








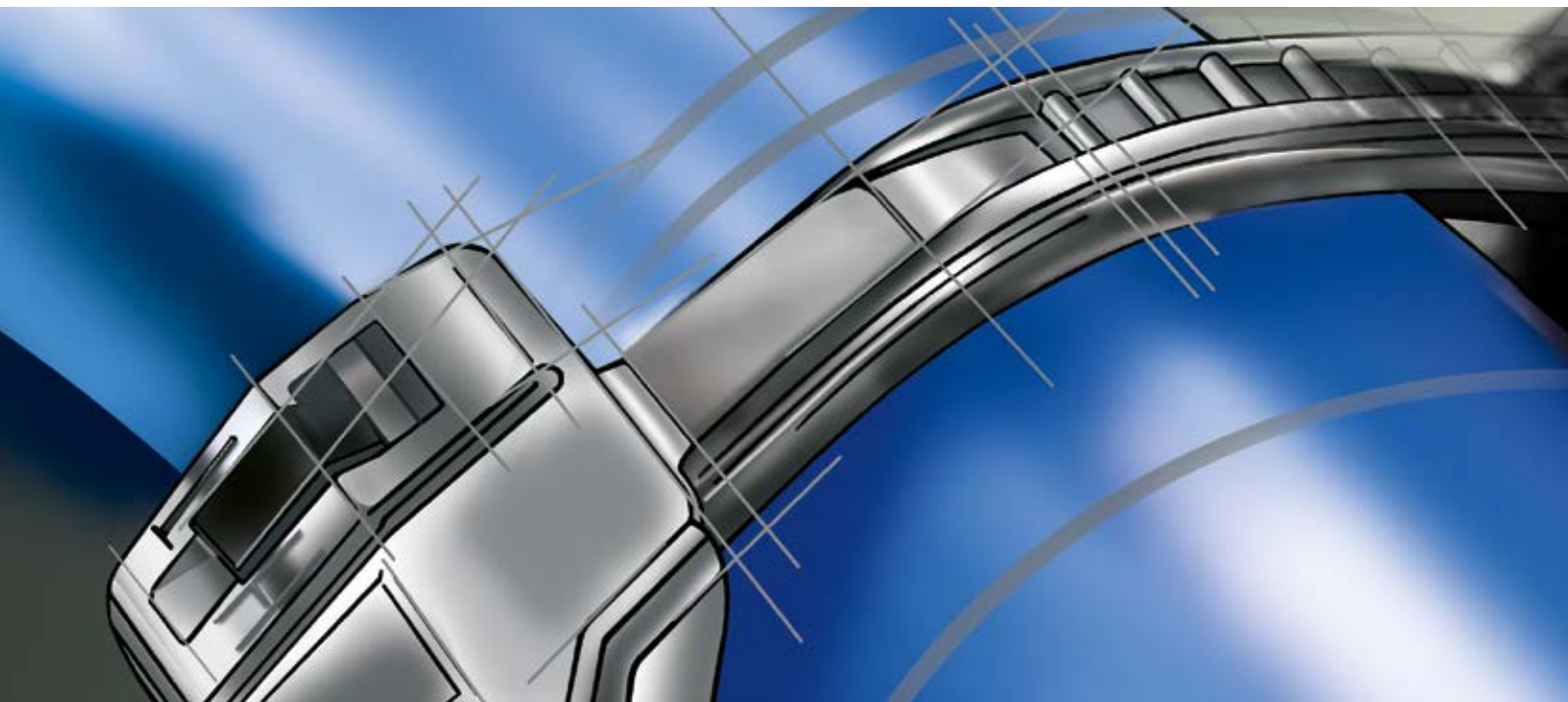
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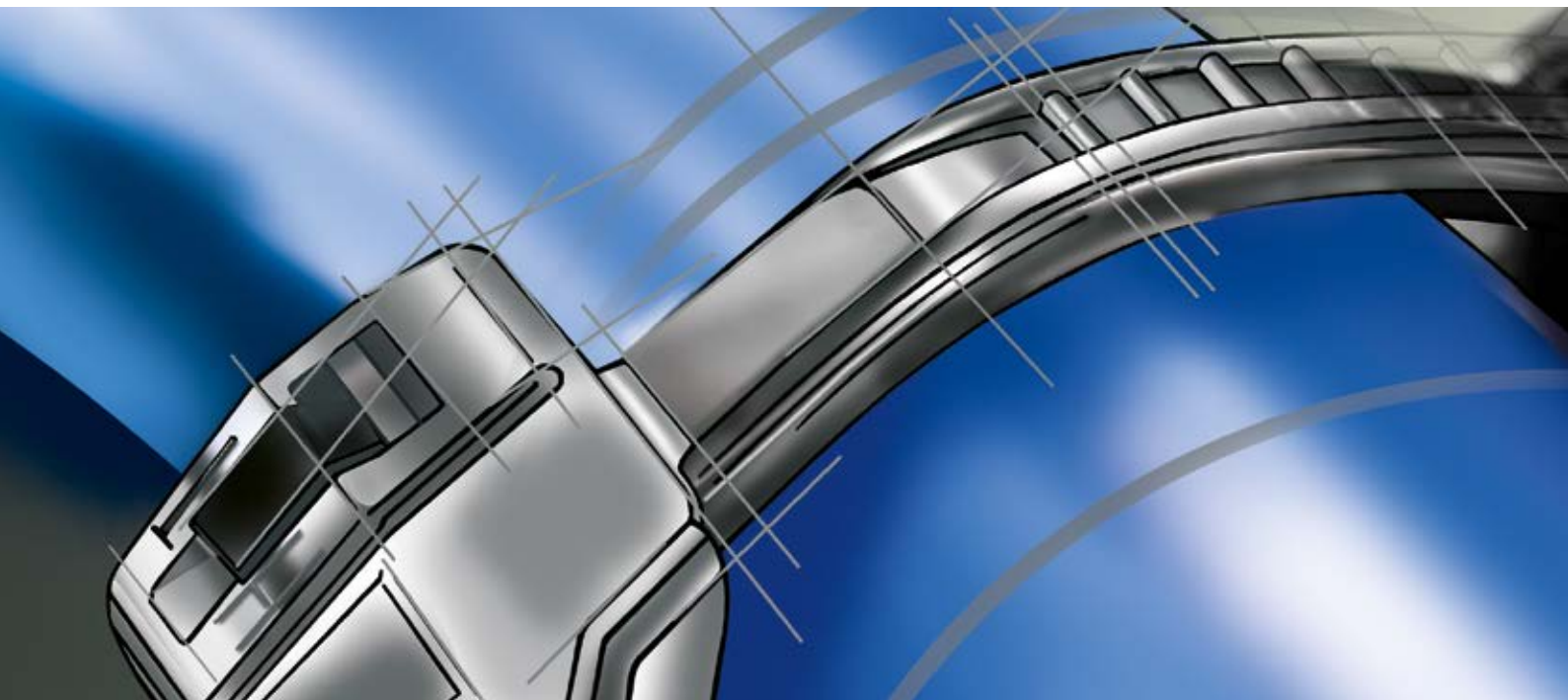
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## Material Specification Overview

MATERIAL	Material Shortcut	Operating Temperature	Colour**	Flammability	Material Properties*	Material Specifications
Aluminium-alloy	AL	-40 °C to +180 °C	Natural (NA)		<ul style="list-style-type: none"> <li>Corrosion resistant</li> <li>Antimagnetic</li> </ul>	RoHS
Chloroprene	CR	-20 °C to +80 °C	Black (BK)		<ul style="list-style-type: none"> <li>Weather-resistant</li> <li>High yield strength</li> </ul>	RoHS
Ethylene Tetrafluoroethylene	E/TFE	-80 °C to +170 °C	Blue (BU)	UL94 V0	<ul style="list-style-type: none"> <li>Resistance to radioactivity</li> <li>UV-resistant, not moisture sensitive</li> <li>Good chemical resistance to: acids, bases, oxidizing agents</li> </ul>	RoHS
Polyacetal	POM	-40 °C to +90 °C, (+110 °C, 500 h)	Natural (NA)	UL94 HB	<ul style="list-style-type: none"> <li>Limited brittleness sensitivity</li> <li>Flexible at low temperature</li> <li>Not moisture sensitive</li> <li>Robust on impacts</li> </ul>	RoHS
Polyamide 11	PA11	-40 °C to +85 °C, (+105 °C, 500 h)	Black (BK)	UL94 HB	<ul style="list-style-type: none"> <li>Bio-plastic, derived from vegetable oil</li> <li>Strong impact resistance at low temperature</li> <li>Very low moisture absorption</li> <li>Weather-resistant</li> <li>Good chemical resistance</li> </ul>	HF RoHS
Polyamide 12	PA12	-40 °C to +85 °C, (+105 °C, 500 h)	Black (BK)	UL94 HB	<ul style="list-style-type: none"> <li>Good chemical resistance to: acids, bases, oxidizing agents</li> <li>UV-resistant</li> </ul>	HF RoHS
Polyamide 4.6	PA46	-40 °C to +150 °C (5000 h), +195 °C (500 h)	Natural (NA), Grey (GY)	UL94 V2	<ul style="list-style-type: none"> <li>Resistance to high temperatures</li> <li>Very moisture sensitive</li> <li>Low smoke sensitive</li> </ul>	HF LFH RoHS
Polyamide 6	PA6	-40 °C to +80 °C	Black (BK)	UL94 V2	<ul style="list-style-type: none"> <li>High yield strength</li> </ul>	RoHS
Polyamide 6, high impact modified	PA6HIR	-40 °C to +80 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"> <li>Limited brittleness sensitivity</li> <li>Higher flexibility at low temperature</li> </ul>	RoHS
Polyamide 6.6	PA66	-40 °C to +85 °C, (+105 °C, 500 h)	Black (BK), Natural (NA)	UL94 V2	<ul style="list-style-type: none"> <li>High yield strength</li> </ul>	HF RoHS
Polyamide 6.6, glass-fibre reinforced	PA66GF13, PA66GF15	-40 °C to +105 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"> <li>Good resistance to: lubricants, vehicle fuel, salt water and many solvents</li> </ul>	HF RoHS
Polyamide 6.6, heat and UV stabilised	PA66HSW	-40 °C to +105 °C	Black (BK)	UL94 V2	<ul style="list-style-type: none"> <li>High yield strength</li> <li>Modified elevated max. temperature</li> <li>UV-resistant</li> </ul>	HF RoHS
Polyamide 6.6, heat stabilised	PA66HS	-40 °C to +105 °C	Black (BK), Natural (NA)	UL94 V2	<ul style="list-style-type: none"> <li>High yield strength</li> <li>Modified elevated max. temperature</li> </ul>	HF RoHS
Polyamide 6.6, high impact modified	PA66HIR	-40 °C to +80 °C, (+105 °C, 500 h)	Black (BK)	UL94 HB	<ul style="list-style-type: none"> <li>Limited brittleness sensitivity</li> <li>Higher flexibility at low temperature</li> </ul>	RoHS
Polyamide 6.6, high impact modified, heat and UV stabilised	PA66HIRHSW	-40 °C to +110 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"> <li>Limited brittleness sensitivity</li> <li>Higher flexibility at low temperature</li> <li>Modified elevated max. temperature</li> <li>High yield strength, UV-resistant</li> </ul>	HF RoHS
Polyamide 6.6, high impact modified, heat stabilised	PA66HIRHS	-40 °C to +105 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"> <li>Limited brittleness sensitivity</li> <li>Higher flexibility at low temperature</li> <li>Modified elevated max. temperature</li> </ul>	RoHS
Polyamide 6.6, high impact modified, scan black	PA66HIR(S)	-40 °C to +80 °C, (+105 °C, 500 h)	Black (BK)	UL94 HB	<ul style="list-style-type: none"> <li>Limited brittleness sensitivity</li> <li>Higher flexibility at low temperature</li> </ul>	HF RoHS
Polyamide 6.6, UV-resistant	PA66W	-40 °C to +85 °C, (+105 °C, 500 h)	Black (BK)	UL94 V2	<ul style="list-style-type: none"> <li>High yield strength</li> <li>UV-resistant</li> </ul>	HF RoHS

Tefzel® is a registered trademark of DuPont. General linguistic usage for cable ties made from raw material E/TFE is Tefzel®-Tie. In addition to Tefzel® from DuPont HellermannTyton is also using equivalent E/TFE raw material from other suppliers.

\*These details are only rough guide values. They should be regarded as a material specification and are no substitute for a suitability test. Please see our datasheets for further details.

\*\*More colours on request.



= Minimum Loop Tensile Strength for Cable Ties (Newton)

HF = Halogenfree  
LFH = Limited Fire Hazard  
RoHS = Restriction of Hazardous Substances

MATERIAL	Material Shortcut	Operating Temperature	Colour**	Flammability	Material Properties*	Material Specifications
<b>Polyamide 6.6</b> , with metal particles	PA66MP	-40 °C to +85 °C, (+105 °C, 500 h)	Blue (BU)	UL94 HB	<ul style="list-style-type: none"> <li>High yield strength</li> <li>Metal and X-Ray detectable</li> </ul>	HF RoHS
<b>Polyamide 6.6 V0</b>	PA66V0	-40 °C to +85 °C	White (WH)	UL94 V0	<ul style="list-style-type: none"> <li>High yield strength</li> <li>Low smoke emission</li> </ul>	HF LFH RoHS
<b>Polyamide 6.6 V0</b> , High Oxygen Index	PA66V0-HOI	-40 °C to +85 °C, (+105 °C, 500 h)	White (WH)	UL94 V0	<ul style="list-style-type: none"> <li>High yield strength</li> <li>Low smoke emissions</li> </ul>	HF LFH RoHS
<b>Polyester</b>	SP	-50 °C to +150 °C	Black (BK)	Halogen free	<ul style="list-style-type: none"> <li>UV-resistant</li> <li>Good chemical resistance to: most acids, alkalis and oils</li> </ul>	HF LFH RoHS
<b>Polyetheretherketone</b>	PEEK	-55 °C to +240 °C	Beige (BGE)	UL94 V0	<ul style="list-style-type: none"> <li>Resistance to radioactivity</li> <li>Not moisture sensitive</li> <li>Good chemical resistance to: acids, bases, oxidizing agents</li> </ul>	HF LFH RoHS
<b>Polyethylene</b>	PE	-40 °C to +50 °C	Black (BK), Grey (GY)	UL94 HB	<ul style="list-style-type: none"> <li>Low moisture absorption</li> <li>Good chemical resistance to: most acids, alcohol and oils</li> </ul>	HF RoHS
<b>Polyolefin</b>	PO	-40 °C to +90 °C	Black (BK)	UL94 V0	<ul style="list-style-type: none"> <li>Low smoke emissions</li> </ul>	HF LFH RoHS
<b>Polypropylene</b>	PP	-40 °C to +115 °C	Black (BK), Natural (NA)	UL94 HB	<ul style="list-style-type: none"> <li>Floats in water</li> <li>Moderate yield strength</li> <li>Good chemical resistance to: organic acids</li> </ul>	HF RoHS
<b>Polypropylene, Ethylene- Propylene-Dien- Terpolymere-rubber</b> free of Nitrosamine	PP, EPDM	-20 °C to +95 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"> <li>Good resistance to high temperatures</li> <li>Good chemical and abrasion resistance</li> </ul>	HF RoHS
<b>Polypropylene</b> with metal particles	PPMP	-40 °C to +115 °C	Blue (BU)	UL94 HB	<ul style="list-style-type: none"> <li>Floats in certain liquids</li> <li>Metal and X-Ray detectable</li> <li>Heat resistant</li> <li>Moderate yield strength</li> <li>Good chemical resistance</li> </ul>	RoHS
<b>Polyvinylchloride</b>	PVC	-10 °C to +70 °C	Black (BK), Natural (NA)	UL94 V0	<ul style="list-style-type: none"> <li>Low moisture absorption</li> <li>Good chemical resistance to: acids, ethanol and oil</li> </ul>	RoHS
<b>Stainless Steel, Stainless Steel</b>	SS304, SS316	-80 °C to +538 °C	Natural (NA)	Non burning	<ul style="list-style-type: none"> <li>Corrosion resistant</li> <li>Antimagnetic</li> <li>Weather resistant</li> <li>Outstanding chemical resistance</li> </ul>	HF LFH RoHS
<b>Thermoplastic Polyurethane</b>	TPU	-40 °C to +85 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"> <li>High elasticity</li> <li>Good chemical resistance to: acids, bases and oxidizing agents</li> </ul>	HF RoHS

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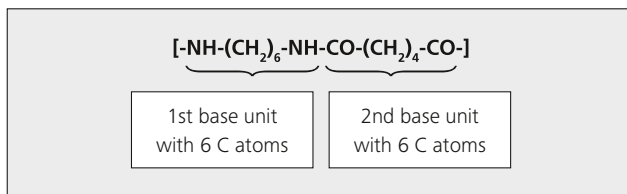


## Properties of Polyamide PA66

Polyamides are among the most important thermoplastic synthetic materials. Thermoplastics can be reshaped by heating as often as required without undergoing chemical decomposition or other negative changes. This makes polyamide ideal for processing via injection moulding into high quality products. About 90 % of cable ties and fixings from HellermannTyton are made from this material. Polyamide is also known under the brand name of Nylon®, which was introduced by the Dupont company.

