short-circuit current (i_p) as specified by the manufacturer is given by:

$$i_p = \sqrt{\frac{F_s * s}{0.17 * D}}$$

F_s = maximum dynamic force on the clamp (N)
D = maximum distance between two neighbouring clamps (m)

Remark:
When determining the distance between two clamps (D), it is essential to ensure that the maximum allowable buckling of the cables according to the cable manufacturer in case of short circuit is not exceeded!

In order to represent realistic values for the user, the manufacturer should perform the short-circuit tests with practical values for the distance between two clamps and short-circuit current.

The classification distinguishes between clamps that withstand one short-circuit (6.4.3) or multiple short-circuits (6.4.4).

Resistant to one short-circuit (6.4.3)

Cable Clamps for trefoil formation after the 1st test

Cable Clamps for single formation after the 1st test

After the short-circuit test:

- there must be no failure that affects the intended function of the cable clamp of keeping the cables in place
- the cable clamps must be intact without damage
- there must be no damage or cuts to the insulation of the cable

Resistant to more than one short-circuit (6.4.4)

After the first short-circuit, with no damage to the cables or clamps, a second test is performed on the same arrangement with the same peak short-circuit current.

After this test the clamps and cables have to meet the same requirements.

With 1 kV-cables a voltage withstand test is carried out.

Documentation to be specified by the manufacturer (7.3)

- peak short-circuit current i_p (kA)
- symmetrical short-circuit current i''_k (kA)
- outer diameter of the cables used in the test (m)
- cable centre-line distance S (m)
- maximum distance between two clamps D (m)

Remark:
To save the user consuming calculations to determine the carrying capacity of the clamp, the maximum allowable dynamic short circuit strength (N) of the clamps (FS) and the torques of the fixing screws should be specified by the manufacturer.

$$F_s = \frac{0.17 * D * I_p^2}{S}$$

4.3 Flame propagation test (10)

The flame propagation test serves to demonstrate the flame resistance of the material.

Test of flame resistance

The cable clamps are exposed for 30 seconds to a fire test with the needle flame (10.1).

There must be no flame and no embers or no flaming 30 seconds after removal of the needle flame.

Furthermore, the tissue paper may not ignite.

Documentation to be specified by the manufacturer:
The manufacturer must document in his records, whether the cable clamps are resistant to flame or not.

4.4 Test of reaction to environmental influences (11)

4.4.1 Test of resistance to ultraviolet light (11.1)

The UV-test serves to demonstrate the UV-resistance of the material.

The smallest and largest cable clamps of each series are irradiated for 700 hours (29 days) under the conditions described in IEC §11.1 with UV light.

After UV exposure, the cable clamps must not show any signs of destruction, breakage or damage.

Subsequently, the clamps must pass the impact test (9.2) at the minimum permanent application temperature as specified by the manufacturer.

Documentation to be specified by the manufacturer:
The manufacturer must document in his records, whether the cable clamps are UV-resistant or not.

4.4.2 Test of resistance to corrosion (11.2)

The test of resistance to corrosion serves to demonstrate the resistance to corrosion of the material.

Metallic and composite cable clamps must have adequate resistance to corrosion and salt spray. The respective tests are describes in the standard at 11.1 und 11.2.

For non-metallic cable clamps these tests are not necessary.

Documentation to be specified by the manufacturer:
The manufacturer must document in his records, whether the cable clamps are resistant to corrosion or not.

4.5 Test of inductive heating (12.2)

With the use of ferromagnetic materials, there is the danger of inductive heating of the cable due to eddy currents.

Documentation to be specified by the manufacturer:
The manufacturer shall apply an appropriate warning.

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