



## 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

id-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.

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### 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
		100-130		
		130-160		
		160-200		
		Trefoil	3	KS
33-46				
KP	29-41			25.000
	39-53			
	51-64			
KH	62-75			30.000
	73-86			
	84-97			
	95-107			
	105-117			
Parallel	individually customisable +	<b>NEW</b> VR	12-45 ++	10.000
	3	<b>NEW</b> RS	12-45 ++	10.000
	3	<b>NEW</b> BE	50-76	15.000
Stacked	individually customisable +	<b>NEW</b> VR	12-45 ++	10.000
	(3, 6, 9,... cables) x (2, 3,... layers)	<b>NEW</b> RS	12-45 ++	10.000
	2-3	K	24-38	10.000
			36-52	
			50-75	
			60-90	
	3x2	<b>NEW</b> KS	25-36	10.000
33-46				
3x2	<b>NEW</b> 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 60 ff. ++ Contact id-Technik for diameter 12-21mm, please.  
 \*\* Further explanations page 87 ff.

## 5 Mounting the Clamps

All id-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.

id-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.

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<sub>1</sub> for VR, RS, BE  
 H<sub>2</sub> for VR, RS  
 H<sub>3</sub> for VR, RS  
 H<sub>4</sub> for K Double/Triple Tower, KS Tower  
 \*\* For maximum permitted outer cable diameter (can be reduced accordingly for smaller diameters)

## 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.

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

Efficient installation without special tools and adapter components.