The inner structure of polyamide displays a partial order of polymer chains, i.e. polyamides are partially crystalline. Due to the tighter packing of the individual molecular chains polyamide only has limited transparency to light. The plastic is therefore described as translucent.

The molecular chains of PA66 are made from two base units:



Each base unit contains 6 carbon atoms (C). Hence the name PA66.

The polyamide PA66 has many properties which are highly advantageous for HellermannTyton cable ties and fixings, such as:

- High strength, rigidity and hardness
- High dimensional stability, even under the effect of heat
- High abrasion resistance

Having a wide range of polyamides and additives allows for an optimum adaptation of the properties of the finished product to suit the respective requirements.

The following PA66 variants are used for HellermannTyton products:

- Polyamide 6.6 standard (PA66) for temperature conditions of up to +85 °C
- Polyamide 6.6 Heat Stabilised (PA66HS) for temperature conditions of up to +105 °C
- Polyamide 6.6 UV Stabilised (PA66W) for exterior use
- Polyamide 6.6 Heat Stabilised and UV Stabilised (PA66HSW) for exterior use up to +105 °C
- Polyamide 6.6 Impact Resistant (PA66HIR) for high elasticity requirements
- Polyamide 6.6 Impact Resistant and Heat Stabilised (PA66HIRHS) for high elasticity requirements and temperatures up to +105 °C
- Polyamide 6.6 V0 for high standards of fire protection

### Water content in polyamide

Polyamide is a hygroscopic material - this means that it absorbs and releases water. The mechanical properties are significantly affected by the water content – especially flexibility and minimum tensile strength.

In a standard atmosphere of 23 °C and 50 % relative humidity, the degree of water saturation of polyamide is around 2.5 %. For optimal processing of cable ties it is therefore important that the polyamide has a water content of approximately 2.5 % in a state of equilibrium.

The quality and functionality of the products are thus affected by the water content, therefore the correct storage of our products is crucial. Please read our separate instructions on storage.

**Since humidity is so critical to the quality of the tie, the question arises: What happens if the tie is installed and the water content in the tie alters?**

The water content determines the flexibility and strength of a tie. At a water content of approximately 2.5 % the tie has the ideal flexibility for installation. When the strap is being threaded through the head of the tie, the pawl must be flexible enough to “see-saw” over the serration of the strap without breaking. On the other hand, there must also be adequate material rigidity for the serrations of the pawl to engage with the serrations of the strap during the tying process so that a 'positive locking' action is achieved. After achieving the positive locking action the tie is in a static condition. Changes in the mechanical properties of the tie as a function of water content are insignificant during this status.

## Properties of UV-stabilised Polyamide PA66W

The question constantly arises as to whether a black cable tie is suitable for use outside. This is dependant on the application of the tie, but in general the following statements can be made:

A black cable tie made of polyamide 6.6 standard (PA66) is only coloured black with a low proportion of carbon black. This is not sufficient to protect the material from damage caused by UV-radiation in the long term.

Products made from UV-stabilised polyamide PA66W are produced in accordance with ASTM standard D6779 with a higher carbon black percentage of approx. 2 %. So they resist UV-radiation in the European area for a considerably longer period than standard PA66.

This is clearly illustrated by the comparison of the two images:

### After 500 hours of UV-radiation exposure

Polyamide 6.6 standard (PA66) dyed black:



*The joint has been damaged throughout by UV-radiation.*

Polyamide 6.6 UV-stabilised (PA66W) with approx. 2 % carbon black:



*The joint has only been altered at isolated points by the UV-radiation.*

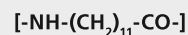
**For outdoor use, therefore, we recommend our range of products made from UV-stabilised polyamide (PA66W).**

### A simple practical test: "the hammer test"

You can quickly determine whether or not a cable tie is UV stabilised. Strike with a hammer the tail of the strap on the tie. Hold up this flattened end to the light. Cable ties with a carbon black content of about 2 % allow no light through and look black throughout. Standard black ties, however, are transparent on the flattened end.

## Properties of Polyamide PA12

Apart from PA66, there are polyamides which are less hygroscopic. These include PA12, which has a molecular chain made of a base unit with 12 carbon atoms:



### PA12 has the following advantages over PA66:

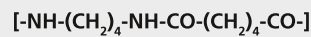
- Less hygroscopic - saturation at 23 °C and 50 % relative humidity is approximately 1 %
- Better impact performance
- Good weather resistance, even without a special additive

These three properties make PA12 ideal for use outdoors, in particularly when requirements may include impact resistance.

The water absorption of PA12 is not only less than that of PA66 but also slower. This is the requirement where the mechanical properties need to remain relatively unaffected by changing environmental conditions.

## Properties of Polyamide PA46

Polyamide PA66, despite the use of additives, is not suitable for long-term use in temperatures of +105 °C. Due to considerably better heat resistance, polyamide PA46 is more suitable for temperatures of up to and exceeding 150 °C (depending on the length of time of operation).

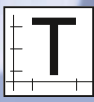


1st base unit  
with 4 C atoms

2nd base unit  
with 6 C atoms

### Advantages of PA46 over PA66:

- Greater rigidity, even at higher temperatures
- Higher operating temperature ranges of up to +150 °C (5,000 hours)
- Greater form stability at higher temperatures
- Excellent chemical resistance



## Properties of Polyetheretherketone PEEK

PEEK, a linear aromatic polymer, is semi-crystalline and is widely regarded as the highest performance thermoplastic material currently available. A summary of key physical properties is as follows:

### High temperature performance

- Melting temperature of +343 °C (649 °F)
- Continuous use temperature of +240 °C (464 °F) (UL 746B)

### Wear resistance

- Outstanding wear resistance over wide ranges of pressure, velocity, temperature and counter facial roughness

### Chemical resistance

- Excellent resistance to a wide range of chemical environments, even at elevated temperatures
- The only common environment that dissolves it is concentrated sulfuric acid

### Fire, smoke and toxicity

- Highly stable and requires no flame-retardant additives to achieve a V-0 rating at 1.45 mm thickness
- The composition and inherent purity of the material results in extremely low smoke and toxic gas emission in fire situations

### Hydrolysis resistance

- PEEK is not attacked by water or pressurized steam
- Components that are constructed from these materials retain a high level of mechanical properties when continuously conditioned in water at elevated temperatures and pressures

### Radiation resistance

- Excellent radiation resistance due to the energetically stable chemical structure of PEEK

### Purity

- PEEK materials are inherently pure with exceptionally low levels of ionic extractables
- Excellent out gassing characteristics

This makes PEEK the right choice for any high performance application in any industry with a clearly outstanding continuous use temperature of +240 °C.

## Properties of Ethylene Tetrafluoroethylene (E/TFE) - Tefzel®

E/TFE can be best described as a rugged thermoplastic with an outstanding balance of properties.

Mechanically, it is tough, has medium stiffness, impact and abrasion resistance.

E/TFE can perform successfully in applications where other materials are lacking in mechanical toughness, broad thermal capability and the ability to meet severe environmental conditions.

Tefzel® is a registered trademark of DuPont.

### Summary of key properties:

- No load continuous use temperature of +170 °C
- Weather resistant
- Inert to most solvents and chemicals
- Hydrolytically stable
- Substantially better resistance to radiation than other plastic materials

## Chemical resistance of various plastics

▲ = resistant  
 △ = partly resistant  
 ○ = not resistant

These values are only rough guides. They should be regarded as a material specification and are no substitute for a suitability test. Please see our technical datasheets for further details.

	Conc. (%)	Temp. (°C)	PA66	PA46	PA12	PA11	POM	PP	E/TFE (Tefzel®)	TPU	PEEK
Acetaldehyde, liquid	100	23 °C	▲	○		▲	▲	△	▲	○	▲
Acetowne	100	23 °C	▲	▲	▲	▲	▲	▲	▲	○	▲
Allyl chloride	100	23 °C				▲	▲	▲		○	
Aniline	100	23 °C	▲	△	△	▲	△	▲	▲	○	▲
Aromatic compounds							▲	○	▲	△	▲
Benzaldehyde		23 °C	▲	△		▲	▲	▲	▲	○	▲
Benzine/Benzol mix		23 °C	▲	▲	▲	▲	▲	△	▲	△	▲
Benzol	100	23 °C	▲		▲	▲	△	△	▲	△	▲
Bromine		23 °C		○	○	○		○		○	
Carbon bisulphide	100	23 °C	▲	○	▲	○	▲	○	▲	○	▲
Carbon tetrachloride	100	23 °C	▲	▲	△	○	▲	△	▲	○	▲
CFC								△			
Chlorine, gaeous	100	23 °C	○			○		○	▲	△	
Chlorine, liquefied	100	23 °C	○	○		○		○			
Chlorobenzene	100	23 °C			○	△	△	▲			
Chloroform	100	23 °C		○	○	▲	○	△		○	
Chromic acid 10 %	20	23 °C	○	○		○	○	▲	▲	○	▲
Chromic acid 20 %	10	20 °C	△	○		○	△	▲	▲		▲
Chromic acid 50 %	50	20 °C	○	○		○	○	▲	▲	○	
Cyclohexane	100	23 °C	▲			▲	▲	▲	▲	▲	▲
Cyclohexanone	100	23 °C	▲			▲	▲	▲	▲		▲
Decahydronaphthlene	100	23 °C	▲			▲	▲	△	▲	▲	▲
Diethyl ether	100	23 °C	▲			▲	▲	△	▲		▲
Di-isopropyl ether	100	23 °C						△			
Dimethyl formamide	100	23 °C	▲	▲		▲	▲	▲	▲		▲
Diocetyl phthalate		23 °C	▲	▲		▲	▲	▲	▲	○	▲
Engine oil	100	23 °C			▲	▲	▲	▲		▲	▲
Ethanonic acid 10 %	10	20 °C	○	△	△	▲	▲	▲	▲		
Ethanonic acid 100 %	100	23 °C	○	○		▲	△	▲	▲		
Ethanonic acid 25 %	25	20 °C	○			▲	△	▲	▲		
Ethanonic acid 50 %	50	20 °C	○			▲	△	▲	▲		
Ethyl acetate	100	23 °C		▲	▲	▲	△	△		△	▲
Formic acid	98	23 °C	○		○	▲	○	▲	▲	○	△
Freon		23 °C						▲			▲
Heptane	100	23 °C	▲	▲	▲	▲	▲	▲	▲	▲	▲
Hydrogen peroxide 10 %	10	20 °C	△			▲	▲	▲	▲	△	
Hydrogen peroxide 30 %	30	23 °C	○	○		▲	▲	▲	▲	△	
Ketone			▲	▲			▲	▲	▲		▲
Methisobutylketone	100	23 °C	▲			▲	▲	▲	▲		▲
Methylethylketone	100	23 °C	▲	▲		▲	△	▲	▲	○	▲
Nitric acid 10 %	10	20 °C	○		○	○	○	▲	▲	○	▲
Nitric acid 50 %	50	23 °C	○		○	○	○	▲	▲	○	○
Nitrobenzene	100	23 °C	▲	△		▲	▲	▲	▲	○	▲
Ordinary petrol		23 °C		▲		▲	▲	▲			▲
Paraffin oil		23 °C	▲	▲	▲	▲	▲	▲	▲	▲	▲
Perchloroethylene		23 °C	▲		▲	△	▲	△	▲	○	▲
Petroleum		23 °C	▲	▲	▲	▲	▲	▲	▲	▲	▲
Phenol	65	23 °C	○	○	○	○	○	▲	▲	○	
Potass. Permanganate	6	23 °C	○	○	○	○	▲	▲	▲	△	▲
Salad oil		23 °C		△		▲	▲	▲			▲
Silicon oil		23 °C	▲	▲	▲	▲	▲	▲	▲	▲	▲
Sulphuric acid 10 %	10	20 °C	○		△	▲	○	▲	▲	○	△
Sulphuric acid 50 %	50	20 °C	○				○	▲	▲	○	○
Sulphuric acid 96 %	96	23 °C	○	○			○	○	▲	○	○
Toluol	100	23 °C	▲		▲	▲	▲	△	▲	○	▲
Trichlorethylene	100	23 °C	▲	△	△	△	△	△	▲	○	▲
Water, cold			▲		▲	▲	▲			▲	▲
Water, hot						▲	▲			△	▲
Xylene	100	23 °C	▲	▲	▲	▲	▲	△	▲	○	▲

Tefzel® is a registered trademark of DuPont.

General linguistic usage for cable ties made from raw material E/TFE is Tefzel®-Tie. In addition to Tefzel® from DuPont HellermannTyton is also using equivalent E/TFE raw material from other suppliers.

## What does flammability UL94 mean?

UL is the shortcut for Underwriters Laboratories. This is an independent organisation in the United States to control and certificate product safety.

Beside a lot of product standards UL also specified the flammability test UL94 for plastic materials. UL94 is a material burning test done on a defined specimen of the raw material but not a test on final products.

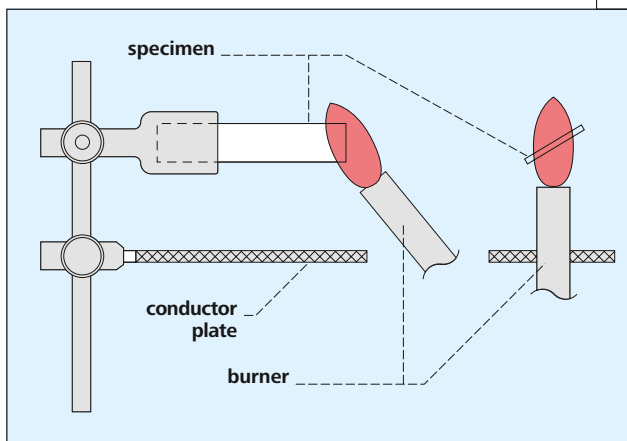
UL94 differs between a horizontal burning test UL94 HB (picture 1) and a vertical burning test UL94 V (picture 2). For the vertical test UL94 V there are three flame ratings defined: UL94 V0, UL94 V1 and UL94 V2.

In all these burning tests an open flame is applied for a certain time to the specimen. As the burning behaviour also depends on the thickness of the material it is important to classify the material not only according to HB, V0, V1 or V2 but also to mention the thickness of specimen.

### UL94 HB:

Horizontal burning test

1



#### Test criteria:

- burning rate of specimen in mm/min.

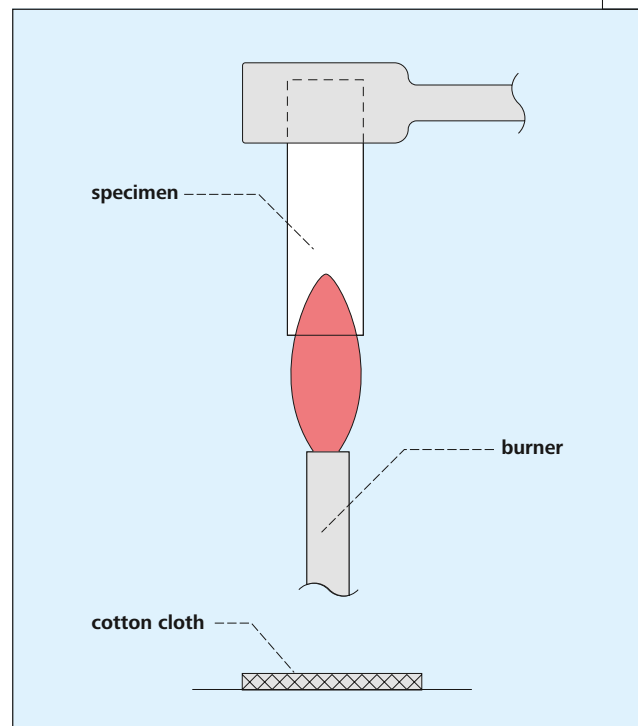
#### Classification:

- according to HB

### UL94 V:

Vertical burning test

2



#### Test criteria:

- afterflame time of specimen
- drip of flaming particles

#### Classification:

- according to V0, V1 or V2

Following table is a summary of test procedures and requirements of the UL94 classification.

Classification	Horizontal Test UL94		Vertical Test UL94		
	HB		V0	V1	V2
Number of specimen	3	3	5	5	5
Thickness of specimen	< 3 mm	3 to 13 mm	up to max. 13 mm		
1st flame application	30 sec.	30 sec.	10 sec.	10 sec.	10 sec.
2nd flame application	-	-	10 sec.	10 sec.	10 sec.
Burning rate	max. 75 mm/min	max. 40 mm/min	-	-	-
Afterflame time after 1st flame application for each individual specimen	-	-	max. 10 sec.	max. 30 sec.	max. 30 sec.
Afterflame time after 2nd flame application for each individual specimen	-	-	max. 30 sec.	max. 60 sec.	max. 60 sec.
Total afterflame time for all 5 specimen after 1st and 2nd flame application	-	-	max. 50 sec.	max. 250 sec.	max. 250 sec.
Afterflame or afterglow of any specimen up to its end allowed	yes	yes	no	no	no
Cotton indicator ignited by flaming particles or drops allowed	-	-	no	no	yes

Flammability behaviour on the following product pages are always related to the raw material burning rate according to UL94. Most commonly used raw materials for cable ties and fixing elements are Polyamide 6.6 standard, Polyamide 6.6 weather resistant and Polyamide 6.6 heat stabilised. These materials normally fulfill UL94 V2 requirement.

## HellermannTyton cable ties conform to IEC62275 standard

As a leading global manufacturer of quality, high performance cable management products for over 80 years, HellermannTyton's extensive fastening and fixings portfolio reflects our long-standing industry expertise.

Cable ties from the inside-serrated (T-Series, Q-Series), the outside-serrated (OS-Series) as well as our metal cable ties (MBT and MST-Series) have been tested in accordance with the international cable tie standard IEC 62275 (Cable management systems - Cable ties for electrical installations). This standard supersedes EN50146: 2000 and all HellermannTyton products fully comply with the requirements.

Cable ties manufactured from the standard material Polyamide 6.6 (PA66), heat-stabilised Polyamide 6.6 (PA66HS), UV-stabilised Polyamide 6.6 (PA66W) and Stainless Steel grades SS304 and SS316 have been successfully tested and approved.

### The IEC 62275 standard includes the following tests:

- Installation test on minimum and maximum specified bundle diameters
- Installation test at minimum specified installation temperature
- Impact test at minimum specified operating temperature
- Minimum tensile strength (in the standard this is described as the loop test)
- Loop tensile test after heat ageing at the specified operating temperature
- Loop tensile test after heat cycling at the minimum and maximum operating temperatures
- Loop tensile test after humidity and heat cycling at the minimum and maximum operating temperatures
- Contribution to the spread of fire on both the actual product and test substrate (tissue paper)
- Loop tensile and visual tests after exposure to ultraviolet light radiation for PA66W ties
- Resistance to corrosion (dependent on material)
- Loop tensile test after vibration test for metal cable ties

### The following cable ties have been tested and certified:

- T-Series inside-serrated in PA66-NA, PA66-BK, PA66HS-NA, PA66HS-BK, PA66W
- OS-Series outside-serrated in PA66-NA, PA66-BK, PA66HS-NA, PA66HS-BK, PA66W
- Q-Series inside-serrated in PA66-NA, PA66-BK, coloured PA66, PA66HS-NA, PA66HS-BK
- MBT-Series, uncoated in SS316 material grade
- MST-Series, uncoated in SS304 material grade



**Material specification please see page 24.**

In addition to the IEC 62275, we are proud to offer our customers products that have been certified by well-known and independent laboratories such as:



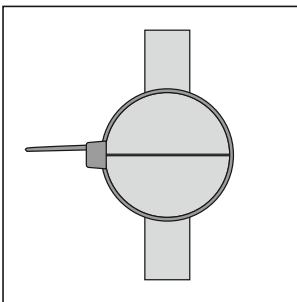
**Profit from our knowledge and experience and the high-quality of HellermannTyton cable management solutions for your particular industry and market.**

## Determination of minimum tensile strength

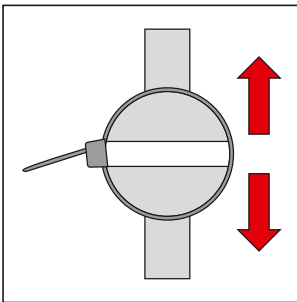
The minimum tensile strength is a critical selection criterion for cable ties. It expresses how much loading a cable tie can bear. This minimum tensile strength is determined in accordance with the Military Specification and Standards of the USA. Test conditions being laid down precisely in MIL-S-23190E:

### The test procedure to determine minimum tensile strength:

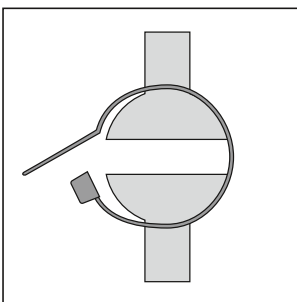
- Conditioning of the test pieces
- Construction of the test apparatus
- Application of the tie on a split test probe
- Test speed



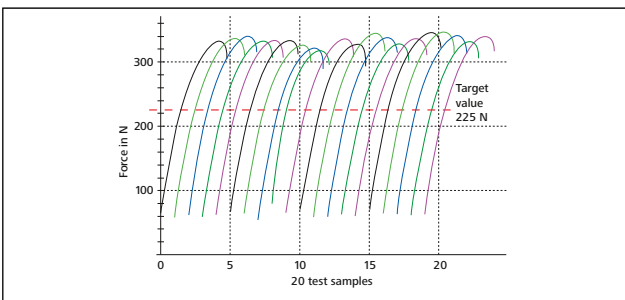
The cable tie is fixed onto a split mandrel test probe with the suitable cable tie application tool.



The mandrel is opened at a defined speed.



The loading at which the cable tie fails is determined. This value is stated in Newtons (N) and is recorded through a computer programme reading the tests. This programme produces graphs as outlined below.



Typical measurement protocol of a T50R made of PA66 with a minimum tensile strength of 225 N.

## Explanation of minimum tensile strengths

### What does a minimum tensile strength of 225 N (50LBS) mean?

To explain what this value means, the mass with which the tie can be loaded is calculated. The unit of measurement of the mass is stated in kg. To do so, the unit Newton (N) is shown in the following way:

$$[N] = [kg * m/s^2]$$

The formula for calculating the mass is:

$$\text{Mass} = \text{minimum tensile strength} / \text{acceleration due to gravity}$$

The acceleration due to gravity is 9.81 m/s<sup>2</sup>

$$\text{Mass} = \text{minimum tensile strength} / [9.81 \text{ m/s}^2]$$

At a minimum tensile strength of 225 N (50LBS) the mass is:

$$\text{Mass} = 225 [N] / 9.81 [m/s^2]$$

The units m/s<sup>2</sup> cancel each other out, leaving the unit [kg] for the mass. Thus:

$$\text{Mass} = 225 / 9.81 \text{ kg} = 22.9 \text{ kg}$$

Therefore, a T50R cable tie with a minimum tensile strength of 225 N (50LBS) can be loaded with 22.9 kg.

Conversely, with the required loading capacity the minimum tensile strength can be calculated by a mass:

$$\text{Min. tensile strength} = \text{mass} * 9.81 [m/s^2]$$

If the tie is to be loaded with, for example, 53 kg this produces:

$$\text{Minimum tensile strength} = [53 \text{ kg}] * 9.81 [m/s^2] = 520 \text{ N}$$

In order to withstand a load of 53 kg, the tie must therefore have a minimum tensile strength of 520 N. In this case, select our T120R with a minimum tensile strength of 535 N (120LBS).



$$225 \text{ N} / 9.81 = 22.9 \text{ kg}$$



$$53 \text{ kg} * 9.81 = 520 \text{ N}$$



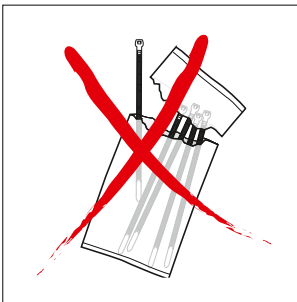
= Minimum Loop Tensile Strength for Cable Ties (Newton)



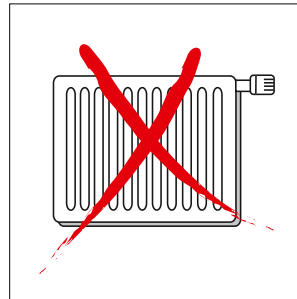
### Optimum storage conditions for cable ties made of Polyamide (PA)

HellermannTyton cable ties, fastenings and fixings are manufactured from high-quality polyamide (PA). This industrial synthetic material is mainly processed using injection moulding, but can also be extruded. Polyamide is a hygroscopic material. This means that the material absorbs and loses moisture. For optimum handling of cable ties it is important that the material is in a condition of equilibrium with a water content of approximately 2.5 %.

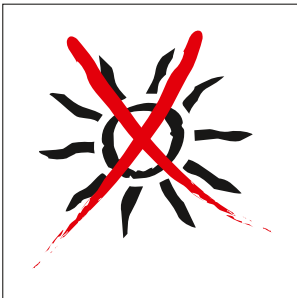
The packaging used by HellermannTyton ensures that the water content in the material remains constant. Therefore, it is important to store the products in their original packaging to preserve the quality of the ties.



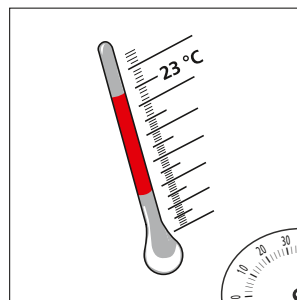
1. Once opened you should use the ties as quickly as possible.
2. Always store ties in the sealed plastic bag made of polyethylene.



5. Store the product away from direct sources of heat.
6. Avoid contact with heat: for example, do not place on the radiators.



3. Do not expose the product to direct sunlight.
4. Do not store the product in sunlight; for example, on the windowsill.



7. The ideal storage conditions are those of the central European standard climate: 23 °C



50 % relative humidity

## Introduction to the main locking technologies used for cable ties

HellermannTyton offers a wide range of cable ties for use in different applications. By constantly refining our products and satisfying the ever-changing demands of the market, various locking technologies have been developed. Below you will find a brief overview of three most common locking technologies and their characteristics.

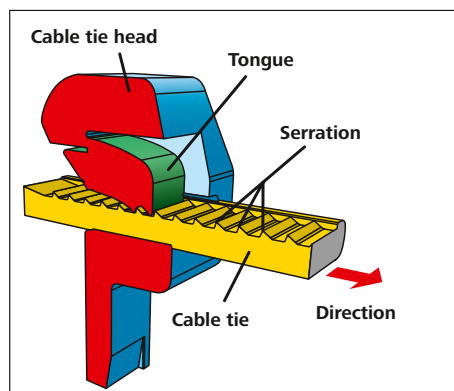
### Cable ties with plastic pawls

This technology is used in 90 % of all polyamide (PA) cable ties applied by HellermannTyton. In order to cover a variety of applications, there are different variants of this system, for example: releasable versions, in-line versions, open head versions.

These are one-piece cable ties, the pawl is moulded as an integral part of the cable tie, thereby building in inherent strengths.

#### Locking technology

Positive locking is achieved by engaging the pawl with the strap serrations. This allows the cable tie to perform to the published minimum tensile strength, that is the loading that the cable tie can hold under application.

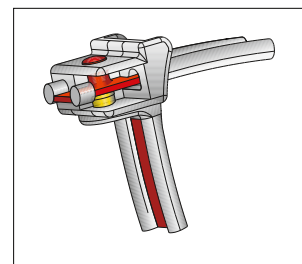
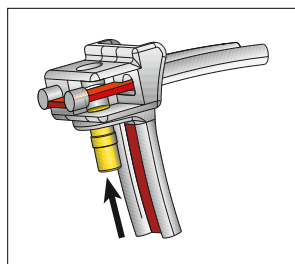


### KR series cable ties

This cable tie is distinguished by its smooth strap and unique locking mechanism. With the KR series the chamfered head achieves an especially firm fit around the bundled material.

#### Locking technology

This patented lock technology takes advantage of the excellent deformation properties of polyamide (PA). Here, the glass fibre-reinforced (GRP) locking pin (yellow) is forced into the strap by the use of an application tool - either the KR6/8 or KR8PNSE. The strap is deformed into the head of the tie by the application of the pin, thereby locking the cable tie in position and allowing for the bundling of heavy loads.



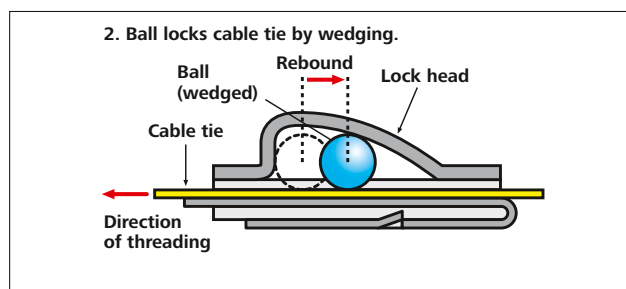
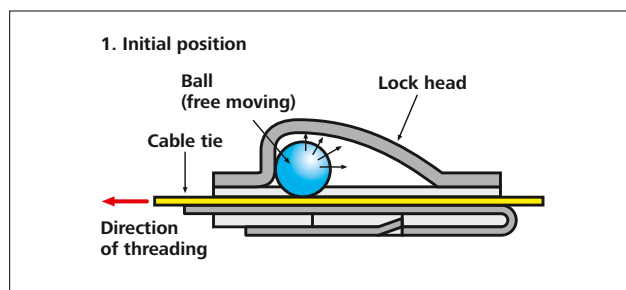
### MBT series of cable ties

Made of stainless steel grade 304 or 316, the MBT range of cable ties have no serrations on the strap and are threaded parallel through the head, gliding under a metal ball-bearing locking mechanism. By using the MK9SST application tool the cable tie is tensioned and the strap cut to a flush finish.

#### Locking technology

The strap is locked into the head by means of the small ball-bearing. The ball locks into the small end of the wedged shaped housing, forming a positive locking with the strap.

This cable tie is not suitable for rigid objects. Retraction of the ball-bearing (see drawing) is required into the small end of the wedged shaped housing to allow for a positive locking of the strap and also to make a flush cut of the end of the strap. Retraction, therefore, cannot take place with the bundling of inflexible materials. To bundle rigid objects LFPC channel should be laid as buffer between strap and bundled material to compensate for this retraction. This locking technology allows for minimum tensile strengths of up to 7,000 Newton.





## Cable Ties Polyamide 6.6 standard

### T-Series in PA66 natural and black

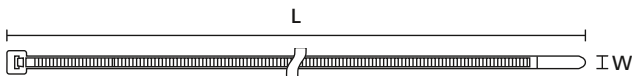
T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for almost any type of application.

#### Features and Benefits

- Natural and black cable ties available in a wide range of sizes
- Made from 100 % high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail



T-Series.



T-Series



Material specification please see page 24.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T18S	2.3	83.0	16.0	80	PA66	Natural (NA)	1,000 pcs.	2;4-6	111-02809
T18R	2.5	100.0	22.0	80	PA66	Natural (NA)	100 pcs.	2;4-6	111-01919
	2.5	100.0	22.0	80	PA66	Black (BK)	100 pcs.	2;4-6	111-01910
T18I	2.5	145.0	35.0	80	PA66	Black (BK)	100 pcs.	2;4-6	111-02370
	2.5	145.0	35.0	80	PA66	Natural (NA)	100 pcs.	2;4-6	111-02319
T18L	2.5	205.0	55.0	80	PA66	Natural (NA)	100 pcs.	2;4-6	111-02119
	2.5	205.0	55.0	80	PA66	Black (BK)	100 pcs.	2;4-6	111-02110
T25L	2.8	240.0	65.0	110	PA66	Black (BK)	100 pcs.	2;4-6	111-02500
	2.8	240.0	65.0	110	PA66	Natural (NA)	100 pcs.	2;4-6	111-02519
T25LL	2.8	330.0	95.0	110	PA66	Natural (NA)	100 pcs.	2;4-6	111-02619
T30R	3.5	150.0	35.0	135	PA66	Natural (NA)	100 pcs.	2;4-6	111-03219
	3.5	150.0	35.0	135	PA66	Black (BK)	100 pcs.	2;4-6	111-03210
T30L	3.5	198.0	50.0	135	PA66	Natural (NA)	100 pcs.	2;4-6	111-03419
	3.5	198.0	50.0	135	PA66	Black (BK)	100 pcs.	2;4-6	111-03410
T30LL	3.5	290.0	80.0	135	PA66	Black (BK)	100 pcs.	2;4-6	111-03500
	3.5	290.0	80.0	135	PA66	Natural (NA)	100 pcs.	2;4-6	111-03529
T40R	4.0	175.0	40.0	180	PA66	Natural (NA)	100 pcs.	2;4-8	111-01626
T50S	4.6	150.0	35.0	225	PA66	Black (BK)	100 pcs.	2-10	111-05810
	4.6	150.0	35.0	225	PA66	Natural (NA)	100 pcs.	2-10	111-05819
T50R	4.6	200.0	50.0	225	PA66	Black (BK)	100 pcs.	2-10	111-05000
	4.6	200.0	50.0	225	PA66	Natural (NA)	100 pcs.	2-10	111-05013
T50M	4.6	245.0	65.0	225	PA66	Natural (NA)	100 pcs.	2-10	111-06201
	4.6	245.0	65.0	225	PA66	Black (BK)	100 pcs.	2-10	111-06200
T50I	4.6	300.0	85.0	225	PA66	Black (BK)	100 pcs.	2-10	111-05210
	4.6	300.0	85.0	225	PA66	Natural (NA)	100 pcs.	2-10	111-05219
T50L	4.6	390.0	110.0	225	PA66	Natural (NA)	100 pcs.	2-10	111-05409
	4.6	390.0	110.0	225	PA66	Black (BK)	100 pcs.	2-10	111-05400
T50LL	4.6	445.0	130.0	225	PA66	Black (BK)	500 pcs.	2-10	111-06002
T80R	4.7	210.0	55.0	355	PA66	Natural (NA)	100 pcs.	2-12	111-05019
	4.7	210.0	55.0	355	PA66	Black (BK)	100 pcs.	2-12	111-08010

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

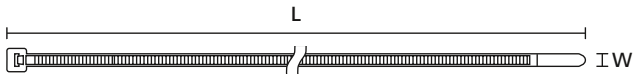


For product specific approvals and specifications please refer to the Appendix.



### Cable Ties Polyamide 6.6 standard

#### T-Series in PA66 natural and black



T-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T80I	4.7	300.0	85.0	355	PA66	Natural (NA)	100 pcs.	2-12	111-08229
	4.7	300.0	85.0	355	PA66	Black (BK)	100 pcs.	2-12	111-08210
T80L	4.7	390.0	110.0	355	PA66	Black (BK)	100 pcs.	2-12	111-05410
	4.7	390.0	110.0	355	PA66	Natural (NA)	100 pcs.	2-12	111-05419
T120S	7.6	225.0	55.0	535	PA66	Natural (NA)	50 pcs.	3;9-12	111-12829
T120I	7.6	300.0	80.0	535	PA66	Black (BK)	100 pcs.	3;9-12	111-12210
	7.6	300.0	80.0	535	PA66	Natural (NA)	100 pcs.	3;9-12	111-12219
T150R	7.6	365.0	100.0	670	PA66	Black (BK)	100 pcs.	3;9-12	111-14810
	7.6	365.0	100.0	670	PA66	Natural (NA)	100 pcs.	3;9-12	111-14819
T120R(E)	7.6	387.0	100.0	535	PA66	Black (BK)	100 pcs.	3;9-12	111-12010
	7.6	387.0	100.0	535	PA66	Natural (NA)	100 pcs.	3;9-12	111-12019
T120M	7.6	460.0	125.0	535	PA66	Black (BK)	100 pcs.	3;9-12	111-12610
	7.6	460.0	125.0	535	PA66	Natural (NA)	100 pcs.	3;9-12	111-12619
T120XM	7.6	600.0	175.0	535	PA66	Black (BK)	50 pcs.	3;9-12	111-12701
	7.6	600.0	175.0	535	PA66	Natural (NA)	50 pcs.	3;9-12	111-12704
T120L	7.6	760.0	225.0	535	PA66	Black (BK)	50 pcs.	3;9-12	111-12403
	7.6	760.0	225.0	535	PA66	Natural (NA)	50 pcs.	3;9-12	111-12429
T150L	8.8	820.0	245.0	780	PA66	Black (BK)	25 pcs.	9-12	111-15405
	8.8	820.0	245.0	780	PA66	Natural (NA)	25 pcs.	9-12	111-15419
T150M	8.9	530.0	150.0	780	PA66	Black (BK)	25 pcs.	9-12	111-00124
	8.9	530.0	150.0	780	PA66	Natural (NA)	25 pcs.	9-12	111-15619
T150XL	8.9	1,095.0	330.0	780	PA66	Black (BK)	25 pcs.	9-12	111-15500
	8.9	1,095.0	330.0	780	PA66	Natural (NA)	25 pcs.	9-12	111-15519
T150XLL	8.9	1,325.0	405.0	780	PA66	Black (BK)	25 pcs.	9-12	111-15300
	8.9	1,325.0	405.0	780	PA66	Natural (NA)	25 pcs.	9-12	111-15304
T250S	12.5	225.0	55.0	1,115	PA66	Natural (NA)	100 pcs.	11-12	111-24705
T250X	12.5	370.0	100.0	1,115	PA66	Black (BK)	100 pcs.	11-12	111-25102
T250R	12.5	515.0	125.0	1,115	PA66	Natural (NA)	25 pcs.	11-12	111-24803
T250M	12.5	565.3	150.0	1,115	PA66	Black (BK)	25 pcs.	11-12	111-25001
	12.5	565.3	150.0	1,115	PA66	Natural (NA)	25 pcs.	11-12	111-25002
T250I	12.5	730.0	203.0	1,115	PA66	Natural (NA)	25 pcs.	11-12	111-25219
T250L	12.5	880.0	254.0	1,115	PA66	Black (BK)	25 pcs.	11-12	111-24601
T250XL	12.5	1,030.0	305.0	1,115	PA66	Black (BK)	25 pcs.	11-12	111-25200
	12.5	1,030.0	305.0	1,115	PA66	Natural (NA)	25 pcs.	11-12	111-00466

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

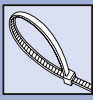
#### Recommended Tools

2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.



### Cable Ties Polyamide 6.6 standard

#### T-Series in PA66 coloured

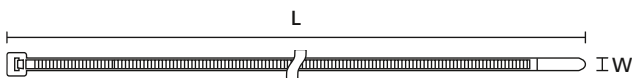
T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for almost any type of application.

#### Features and Benefits

- Coloured cable ties available in a wide range of sizes
- Made from 100 % high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simply to insert due to the ergonomically bent tail
- Other colours are available on request



T-Series.



T-Series



**Material specification  
please see page 24.**

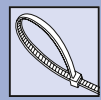
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T18R	2.5	100.0	22.0	80	PA66	Blue (BU)	100 pcs.	2;4-6	116-01816
	2.5	100.0	22.0	80	PA66	Green (GN)	100 pcs.	2;4-6	116-01815
	2.5	100.0	22.0	80	PA66	Red (RD)	100 pcs.	2;4-6	116-01812
	2.5	100.0	22.0	80	PA66	Yellow (YE)	100 pcs.	2;4-6	116-01814
T30R	3.5	150.0	35.0	135	PA66	Blue (BU)	100 pcs.	2;4-6	111-03008
	3.5	150.0	35.0	135	PA66	Green (GN)	100 pcs.	2;4-6	111-03014
	3.5	150.0	35.0	135	PA66	Red (RD)	100 pcs.	2;4-6	111-03004
	3.5	150.0	35.0	135	PA66	Yellow (YE)	100 pcs.	2;4-6	111-03006
T50R	4.6	200.0	50.0	225	PA66	Blue (BU)	100 pcs.	2-10	111-04800
	4.6	200.0	50.0	225	PA66	Green (GN)	100 pcs.	2-10	111-04801
	4.6	200.0	50.0	225	PA66	Red (RD)	100 pcs.	2-10	111-04804
	4.6	200.0	50.0	225	PA66	Yellow (YE)	100 pcs.	2-10	111-04805
T50L	4.6	390.0	110.0	225	PA66	Blue (BU)	100 pcs.	2-10	111-05404
	4.6	390.0	110.0	225	PA66	Green (GN)	100 pcs.	2-10	111-05402
	4.6	390.0	110.0	225	PA66	Red (RD)	100 pcs.	2-10	111-05406
	4.6	390.0	110.0	225	PA66	Yellow (YE)	100 pcs.	2-10	111-05428
T80R	4.7	210.0	55.0	355	PA66	Blue (BU)	100 pcs.	2-12	116-08016
	4.7	210.0	55.0	355	PA66	Green (GN)	100 pcs.	2-12	116-08015
	4.7	210.0	55.0	355	PA66	Red (RD)	100 pcs.	2-12	116-08012
	4.7	210.0	55.0	355	PA66	Yellow (YE)	100 pcs.	2-12	116-08014

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

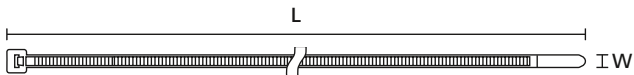


For product specific approvals and specifications please refer to the Appendix.



### Cable Ties Polyamide 6.6 standard

#### T-Series in PA66 coloured



T-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T80L	4.7	390.0	110.0	355	PA66	Blue (BU)	100 pcs.	2-12	116-05416
	4.7	390.0	110.0	355	PA66	Green (GN)	100 pcs.	2-12	116-05415
	4.7	390.0	110.0	355	PA66	Red (RD)	100 pcs.	2-12	116-05412
	4.7	390.0	110.0	355	PA66	Yellow (YE)	100 pcs.	2-12	116-05414
T150R(H)	7.6	365.0	100.0	670	PA66	Blue (BU)	100 pcs.	3;9-12	116-15016
	7.6	365.0	100.0	670	PA66	Red (RD)	100 pcs.	3;9-12	116-15012
	7.6	365.0	100.0	670	PA66	Yellow (YE)	100 pcs.	3;9-12	116-15014
T120R(E)	7.6	387.0	100.0	535	PA66	Green (GN)	100 pcs.	3;9-12	111-12001
	7.6	387.0	100.0	535	PA66	Red (RD)	100 pcs.	3;9-12	111-12002

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### Recommended Tools

2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.



## Cable Ties for outdoor use (UV-resistant)

### T-Series in PA66W black

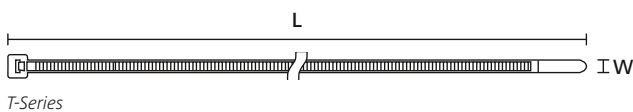
T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for almost any type of application.

#### Features and Benefits

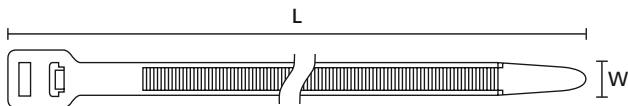
- Weather-resistant black cable tie available in a wide range of sizes
- Made from 100 % high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simply to insert due to the ergonomically bent tail
- UV-resistant



T-Series.



T-Series



T250-series



Material specification  
please see page 24.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T18R	2.5	100.0	22.0	80	PA66W	Black (BK)	100 pcs.	2;4-6	111-01960
T18I	2.5	145.0	35.0	80	PA66W	Black (BK)	100 pcs.	2;4-6	111-02360
T18L	2.5	205.0	55.0	80	PA66W	Black (BK)	100 pcs.	2;4-6	111-02160
T25LL	2.8	330.0	95.0	110	PA66W	Black (BK)	100 pcs.	2;4-6	111-02660
T30R	3.5	150.0	35.0	135	PA66W	Black (BK)	100 pcs.	2;4-6	111-03260
T30L	3.5	198.0	50.0	135	PA66W	Black (BK)	100 pcs.	2;4-6	111-03460
T30LL	3.5	290.0	80.0	135	PA66W	Black (BK)	100 pcs.	2;4-6	111-03570
T40R	4.0	175.0	40.0	180	PA66W	Black (BK)	100 pcs.	2;4-8	111-01625
T50S	4.6	150.0	35.0	225	PA66W	Black (BK)	100 pcs.	2-10	111-05860
T50R	4.6	200.0	50.0	225	PA66W	Black (BK)	100 pcs.	2-10	111-04889
T50M	4.6	245.0	65.0	225	PA66W	Black (BK)	100 pcs.	2-10	111-06206
T50I	4.6	300.0	85.0	225	PA66W	Black (BK)	100 pcs.	2-10	111-05260
T50L	4.6	390.0	110.0	225	PA66W	Black (BK)	100 pcs.	2-10	111-05440
T50LL	4.6	445.0	130.0	225	PA66W	Black (BK)	100 pcs.	2-10	111-06000
T80R	4.7	210.0	55.0	355	PA66W	Black (BK)	100 pcs.	2-12	111-05060
T80I	4.7	300.0	85.0	355	PA66W	Black (BK)	100 pcs.	2-12	111-08290
T80L	4.7	390.0	110.0	355	PA66W	Black (BK)	100 pcs.	2-12	111-05460
T120S	7.6	225.0	55.0	535	PA66W	Black (BK)	50 pcs.	3;9-12	111-12830
T120I	7.6	300.0	80.0	535	PA66W	Black (BK)	100 pcs.	3;9-12	111-12230
T150R(H)	7.6	365.0	100.0	670	PA66W	Black (BK)	100 pcs.	3;9-12	111-14860
T120R(E)	7.6	387.0	100.0	535	PA66W	Black (BK)	100 pcs.	3;9-12	111-12060
T120M	7.6	460.0	125.0	535	PA66W	Black (BK)	100 pcs.	3;9-12	111-12660

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

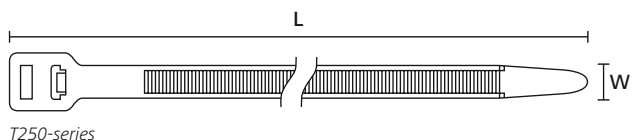
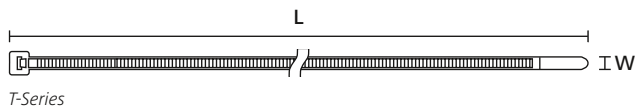


For product specific approvals and specifications please refer to the Appendix.



### Cable Ties for outdoor use (UV-resistant)

#### T-Series in PA66W black



TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T120L	7.6	760.0	225.0	535	PA66W	Black (BK)	50 pcs.	3;9-12	111-12430
T150L	8.8	820.0	245.0	780	PA66W	Black (BK)	25 pcs.	9-12	111-15460
T150M	8.9	530.0	150.0	780	PA66W	Black (BK)	25 pcs.	9-12	111-15660
T150XL	8.9	1,095.0	330.0	780	PA66W	Black (BK)	25 pcs.	9-12	111-15502
T150XLL	8.9	1,325.0	405.0	780	PA66W	Black (BK)	25 pcs.	9-12	111-15305
T250R	12.5	515.0	125.0	1,115	PA66HIRHSUV	Black (BK)	25 pcs.	11-12	111-24805

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### Recommended Tools

2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.





### Cable Ties for temperatures up to +105 °C (heat stabilised)

#### T-Series in PA66HS natural and black

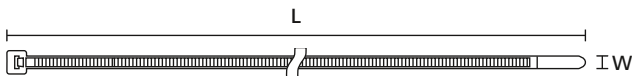
T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for almost any type of application.

#### Features and Benefits

- Heat stabilised cable tie available in a wide range of sizes
- Made from 100 % high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail
- Higher temperature resistance up to +105 °C



T-Series.



T-Series



**Material specification please see page 24.**

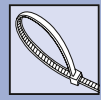
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T18R	2.5	100.0	22.0	80	PA66HS	Black (BK)	100 pcs.	2;4-6	111-01950
	2.5	100.0	22.0	80	PA66HS	Natural (NA)	100 pcs.	2;4-6	111-01959
T18I	2.5	145.0	35.0	80	PA66HS	Black (BK)	100 pcs.	2;4-6	111-02358
	2.5	145.0	35.0	80	PA66HS	Natural (NA)	1,000 pcs.	2;4-6	111-02359
T18L	2.5	205.0	55.0	80	PA66HS	Black (BK)	100 pcs.	2;4-6	111-02049
	2.5	205.0	55.0	80	PA66HS	Natural (NA)	100 pcs.	2;4-6	111-02159
T30R	3.5	150.0	35.0	135	PA66HS	Natural (NA)	100 pcs.	2;4-6	111-03259
	3.5	150.0	35.0	135	PA66HS	Black (BK)	100 pcs.	2;4-6	111-03050
T30L	3.5	198.0	50.0	135	PA66HS	Black (BK)	100 pcs.	2;4-6	111-03450
	3.5	198.0	50.0	135	PA66HS	Natural (NA)	100 pcs.	2;4-6	111-03459
T30LL	3.5	290.0	80.0	135	PA66HS	Black (BK)	1,000 pcs.	2;4-6	111-03660
	3.5	290.0	80.0	135	PA66HS	Natural (NA)	100 pcs.	2;4-6	111-03569
T40R	4.0	175.0	40.0	180	PA66HS	Black (BK)	100 pcs.	2;4-8	111-01623
	4.0	175.0	40.0	180	PA66HS	Natural (NA)	100 pcs.	2;4-8	111-01627
T50S	4.6	150.0	35.0	225	PA66HS	Natural (NA)	100 pcs.	2-10	111-05859
	4.6	150.0	35.0	225	PA66HS	Black (BK)	100 pcs.	2-10	111-05850
T50R	4.6	200.0	50.0	225	PA66HS	Black (BK)	100 pcs.	2-10	111-04950
T50I	4.6	300.0	85.0	225	PA66HS	Black (BK)	100 pcs.	2-10	111-05250
	4.6	300.0	85.0	225	PA66HS	Natural (NA)	100 pcs.	2-10	111-05259
T50L	4.6	390.0	110.0	225	PA66HS	Black (BK)	100 pcs.	2-10	111-05450
	4.6	390.0	110.0	225	PA66HS	Natural (NA)	100 pcs.	2-10	111-05436
T80R	4.7	210.0	55.0	355	PA66HS	Black (BK)	1,000 pcs.	2-12	117-08070
	4.7	210.0	55.0	355	PA66HS	Natural (NA)	100 pcs.	2-12	111-05059
T80I	4.7	300.0	85.0	355	PA66HS	Black (BK)	100 pcs.	2-12	111-08250
	4.7	300.0	85.0	355	PA66HS	Natural (NA)	100 pcs.	2-12	111-08259

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

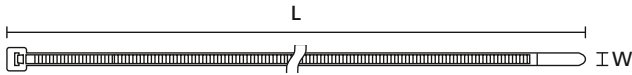


For product specific approvals and specifications please refer to the Appendix.



### Cable Ties for temperatures up to +105 °C (heat stabilised)

#### T-Series in PA66HS natural and black



T-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T80L	4.7	390.0	110.0	355	PA66HS	Black (BK)	100 pcs.	2-12	111-00388
	4.7	390.0	110.0	355	PA66HS	Natural (NA)	100 pcs.	2-12	111-05459
T120S	7.6	225.0	55.0	535	PA66HS	Black (BK)	50 pcs.	3;9-12	111-12850
	7.6	225.0	55.0	535	PA66HS	Natural (NA)	50 pcs.	3;9-12	111-12824
T150R(H)	7.6	365.0	100.0	670	PA66HS	Black (BK)	100 pcs.	3;9-12	111-15050
	7.6	365.0	100.0	670	PA66HS	Natural (NA)	100 pcs.	3;9-12	111-15069
T120R(E)	7.6	387.0	100.0	535	PA66HS	Black (BK)	100 pcs.	3;9-12	111-12050
	7.6	387.0	100.0	535	PA66HS	Natural (NA)	100 pcs.	3;9-12	111-12059
T120M	7.6	460.0	125.0	535	PA66HS	Black (BK)	100 pcs.	3;9-12	111-00153
T120XM	7.6	600.0	175.0	535	PA66HS	Black (BK)	50 pcs.	3;9-12	111-12700
	7.6	600.0	175.0	535	PA66HS	Natural (NA)	50 pcs.	3;9-12	111-12719
T120L	7.6	760.0	225.0	535	PA66HS	Black (BK)	50 pcs.	3;9-12	111-12440
	7.6	760.0	225.0	535	PA66HS	Natural (NA)	50 pcs.	3;9-12	111-12449
T150L	8.8	820.0	245.0	780	PA66HS	Black (BK)	25 pcs.	9-12	111-15410
T150M	8.9	530.0	150.0	780	PA66HS	Black (BK)	25 pcs.	9-12	111-15609
T150XL	8.9	1,095.0	330.0	780	PA66HS	Black (BK)	25 pcs.	9-12	111-15510

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### Recommended Tools

2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.



## Cable Ties for higher impact resistant Polyamide 6.6 ScanBlack

### T-Series in PA66HIR(S) black

T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for almost any type of application.

#### Features and Benefits

- Impact resistant black cable tie available in a wide range of sizes
- Made from 100 % high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail
- Higher flexibility in cold environments



T-Series.



T-Series



Material specification please see page 24.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T50R	4.6	200.0	50.0	225	PA66HIR(S)	Black (BK)	100 pcs.	2-10	111-04890
T50I	4.6	300.0	85.0	225	PA66HIR(S)	Black (BK)	100 pcs.	2-10	111-00222
T50L	4.6	390.0	110.0	225	PA66HIR(S)	Black (BK)	100 pcs.	2-10	111-05441
T120I	7.6	300.0	80.0	535	PA66HIR(S)	Black (BK)	100 pcs.	3;9-12	111-12203
T120R(E)	7.6	387.0	100.0	535	PA66HIR(S)	Black (BK)	100 pcs.	3;9-12	111-12032
T120L	7.6	760.0	225.0	535	PA66HIR(S)	Black (BK)	50 pcs.	3;9-12	111-12402

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### Recommended Tools

2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.



### Cable Ties for higher fire-protection

#### T-Series in PA66V0 white

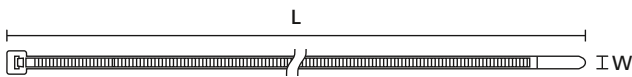
T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for almost any type of applications, especially where safety regulations are high, e.g. the reduction of smoke and dangerous gases.

#### Features and Benefits

- White cable tie for higher fire-protection, available in a wide range of sizes
- Made from 100 % high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail
- High safety rating due to low fire hazard



T-Series.



T-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T18R	2.5	100.0	22.0	80	PA66V0	White (WH)	100 pcs.	2;4-6	111-91819
T18L	2.5	205.0	55.0	80	PA66V0	White (WH)	1,000 pcs.	2;4-6	111-02043
T30R	3.5	150.0	35.0	135	PA66V0	White (WH)	100 pcs.	2;4-6	111-93019
T50R	4.6	200.0	50.0	225	PA66V0	White (WH)	100 pcs.	2-10	111-95019
T50I	4.6	300.0	85.0	225	PA66V0	White (WH)	100 pcs.	2-10	111-00317
T120R(E)	7.6	387.0	100.0	535	PA66V0	White (WH)	100 pcs.	3;9-12	111-91210

All dimensions in mm. Subject to technical changes.

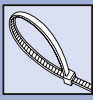
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools										
2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.



### Cable Ties for temperatures up to +150 °C in Polyamide 4.6

#### T-Series in PA46 natural and grey

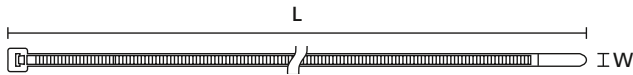
T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for almost any type of application.

#### Features and Benefits

- Higher temperature cable tie available in a wide range sizes
- Made from 100 % high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail
- Higher temperature resistance up to +150 °C



T-Series.



T-Series



Material specification please see page 24.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T18R	2.5	100.0	22.0	80	PA46	Natural (NA)	1,000 pcs.	2;4-6	114-01879
T30R	3.5	150.0	35.0	135	PA46	Natural (NA)	100 pcs.	2;4-6	114-03079
T50R	4.6	200.0	50.0	225	PA46	Grey (GY)	100 pcs.	2-10	111-00824
	4.6	200.0	50.0	225	PA46	Natural (NA)	100 pcs.	2-10	111-00525
T50I	4.6	300.0	85.0	225	PA46	Natural (NA)	100 pcs.	2-10	111-05220
T50L	4.6	390.0	110.0	225	PA46	Natural (NA)	100 pcs.	2-10	111-00526
T120R(E)	7.6	387.0	100.0	535	PA46	Natural (NA)	100 pcs.	3;9-12	114-12179

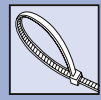
All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools										
2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.



### Cable Ties for higher chemical resistance and for temperatures up to +170 °C in Ethylene Tetrafluoroethylene

#### T-Series in E/TFE (Tefzel®) blue

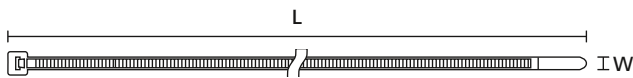
T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for almost any type of application, especially when a high chemical resistance is required.

#### Features and Benefits

- High chemical resistance cable tie available in a wide range sizes
- Made from 100 % high quality plastic, allows for good recycling
- Inside serration for a strong hold onto bundles
- Easy application either manually or with a processing tool
- Simple to insert due to bent tail
- High temperature resistance
- No moisture absorption



T-Series.



T-Series



For more information on E/TFE mounts please refer to KR-Series on page 138.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T18R	2.5	100.0	22.0	80	E/TFE	Blue (BU)	100 pcs.	2;4-6	111-00659
T30R	3.5	150.0	36.0	133	E/TFE	Blue (BU)	100 pcs.	2;4-6	111-00698
T50R	4.7	201.0	50.0	222	E/TFE	Blue (BU)	100 pcs.	2-10	111-00732
T50L	4.7	382.0	105.0	222	E/TFE	Blue (BU)	100 pcs.	2-10	111-00718
T120R	7.4	387.0	105.0	535	E/TFE	Blue (BU)	50 pcs.	3;9-12	111-01125

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available. General linguistic usage for cable ties made from raw material E/TFE is Tefzel®-Tie. In addition to Tefzel® from DuPont HellermannTyton is also using equivalent E/TFE raw material from other suppliers.

Recommended Tools										
2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.



## Cable Ties for higher chemical resistance for temperatures up to +115 °C in Polypropylene

### T-Series in PP natural and black

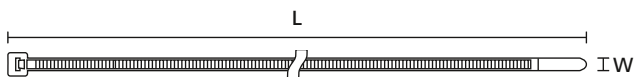
T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for almost any type of application.

#### Features and Benefits

- Higher chemical resistant cable tie available in a wide range sizes
- Made from 100 % high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail
- Floats in water
- High chemical resistance



T-Series.



T-Series



Material specification please see page 24.

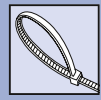
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T18R	2.5	100.0	22.0	36	PP	Black (BK)	100 pcs.	2;4-6	111-01917
	2.5	100.0	22.0	36	PP	Natural (NA)	1,000 pcs.	2;4-6	111-01922
T30R	3.6	148.0	32.0	89	PP	Natural (NA)	100 pcs.	2;4-6	111-03017
T50R	4.8	202.0	44.5	111	PP	Black (BK)	100 pcs.	2-10	111-04928
	4.8	202.0	44.5	111	PP	Natural (NA)	100 pcs.	2-10	111-04931
T120S	7.6	225.0	55.0	267	PP	Black (BK)	500 pcs.	3;9-12	111-12827
T120R	7.6	390.0	105.0	267	PP	Black (BK)	500 pcs.	3;9-12	111-12066

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools										
2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



### Cable Ties made from sustainable bioplastic in Polyamide 11

#### T-Series in PA11 black

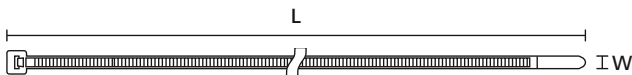
T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for almost all types of applications.

#### Features and Benefits

- Made of polyamide 11, a completely sustainable bioplastic derived from vegetable oil
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- High UV- resistance for long-term outdoor application
- Stable technical performance even at very low temperatures
- High resistance to chemicals, including chlorides
- Low water absorption rate for consistent technical performance and high durability



T-Series.



T-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T18R	2.5	100.0	22.0	80	PA11	Black (BK)	100 pcs.	2;4-6	111-01718
T30R	3.5	150.0	35.0	130	PA11	Black (BK)	100 pcs.	2;4-6	111-01719
T50S	4.6	150.0	35.0	170	PA11	Black (BK)	100 pcs.	2-10	111-01720
T50R	4.6	200.0	50.0	170	PA11	Black (BK)	100 pcs.	2-10	111-01721

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools									
2	3	4	5	6	7	8	9	10	
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.





### Cable Ties in-between size to T-Series

#### LK-Series natural and black

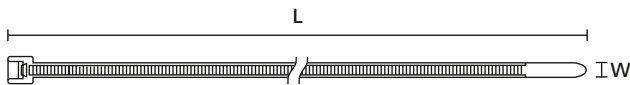
For bundling and securing cables, pipes and hoses. These cable ties can be used for almost any type of application.

#### Features and Benefits

- Available in a wide range of materials and sizes
- Inside serrated ties for a strong hold around bundles
- High tensile strength with very low insertion force
- Simple and quick to install
- Easy application either manually or with a processing tool



LK-Series.



LK-Series



Material specification please see page 24.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
LK2A	4.6	270.0	73.0	225	PA66	Black (BK)	100 pcs.	2-10	111-60110
	4.6	270.0	73.0	225	PA66	Natural (NA)	100 pcs.	2-10	111-60119
	4.6	270.0	73.0	225	PA66HIR(S)	Black (BK)	100 pcs.	2-10	111-00127
	4.6	270.0	73.0	225	PA66HS	Black (BK)	100 pcs.	2-10	111-60150
	4.6	270.0	73.0	225	PA66HS	Natural (NA)	100 pcs.	2-10	111-60159
	4.6	270.0	73.0	225	PA66W	Black (BK)	100 pcs.	2-10	111-60160
LK2	4.8	120.0	28.0	135	PA66	Natural (NA)	200 pcs.	2;4-8	111-60219
LK5	13.2	535.0	150.0	1,115	PA66	Black (BK)	50 pcs.	11-12	111-60510
	13.2	535.0	150.0	1,115	PA66	Natural (NA)	50 pcs.	11-12	111-60519
	13.2	535.0	150.0	1,115	PA66HIR(S)	Black (BK)	50 pcs.	11-12	111-60501
	13.2	535.0	150.0	1,115	PA66HS	Natural (NA)	50 pcs.	11-12	111-60559
	13.2	535.0	150.0	1,115	PA66W	Black (BK)	50 pcs.	11-12	111-60560

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### Recommended Tools

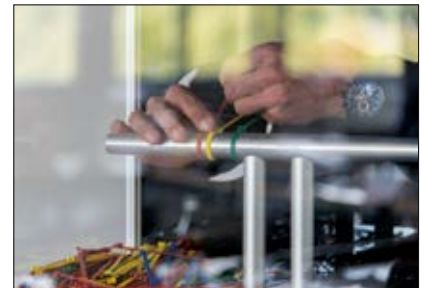
2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.

Become the fastest with us:  
More than a 25 % time saving with Q-Series!



## Test our Q-Series!

Extensive customer trials and speed tests  
fully audited and approved by DEKRA.





## Q-ties

### Innovative – Effective – Safe!

The new Q-tie has not only innovative, but also has a revolutionary new design. The open head of the cable tie enables a simple and quick installation. Simply insert the ergonomically bent tail into the open side of the head and tighten the cable tie.

With Q-ties you can save time and money!

### Easy Application for every Situation!

Q-tie provides the perfect solution for applications in difficult working conditions. It is ideal for use when working with gloves is necessary or for blind applications with a limited view of the work allowing for a quick and simple installation.

Features for quick and easy application:

- Large curved tail with easy-grip ribs
- Open head with easily detectable slot

This saves time and trouble!



*The head design makes the difference.*



*Even under difficult circumstances the Q-tie cable tie is very fast and easy to apply.*

### Integrated Pre-locking Functionality!

Due to several simultaneous working processes, it is not always possible to install all cables and conduits in one single step.

Using standard cable ties means either removing the cable tie of the first installation or applying additional cable ties. The integrated pre-locking function offers both a temporary and final cable fastening solution.

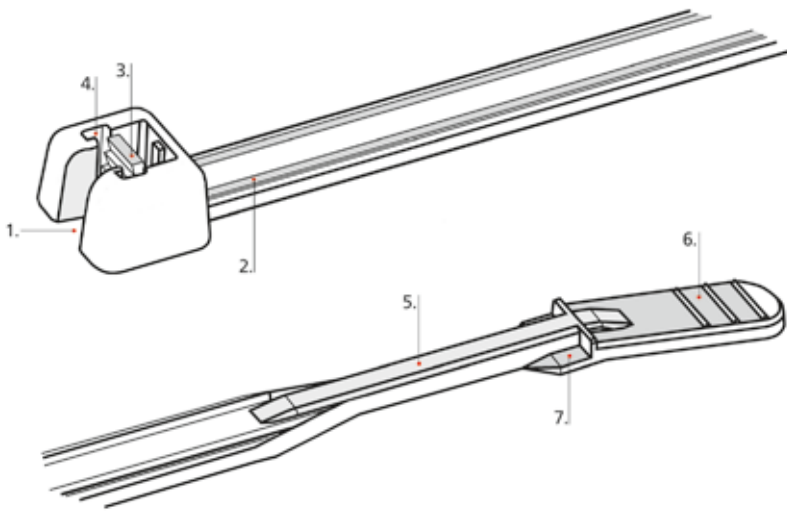
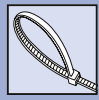
This saves material and time!



*Without additional effort only Q-ties can be used for temporary and final cable bundling.*



*Application video: Q-Series*



### Features of Q-ties:

1. Open lock head for quick and easy insertion.
2. Two rails on the strap ensure perfect guidance for the tracks in the head.
3. The locking device interacts safely with the serration of the cable tie.
4. The tracks prevent a deformation of the head under load.
5. The thin part of the cable tie can be simply placed into the open lock head.
6. The large ribbed tail allows a safe and ergonomic installation.
7. Integrated pre-locking feature (starts with type Q30).

### Application Method:



1. Insert the thin part of the cable tie into the open lock head.



2. Pull the tie through the head until the bundle is fixed.

3. Cut off the remaining part of the tie with an application tool.

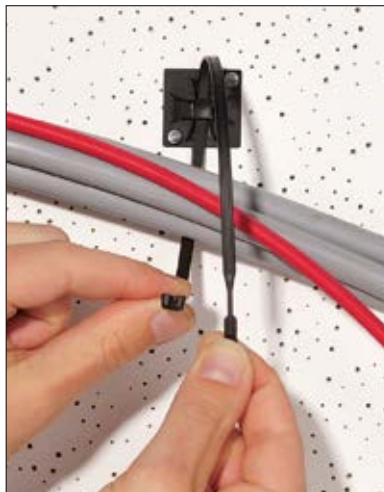


**Please find more Q-Series products for your system solution on page 134 and 459.**

### Pre-Locking Function of the Q-tie:



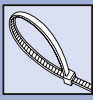
1. Insert tail into the open head and push the tail partly into the head.



2. To release the tie push the tail slightly out of the head.



3. When the installation is complete, the Q-tie can be tightened and cut off - either manually or with an application tool.



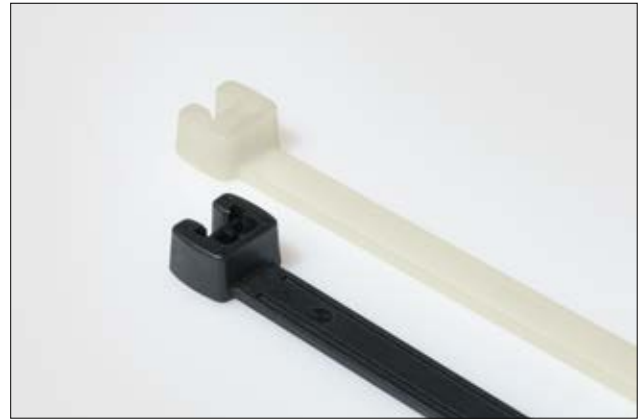
### Cable Ties with open head Polyamide 6.6 standard

#### Q-Series in PA66 natural and black

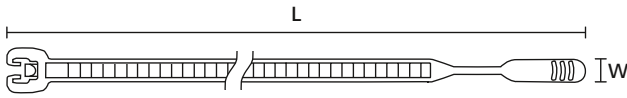
Q-Series cable ties for bundling and securing cables, pipes and hoses. These innovative and effective cable ties enable a simple and quick installation, even in difficult applications.

#### Features and Benefits

- Open lock head for quick and easy insertion
- Integrated pre-locking function
- More than 25 % faster to apply than a standard cable tie
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool



Q-tie cable ties: choose from a wide product range in different sizes.



Q-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
Q18R	2.6	105.0	24.0	80	PA66	Black (BK)	100 pcs.	2;4-6	109-00030
	2.6	105.0	24.0	80	PA66	Natural (NA)	100 pcs.	2;4-6	109-00001
Q18I	2.6	155.0	40.0	80	PA66	Black (BK)	100 pcs.	2;4-6	109-00033
	2.6	155.0	40.0	80	PA66	Natural (NA)	100 pcs.	2;4-6	109-00004
Q18L	2.6	195.0	50.0	80	PA66	Black (BK)	100 pcs.	2;4-6	109-00036
	2.6	195.0	50.0	80	PA66	Natural (NA)	100 pcs.	2;4-6	109-00007
Q30R	3.6	160.0	38.0	130	PA66	Black (BK)	100 pcs.	2;4-6	109-00039
	3.6	160.0	38.0	130	PA66	Natural (NA)	100 pcs.	2;4-6	109-00010
Q30L	3.6	200.0	50.0	130	PA66	Black (BK)	100 pcs.	2;4-6	109-00041
	3.6	200.0	50.0	130	PA66	Natural (NA)	100 pcs.	2;4-6	109-00012
Q30LR	3.6	250.0	65.0	130	PA66	Black (BK)	100 pcs.	2;4-6	109-00043
	3.6	250.0	65.0	130	PA66	Natural (NA)	100 pcs.	2;4-6	109-00014
Q50R	4.7	210.0	50.0	220	PA66	Black (BK)	100 pcs.	2-10	109-00047
	4.7	210.0	50.0	220	PA66	Natural (NA)	100 pcs.	2-10	109-00018
Q50I	4.7	290.0	75.0	220	PA66	Black (BK)	100 pcs.	2-10	109-00049
	4.7	290.0	75.0	220	PA66	Natural (NA)	100 pcs.	2-10	109-00020
Q50L	4.7	410.0	110.0	220	PA66	Black (BK)	100 pcs.	2-10	109-00051
	4.7	410.0	110.0	220	PA66	Natural (NA)	100 pcs.	2-10	109-00022
Q120I	7.7	300.0	70.0	530	PA66	Black (BK)	100 pcs.	3;9-12	109-00053
	7.7	300.0	70.0	530	PA66	Natural (NA)	100 pcs.	3;9-12	109-00024
Q120R	7.7	420.0	110.0	530	PA66	Black (BK)	100 pcs.	3;9-12	109-00055
	7.7	420.0	110.0	530	PA66	Natural (NA)	100 pcs.	3;9-12	109-00026
Q120M	7.7	520.0	130.0	530	PA66	Black (BK)	100 pcs.	3;9-12	109-00057
	7.7	520.0	130.0	530	PA66	Natural (NA)	100 pcs.	3;9-12	109-00028
	7.7	520.0	130.0	530	PA66HS	Black (BK)	100 pcs.	3;9-12	109-00115
	7.7	520.0	130.0	530	PA66HS	Natural (NA)	100 pcs.	3;9-12	109-00144

All dimensions in mm. Subject to technical changes.

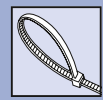
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools										
2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.



### Cable Ties with open head Polyamide 6.6 standard

#### Q-Series in PA66 coloured

Q-Series cable ties for bundling and securing cables, pipes and hoses. These innovative and effective cable ties enable a simple and quick installation, even in difficult applications.

#### Features and Benefits

- Coloured cable ties available in a wide range of sizes
- Open lock head for quick and easy insertion
- Integrated pre-locking function
- More than 25 % faster to apply than a standard cable tie
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool



Q-ties in different colours are ideal for marking and bundling in one step.



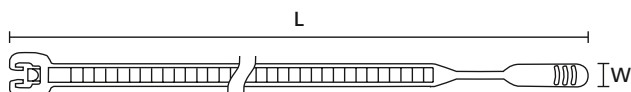
Application video: Q-Series



**Material specification please see page 24.**



**Please find more Q-Series products for your system solution on page 134 and 459.**



Q-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
Q18R	2.6	105.0	24.0	80	PA66	Blue (BU)	100 pcs.	2;4-6	109-00147
	2.6	105.0	24.0	80	PA66	Green (GN)	100 pcs.	2;4-6	109-00148
	2.6	105.0	24.0	80	PA66	Red (RD)	100 pcs.	2;4-6	109-00149
	2.6	105.0	24.0	80	PA66	Yellow (YE)	100 pcs.	2;4-6	109-00150
Q18I	2.6	155.0	40.0	80	PA66	Blue (BU)	100 pcs.	2;4-6	109-00152
	2.6	155.0	40.0	80	PA66	Green (GN)	100 pcs.	2;4-6	109-00153
	2.6	155.0	40.0	80	PA66	Red (RD)	100 pcs.	2;4-6	109-00154
	2.6	155.0	40.0	80	PA66	Yellow (YE)	100 pcs.	2;4-6	109-00155
Q18L	2.6	195.0	50.0	80	PA66	Blue (BU)	100 pcs.	2;4-6	109-00157
	2.6	195.0	50.0	80	PA66	Green (GN)	100 pcs.	2;4-6	109-00158
	2.6	195.0	50.0	80	PA66	Red (RD)	100 pcs.	2;4-6	109-00159
	2.6	195.0	50.0	80	PA66	Yellow (YE)	100 pcs.	2;4-6	109-00160

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### Recommended Tools

2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.

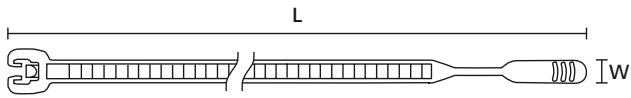


For product specific approvals and specifications please refer to the Appendix.



## Cable Ties with open head Polyamide 6.6 standard

## Q-Series in PA66 coloured



Q-Series

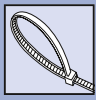
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
Q30R	3.6	160.0	38.0	130	PA66	Blue (BU)	100 pcs.	2;4-6	109-00162
	3.6	160.0	38.0	130	PA66	Green (GN)	100 pcs.	2;4-6	109-00163
	3.6	160.0	38.0	130	PA66	Red (RD)	100 pcs.	2;4-6	109-00164
	3.6	160.0	38.0	130	PA66	Yellow (YE)	100 pcs.	2;4-6	109-00165
Q30L	3.6	200.0	50.0	130	PA66	Blue (BU)	100 pcs.	2;4-6	109-00167
	3.6	200.0	50.0	130	PA66	Green (GN)	100 pcs.	2;4-6	109-00168
	3.6	200.0	50.0	130	PA66	Red (RD)	100 pcs.	2;4-6	109-00169
	3.6	200.0	50.0	130	PA66	Yellow (YE)	100 pcs.	2;4-6	109-00170
Q30LR	3.6	250.0	65.0	130	PA66	Blue (BU)	100 pcs.	2;4-6	109-00172
	3.6	250.0	65.0	130	PA66	Green (GN)	100 pcs.	2;4-6	109-00173
	3.6	250.0	65.0	130	PA66	Red (RD)	100 pcs.	2;4-6	109-00174
	3.6	250.0	65.0	130	PA66	Yellow (YE)	100 pcs.	2;4-6	109-00175
Q50R	4.7	210.0	50.0	220	PA66	Blue (BU)	100 pcs.	2-10	109-00182
	4.7	210.0	50.0	220	PA66	Green (GN)	100 pcs.	2-10	109-00183
	4.7	210.0	50.0	220	PA66	Red (RD)	100 pcs.	2-10	109-00184
	4.7	210.0	50.0	220	PA66	Yellow (YE)	100 pcs.	2-10	109-00185
Q50I	4.7	290.0	75.0	220	PA66	Blue (BU)	100 pcs.	2-10	109-00187
	4.7	290.0	75.0	220	PA66	Green (GN)	100 pcs.	2-10	109-00188
	4.7	290.0	75.0	220	PA66	Red (RD)	100 pcs.	2-10	109-00189
	4.7	290.0	75.0	220	PA66	Yellow (YE)	100 pcs.	2-10	109-00190
Q50L	4.7	410.0	110.0	220	PA66	Blue (BU)	100 pcs.	2-10	109-00192
	4.7	410.0	110.0	220	PA66	Green (GN)	100 pcs.	2-10	109-00193
	4.7	410.0	110.0	220	PA66	Red (RD)	100 pcs.	2-10	109-00194
	4.7	410.0	110.0	220	PA66	Yellow (YE)	100 pcs.	2-10	109-00195
Q120I	7.7	300.0	70.0	530	PA66	Blue (BU)	100 pcs.	3;9-12	109-00197
	7.7	300.0	70.0	530	PA66	Green (GN)	100 pcs.	3;9-12	109-00198
	7.7	300.0	70.0	530	PA66	Red (RD)	100 pcs.	3;9-12	109-00199
	7.7	300.0	70.0	530	PA66	Yellow (YE)	100 pcs.	3;9-12	109-00200
Q120R	7.7	420.0	110.0	530	PA66	Blue (BU)	100 pcs.	3;9-12	109-00202
	7.7	420.0	110.0	530	PA66	Green (GN)	100 pcs.	3;9-12	109-00203
	7.7	420.0	110.0	530	PA66	Red (RD)	100 pcs.	3;9-12	109-00204
	7.7	420.0	110.0	530	PA66	Yellow (YE)	100 pcs.	3;9-12	109-00205
Q120M	7.7	520.0	130.0	530	PA66	Blue (BU)	100 pcs.	3;9-12	109-00207
	7.7	520.0	130.0	530	PA66	Green (GN)	100 pcs.	3;9-12	109-00208
	7.7	520.0	130.0	530	PA66	Red (RD)	100 pcs.	3;9-12	109-00209
	7.7	520.0	130.0	530	PA66	Yellow (YE)	100 pcs.	3;9-12	109-00210

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



### Cable Ties with open head for outdoor use (UV-resistant)

#### Q-Series in PA66W black

Q-Series cable ties for bundling and securing cables, pipes and hoses. These innovative and effective cable ties enable a simple and quick installation, even in difficult applications.

#### Features and Benefits

- Weather-resistant black cable ties available in a wide range of sizes
- Open lock head for quick and easy insertion
- Integrated pre-locking function
- More than 25 % faster to apply than a standard cable tie
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- UV-resistant



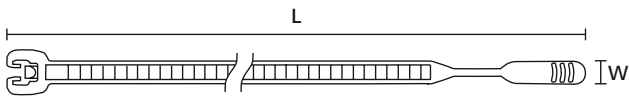
Q-tie cable ties: choose from a wide product range in different sizes.



**Material specification please see page 24.**



**Please find more Q-Series products for your system solution on page 134 and 459.**



Q-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
Q18R	2.6	105.0	24.0	80	PA66W	Black (BK)	100 pcs.	2;4-6	109-00059
Q18I	2.6	155.0	40.0	80	PA66W	Black (BK)	100 pcs.	2;4-6	109-00062
Q18L	2.6	195.0	50.0	80	PA66W	Black (BK)	100 pcs.	2;4-6	109-00065
Q30R	3.6	160.0	38.0	130	PA66W	Black (BK)	100 pcs.	2;4-6	109-00068
Q30L	3.6	200.0	50.0	130	PA66W	Black (BK)	100 pcs.	2;4-6	109-00070
Q30LR	3.6	250.0	65.0	130	PA66W	Black (BK)	100 pcs.	2;4-6	109-00072
Q50R	4.7	210.0	50.0	220	PA66W	Black (BK)	100 pcs.	2-10	109-00076
Q50I	4.7	290.0	75.0	220	PA66W	Black (BK)	100 pcs.	2-10	109-00078
Q50L	4.7	410.0	110.0	220	PA66W	Black (BK)	100 pcs.	2-10	109-00080
Q120I	7.7	300.0	70.0	530	PA66W	Black (BK)	100 pcs.	3;9-12	109-00082
Q120R	7.7	420.0	110.0	530	PA66W	Black (BK)	100 pcs.	3;9-12	109-00084
Q120M	7.7	520.0	130.0	530	PA66W	Black (BK)	100 pcs.	3;9-12	109-00086

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### Recommended Tools

2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PN5P2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.





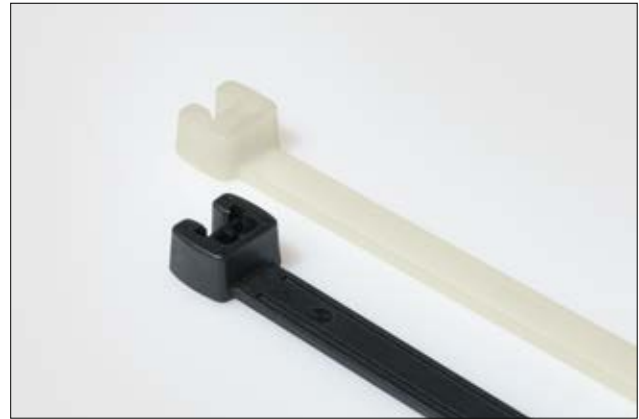
### Cable Ties with open head for temperatures up to +105 °C (heat stabilised)

#### Q-Series in PA66HS natural and black

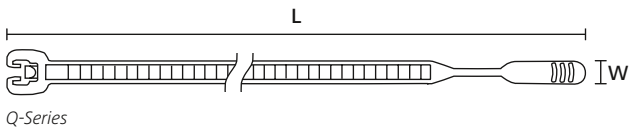
Q-Series cable ties for bundling and securing cables, pipes and hoses. These innovative and effective cable ties enable a simple and quick installation, even in difficult applications.

#### Features and Benefits

- Heat stabilised cable ties available in a wide range of sizes
- Open lock head for quick and easy insertion
- Integrated pre-locking function
- More than 25 % faster to apply than a standard cable tie
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Higher temperature resistance up to +105 °C



Q-tie cable ties: choose from a wide product range in different sizes.



**Material specification please see page 24.**

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Tools	Article-No.
Q18R	2.6	105.0	24.0	80	PA66HS	Black (BK)	100 pcs.	2;4-6	109-00088
	2.6	105.0	24.0	80	PA66HS	Natural (NA)	100 pcs.	2;4-6	109-00117
Q18I	2.6	155.0	40.0	80	PA66HS	Black (BK)	100 pcs.	2;4-6	109-00091
	2.6	155.0	40.0	80	PA66HS	Natural (NA)	100 pcs.	2;4-6	109-00120
Q18L	2.6	195.0	50.0	80	PA66HS	Black (BK)	100 pcs.	2;4-6	109-00094
	2.6	195.0	50.0	80	PA66HS	Natural (NA)	100 pcs.	2;4-6	109-00123
Q30R	3.6	160.0	38.0	130	PA66HS	Black (BK)	100 pcs.	2;4-6	109-00097
	3.6	160.0	38.0	130	PA66HS	Natural (NA)	100 pcs.	2;4-6	109-00126
Q30L	3.6	200.0	50.0	130	PA66HS	Black (BK)	100 pcs.	2;4-6	109-00099
	3.6	200.0	50.0	130	PA66HS	Natural (NA)	100 pcs.	2;4-6	109-00128
Q30LR	3.6	250.0	65.0	130	PA66HS	Black (BK)	100 pcs.	2;4-6	109-00101
	3.6	250.0	65.0	130	PA66HS	Natural (NA)	100 pcs.	2;4-6	109-00130
Q50R	4.7	210.0	50.0	220	PA66HS	Black (BK)	100 pcs.	2-10	109-00105
	4.7	210.0	50.0	220	PA66HS	Natural (NA)	100 pcs.	2-10	109-00134
Q50I	4.7	290.0	75.0	220	PA66HS	Black (BK)	100 pcs.	2-10	109-00107
	4.7	290.0	75.0	220	PA66HS	Natural (NA)	100 pcs.	2-10	109-00136
Q50L	4.7	410.0	110.0	220	PA66HS	Black (BK)	100 pcs.	2-10	109-00109
	4.7	410.0	110.0	220	PA66HS	Natural (NA)	100 pcs.	2-10	109-00138
Q120I	7.7	300.0	70.0	530	PA66HS	Black (BK)	100 pcs.	3;9-12	109-00111
	7.7	300.0	70.0	530	PA66HS	Natural (NA)	100 pcs.	3;9-12	109-00140
Q120R	7.7	420.0	110.0	530	PA66HS	Black (BK)	100 pcs.	3;9-12	109-00113
	7.7	420.0	110.0	530	PA66HS	Natural (NA)	100 pcs.	3;9-12	109-00142
Q120M	7.7	520.0	130.0	530	PA66HS	Black (BK)	100 pcs.	3;9-12	109-00115
	7.7	520.0	130.0	530	PA66HS	Natural (NA)	100 pcs.	3;9-12	109-00144

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools										
2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



### Cable Ties for hose and gaiter

#### CTT-Series natural and black

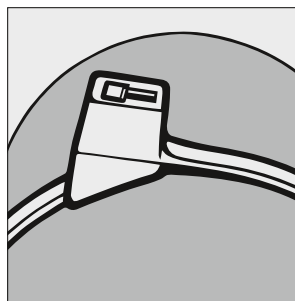
Designed to secure pipes, hoses and gaiters where low pressures are being secured. These ties can be used in many industries, including automotive, white goods manufacturing, medical and construction.

#### Features and Benefits

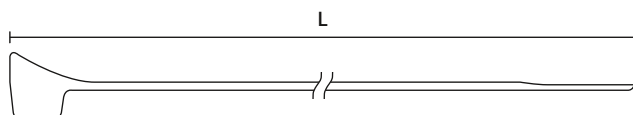
- Curved head design offers a good fit to the bundle
- Inside serration for a strong hold onto bundles
- Easy application either manually or with a processing tool



CTT ties installed on flexible gaiters.



For secure fixing of round and solid shapes.



CTT Hose Ties

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
CTT20R	2.5	101.6	13.0	90	PA66	Natural (NA)	100 pcs.	2;4-6	112-51919
	2.5	101.6	13.0	90	PA66HS	Black (BK)	1,000 pcs.	2;4-6	112-51960
CTT60R	4.7	205.0	45.0	265	PA66	Black (BK)	100 pcs.	2-12	112-56019
	4.7	205.0	45.0	265	PA66HS	Black (BK)	100 pcs.	2-12	112-52112

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools											
2	3	4	5	6	7	8	9	10	11	12	
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P	

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.



### Cable Ties for parallel routing

#### DH-Series

Ideal for running two cables in parallel that need to be separated. These ties allow for installation of a second cable run without the need for additional cable ties.

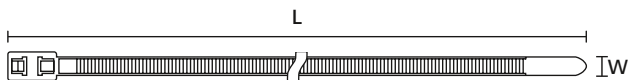
The DH ties are also widely used within the packaging industry - the first loop closes and secures the bag, whilst the second loop can be made into a carrying handle (subject to weight).

#### Features and Benefits

- Available in a wide range of materials
- Cable tie designed with two heads which creates an inside and outside serrated loop
- For parallel routing of two bundles with only one cable tie
- Bundles can be of different diameter
- Easy application either manually or with a processing tool



Parallel routing of two cable bundles using DH-Series. The double head creates an inside and an outside serrated loop.



DH-Series



Material specification please see page 24.

TYPE	Width (W)	Length (L)	Ø max. side loops	N	Min. Tensile Strength 2nd loop (N)	Material	Colour	Pack Cont.	Tools	Article-No.
T50RDH	4.7	210.0	19.0	225	180 N	PA46	Grey (GY)	100 pcs.	2;4-6;8	117-05168
	4.7	210.0	19.0	225	180 N	PA66	Black (BK)	100 pcs.	2;4-6;8	117-05000
	4.7	210.0	19.0	225	180 N	PA66	Natural (NA)	100 pcs.	2;4-6;8	117-05002
	4.7	210.0	19.0	225	180 N	PA66HS	Black (BK)	100 pcs.	2;4-6;8	117-05050
	4.7	210.0	19.0	225	180 N	PA66W	Black (BK)	500 pcs.	2;4-6;8	117-05060
T50IDH	4.7	305.0	38.1	225	180 N	PA66	Natural (NA)	1,000 pcs.	2;4-6;8	117-05303
	4.7	305.0	38.1	225	180 N	PA66HS	Black (BK)	1,000 pcs.	2;4-6;8	117-05350
	4.7	305.0	38.1	225	180 N	PA66W	Black (BK)	100 pcs.	2;4-6;8	117-05360
T50LDH	4.7	395.0	50.8	225	180 N	PA66	Natural (NA)	1,000 pcs.	2;4-6;8	117-05461
	4.7	395.0	50.8	225	180 N	PA66HS	Black (BK)	100 pcs.	2;4-6;8	117-00008

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools				
2	4	5	6	8
MK20	MK3SP	MK3PNSP2	EVO7	MK7P

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.

We brought the first detectable metal content tie onto the market



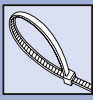
Today we are leading the next generation of solutions for a highly automated, highly competitive food and beverage industry.

Find out more about our detectable products for food processing in our brochure.



**Order now!**





### Cable Ties for food industry, detectable

The Metal Content Tie is a cable tie specifically designed for use in the food and pharmaceutical processing industries. A unique manufacturing process, involving the inclusion of a metallic pigment, enables even small 'cut-off' sections of the tie to be detected by standard metal-detecting equipment. Ideally suited for the installation of cabling in and around the manufacturing process.

#### Features and Benefits

- Total metal dispersion throughout the tie
- Available in a wide range of sizes
- Usable as part of HACCP process\*
- Blue colour for easy visual detection
- Greatly reduces risk of contamination
- Magnetic and X-Ray detectable  
(detection level depending on specific application)

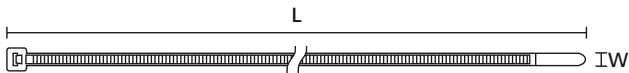


The MCT, metal content cable tie, T-series.



One Step to the Web!

#### MCT-Series



MCT-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
MCT18R	2.5	100.0	22.0	80	PA66MP	Blue (BU)	100 pcs.	2-11	111-01225
MCT30R	3.5	150.0	35.0	135	PA66MP	Blue (BU)	100 pcs.	2-11	111-00829
MCT50R	4.6	202.0	50.0	225	PA66MP	Blue (BU)	100 pcs.	2-11	111-00830
MCT50L	4.7	380.0	110.0	225	PA66MP	Blue (BU)	100 pcs.	2-11	111-00831
MCT120R	7.6	387.0	100.0	535	PA66MP	Blue (BU)	100 pcs.	3;9-12	111-01136

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### MCT-Series releasable

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
MCTRELK2M	4.6	250.0	65.0	225	PA66MP	Blue (BU)	100 pcs.	111-00937

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

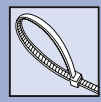
Recommended Tools										
2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.

\*HACCP stands for Hazard Analysis Critical Control Points. It is a method of identifying and eliminating potential hazards in food production. Those hazards that cannot be eliminated are controlled in such a way that the consumer is protected. These controls are known as Critical Control Points (CCPs). They are CRITICAL because if they fail or are not carried out, the risk of the product harming the customer increases.



For product specific approvals and specifications please refer to the Appendix.



### Cable Ties for food industry, detectable

#### MCTS-Series

The Metal Content Tie is a cable tie specifically designed for use in the food and pharmaceutical processing industries. A unique manufacturing process, involving the inclusion of a metallic pigment, enables even small 'cut-off' sections of the tie to be detected by standard metal-detecting equipment. Ideally suited for the installation of cabling in and around the manufacturing process.

#### Features and Benefits

- Total metal dispersion throughout the tie
- Available in a wide range of sizes
- Usable as part of HACCP process\*
- Blue colour for easy visual detection
- Greatly reduces risk of contamination
- Magnetic and X-Ray detectable (detection level depending on specific application)
- MCTS ties have very good corrosion resistance



MCTS ties are highly resistant to corrosion.



MCTS-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
MCTS100	2.5	100.0	22.0	60	PA66MP+	Blue (BU)	100 pcs.	2-11	111-01341
MCTS150	3.5	153.0	36.0	110	PA66MP+	Blue (BU)	100 pcs.	2-11	111-01342
MCTS200	4.7	203.0	50.0	150	PA66MP+	Blue (BU)	100 pcs.	2-11	111-01343
MCTS300	4.8	301.0	80.0	150	PA66MP+	Blue (BU)	100 pcs.	2-11	111-01399

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



**Material specification please see page 24.**



**More colours on request. Please contact us!**

#### Recommended Tools

2	3	4	5	6	7	8	9	10	11
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT

For more information on toolings please refer to the Application Tooling chapter.

\*HACCP stands for Hazard Analysis Critical Control Points. It is a method of identifying and eliminating potential hazards in food production. Those hazards that cannot be eliminated are controlled in such a way that the consumer is protected. These controls are known as Critical Control Points (CCPs). They are CRITICAL because if they fail or are not carried out, the risk of the product harming the customer increases.



For product specific approvals and specifications please refer to the Appendix.



### Cable Ties for food industry, detectable

#### MCT-Series / MCTS-Series PPMP

The Metal Content Tie is a cable tie specifically designed for use in the food and pharmaceutical processing industries. A unique manufacturing process, involving the inclusion of a metallic pigment, enables even small 'cut-off' sections of the tie to be detected by standard metal-detecting equipment. Ideally suited for the installation of cabling in and around the manufacturing process.

#### Features and Benefits

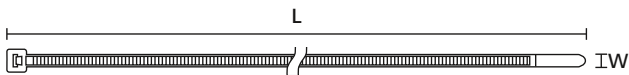
- High chemical resistance
- Floats in different liquids
- Unique blue color for easy visual detection
- Greatly reduces risk of contamination
- Magnetic and X-Ray detectable version available
- MCTS tie is highly resistant to corrosion
- Usable as part of HACCP process\*



MCTPP ties will float to the surface of liquids so they can easily be seen and removed.



The MCT ties made of PA66MP are the ideal complement for MCMB mounts on page 132.



MCT-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
MCTPP18R	2.5	100.0	22.0	85	PPMP	Blue (BU)	100 pcs.	2-11	111-01664
MCTPP30R	3.5	150.0	35.0	130	PPMP	Blue (BU)	100 pcs.	2-11	111-01665
MCTPP50R	4.6	200.0	50.0	150	PPMP	Blue (BU)	100 pcs.	2-11	111-01666
MCTPP50L	4.6	390.0	110.0	150	PPMP	Blue (BU)	100 pcs.	2-11	111-01667
MCTS200	4.7	202.0	50.0	140	PPMP+	Blue Grey (BUGY)	100 pcs.	2-11	111-01386
MCTPP120R	7.6	387.0	100.0	380	PPMP	Blue (BU)	100 pcs.	3;9-12	111-01668

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

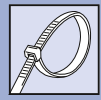
Recommended Tools										
2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.

\*HACCP stands for Hazard Analysis Critical Control Points. It is a method of identifying and eliminating potential hazards in food production. Those hazards that cannot be eliminated are controlled in such a way that the consumer is protected. These controls are known as Critical Control Points (CCPs). They are CRITICAL because if they fail or are not carried out, the risk of the product harming the customer increases.



For product specific approvals and specifications please refer to the Appendix.



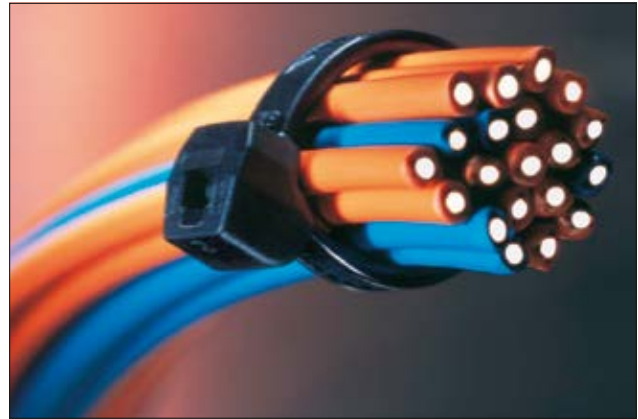
### Cable Ties for thin-walled bundles

#### OS-Series

OS-Series cable ties are used in many areas where thin-walled or soft insulation wires and cables are being installed, e. g. automotive and aircraft industry. OS ties made from PA66V0 material are suitable for applications where safety regulations are required, e.g. reduction of smoke and dangerous gases.

#### Features and Benefits

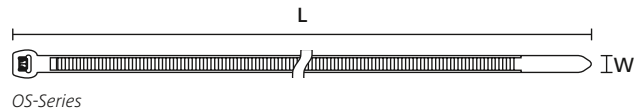
- Outside serrated cable tie with smooth surface to the bundle
- Tie follows the contours of the cable bundle perfectly
- Takes up less space due to curved head
- Easy insertion and high tensile strength
- For higher temperature or Limited Fire Hazard demand: Material PA46 or PA66V0
- Easy application either manually or with a processing tool



The contoured head needs less installation space, provides low insertion force and offers high strength.



The new head design of the OS-Series



TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Material	Colour	Pack Cont.	Tools	Article-No.
T18ROS	2.5	100.0	1.6	20.0	80	PA66HS	Black (BK)	500 pcs.	2;4-6	118-04701
	2.5	100.0	1.6	20.0	80	PA66HS	Natural (NA)	1,000 pcs.	2;4-6	118-00035
	2.5	100.0	1.6	20.0	80	PA66V0-HOI	White (WH)	100 pcs.	2;4-6	118-00079
T30ROS	3.4	145.0	1.6	35.0	135	PA66HS	Natural (NA)	100 pcs.	2;4-6	118-00064
	3.4	145.0	1.6	35.0	135	PA66HS	Black (BK)	100 pcs.	2;4-6	118-04800
T30LOS	3.4	200.0	1.6	50.0	135	PA66HS	Natural (NA)	100 pcs.	2;4-6	118-00044
	3.4	200.0	1.6	50.0	135	PA66V0-HOI	White (WH)	100 pcs.	2;4-6	118-00080
	3.4	200.0	1.6	50.0	135	PA66HS	Black (BK)	100 pcs.	2;4-6	118-04900
T50SOS	4.6	150.0	1.6	35.0	225	PA66HS	Black (BK)	100 pcs.	2;4-8	118-05850
T50ROS	4.6	200.0	1.6	50.0	225	PA46	Grey (GY)	500 pcs.	2;4-8	118-05078
	4.6	200.0	1.6	50.0	225	PA66HS	Black (BK)	500 pcs.	2;4-8	118-05040
	4.6	200.0	1.6	50.0	225	PA66HS	Natural (NA)	100 pcs.	2;4-8	118-05059
T50MOS	4.6	245.0	1.6	66.0	225	PA66HS	Black (BK)	100 pcs.	2;4-8	118-00018
	4.6	245.0	1.6	66.0	225	PA66HS	Natural (NA)	100 pcs.	2;4-8	118-00055
	4.6	245.0	1.6	66.0	225	PA66V0-HOI	White (WH)	100 pcs.	2;4-8	118-00081
T50LOS	4.6	384.0	1.6	110.0	225	PA66HS	Black (BK)	100 pcs.	2;4-8	118-05900
T120ROS	7.6	385.0	5.0	105.0	535	PA66HS	Black (BK)	100 pcs.	3;9-12	118-00066
	7.6	385.0	5.0	105.0	535	PA66HS	Natural (NA)	100 pcs.	3;9-12	118-00067
	7.6	385.0	5.0	105.0	535	PA66V0-HOI	White (WH)	100 pcs.	3;9-12	118-00082

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools										
2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.





### Cable Ties for high temperature application up to +240 °C


PEEK Ties have been designed for the use in hazardous environment. Their suitability for high temperature applications makes them ideal for use in the drilling industry, railway, offshore or automotive industry. The excellent chemical and radium ray resistance is predestined for applications in medical engineering, chemical industry and power stations. Within the aerospace industry, PEEK ties are suitable due to their good ratio weight to tensile strength. Because of this combination of different properties, PEEK ties can replace metal solutions.

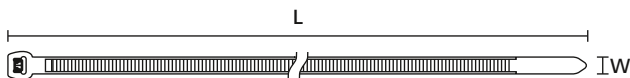
#### Features and Benefits

- For high temperature applications from -55 °C up to +240 °C
- Outside serrated cable tie with smooth surface to the bundle
- Close fit to the cable bundle due to the deepening head shape
- Easy insertion combined with high tensile strength
- Takes up less space due to the curved head
- Combines the performance of a metal tie with the ease of use of a polyamide cable tie
- Easy application either manually or with a processing tool



The contoured head takes up less space, gives a low insertion force and offers high strength.


 **Material specification please see page 24.**



PEEK-Series




#### PEEK Ties, outside serrated

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Colour	Material	Pack Cont.	Tools	Article-No.
PT2A	3.4	145.0	4.0	35.0	230	Beige (BGE)	PEEK	100 pcs.	6-8	118-00032
PT3B	4.7	250.0	4.0	65.0	300	Beige (BGE)	PEEK	100 pcs.	6-8	118-00116

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### PEEK Ties, inside serrated

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Material	Colour	Pack Cont.	Tools	Article-No.
PT220	4.7	220.0	8.0	56.0	380	PEEK	Beige (BGE)	100 pcs.	6-8	111-01235

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools		
6	7	8
EVO7	MK7HT	MK7P

For more information on toolings please refer to the Application Tooling chapter.



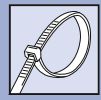
One Step to the Web!



**Please find more PEEK products for your system solutions:**  
**Foot Part P1SFT65, see page 105.**  
**Screw Mount CTAM, see page 139.**



For product specific approvals and specifications please refer to the Appendix.



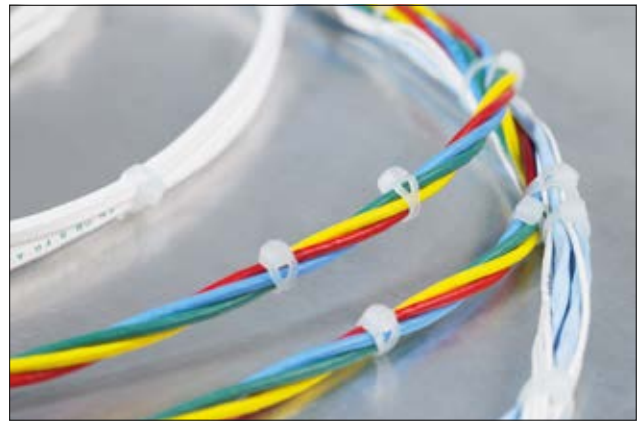
### Cable Ties with 90° angled head

#### V-Series

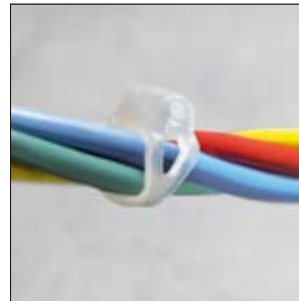
Due to its low profile head, V-Series outside serrated cable ties are perfectly suited for applications with restricted space, such as camera and alarm systems and automation systems (Remote I/O Systems). Where bundles are fed through a grommet or ductwork, V-Series provides a practical solution due to its unique rounded design.

#### Features and Benefits

- Outside serrated cable tie with smooth surface to the bundle
- Lentiform, 90° angled head
- Rounded head design minimises the risk of damage to insulation, especially for parallel routed bundles
- Low profile head takes up less space above the bundle
- Close fit to the cable bundle
- Easy insertion and high tensile strength
- Easy application either manually or with a processing tool



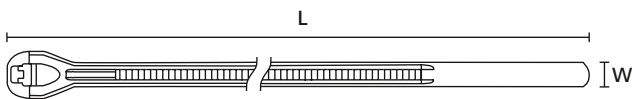
V-Series is perfect for parallel bundles.



V-Series - less height above the bundle.



Outside serration means no damage of insulation.



V-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
V100R	2.5	102.5	20.0	100	PA46	Grey (GY)	100 pcs.	2;4-6	118-00109
	2.5	102.5	20.0	100	PA66HS	Natural (NA)	1,000 pcs.	2;4-6	118-00074
V150R	3.3	150.0	35.0	150	PA46	Grey (GY)	100 pcs.	2;4-6;8	118-00107
	3.3	150.0	35.0	150	PA66HS	Natural (NA)	100 pcs.	2;4-6;8	118-00089

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools				
2	4	5	6	8
MK20	MK3SP	MK3PNSP2	EVO7	MK7P

For more information on toolings please refer to the Application Tooling chapter.



### Cable ties with low profile head

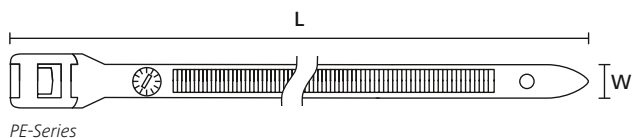
Designed primarily for use within the electrical supply industry these ties are particularly useful in areas with limited space. Due to their low profile head, the coloured cable ties are ideal for securing foam padding to playground equipment. This ensures that there are no sharp edges and ultimate safety.

#### Features and Benefits

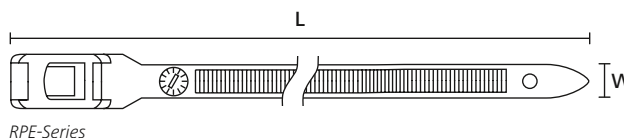
- Outside serrated cable tie with a smooth surface to the bundle
- Protects against damage to insulation
- Broad contact area with cable, minimising risk of damage
- PE/RPE-range partly approved by E.R.D.F. (French Electricity Board)
- Low profile head for use in restricted areas
- Parallel bundling for secure applications



Low profile cable tie, RPE / PE-Series.



PE-Series



RPE-Series

#### PE-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
PE400	9.0	400.0	116.0	445	PA66	Blue (BU)	100 pcs.	1;3;9-12	112-18101
	9.0	400.0	116.0	445	PA66	Green (GN)	100 pcs.	1;3;9-12	112-18100
	9.0	400.0	116.0	445	PA66	Red (RD)	100 pcs.	1;3;9-12	112-18102
	9.0	400.0	116.0	445	PA66	Yellow (YE)	100 pcs.	1;3;9-12	112-18103

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### PE-Series E.R.D.F. approved

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
PE180	9.0	180.0	42.0	445	PA66HSW	Black (BK)	100 pcs.	1;3;9-12	112-18060
PE530	9.0	535.0	146.0	445	PA66HSW	Black (BK)	100 pcs.	1;3;9-12	112-53060

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### RPE-Series releasable E.R.D.F. approved

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
RPE275	9.0	275.0	69.0	445	PA66HSW	Black (BK)	100 pcs.	112-27560
RPE350	9.0	350.0	92.0	445	PA66HSW	Black (BK)	100 pcs.	112-35060

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools					
1	3	9	10	11	12
MK10-SB	MK21	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



Material specification please see page 24.



**E.R.D.F.**

For product specific approvals and specifications please refer to the Appendix.



### Cable ties with low profile head

#### LPH-Series

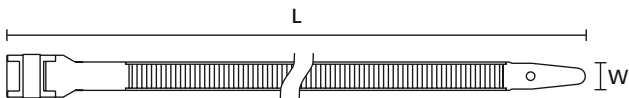
Designed primarily for use within the electrical supply industry, these ties are particularly useful in areas with limited space due to their low profile head.

#### Features and Benefits

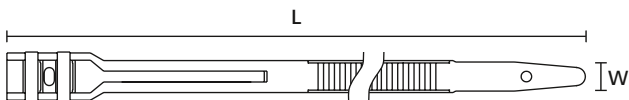
- Outside serrated cable tie with a smooth surface to the bundle
- Protects against damage to insulation
- Broad contact area with cable, minimising risk of damage
- Low profile head for use in restricted areas
- Parallel bundling for secure applications



Low profile cable tie, LPH-Series.



LPH175



LPH275, LPH350

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
LPH175	9.0	175.0	40.0	310	PA66	Black (BK)	100 pcs.	1;3;9-12	112-00203
LPH275	9.0	265.0	62.0	480	PA66HIR(S)	Black (BK)	100 pcs.	1;3;9-12	112-00301
LPH350	9.0	355.0	92.0	480	PA66HIR(S)	Black (BK)	100 pcs.	1;3;9-12	112-00401

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools					
1	3	9	10	11	12
MK10-SB	MK21	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.



### Cable ties with low profile head

#### Robusto-Series

Robusto cable ties have many technical features which make them suitable for use in many applications for fixing and supporting cables, pipes and other elements. The polyamide 11 used to manufacture these ties offers excellent resistance to chemicals in even the most challenging environments such as offshore, oil rigs, construction vehicles, trucks and trailers.

These cable ties have excellent UV resistance as well as being highly resistant to chemicals like chlorides: recommended for use on galvanised steel, especially on solar panel installations.

In addition, the material has a high impact resistance to low temperatures which enables Robusto ties to be used in areas where it is cold, for example at high altitudes or Nordic countries.



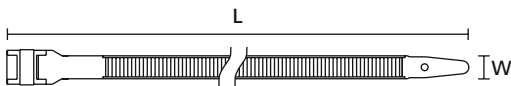
Low profile head cable tie, Robusto-Series.

#### Features and Benefits

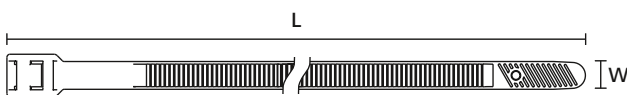
- Made of polyamide 11, a completely sustainable bioplastic derived from vegetable oil
- Outside serrated with a round, innovative head and one or two flexible stop pawls
- Low insertion force for manual, tool-free application
- High tensile strength
- Soft material for easy handling without damaging cables
- High UV resistance for long-term outdoor application
- Stable technical performance even at very low temperatures
- High resistance to chemicals, including chlorides
- Low water absorption rate for consistent technical performance and high durability
- Pre-locking feature



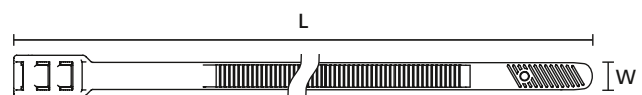
Application video: Robusto



Robusto (LPH922)



Robusto (LPH942)



Robusto (LPH962, LPH992)


TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
Robusto (LPH922)	9.0	123.0	22.0	310	PA11	Black (BK)	100 pcs.	1;3;9-12	112-00025
Robusto (LPH942)	9.0	180.0	42.0	360	PA11	Black (BK)	100 pcs.	1;3;9-12	112-00011
Robusto (LPH962)	9.0	260.0	62.0	530	PA11	Black (BK)	100 pcs.	1;3;9-12	112-00012
Robusto (LPH992)	9.0	355.0	92.0	530	PA11	Black (BK)	100 pcs.	1;3;9-12	112-00013

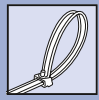
All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools					
1	3	9	10	11	12
MK10-SB	MK21	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.

 **Material specification please see page 24.**



### Cable Tie locked by glass fibre pin

In addition to offering a secure method of bundling cables, the design of the KR-ties makes them ideal for use as a method of securing bellows on steering racks, water hoses and vacuum lines.

#### Features and Benefits

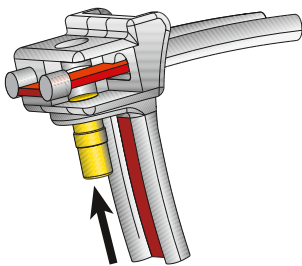
- Patented cable tie system
- Smooth strap which is locked into place with a glass-fibre reinforced pin
- For assembly a special KR-tool is needed
- Very secure and vibration resistant fixing
- KR-ties up to 426 mm are made as one piece fastening
- Available in various materials, including PA12 which is less hygroscopic



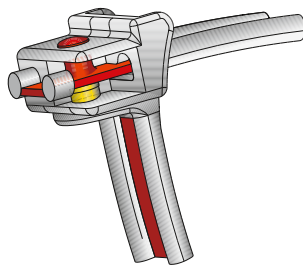
The KR-Series has been repeatedly proven in high vibration applications.



Patented



The unlocked head of a KR-tie.

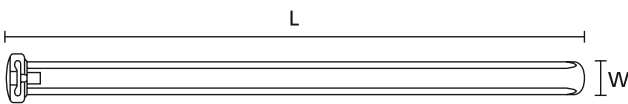


The cable tie (red) is locked into place with the pin.



KR-Series is available in different sizes.

#### KR-Series, 1-Piece



Cable ties KR-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
KR6/35	6.1	360.0	93.0	490	PA66	Natural (NA)	50 pcs.	13	121-63519
	6.1	360.0	93.0	490	PA66HS	Natural (NA)	50 pcs.	13	121-63555
	6.1	360.0	93.0	490	PA66W	Black (BK)	50 pcs.	13	121-63560
KR8/21	8.0	210.0	47.0	785	PA66HS	Natural (NA)	50 pcs.	13-14	121-82155
	8.0	210.0	47.0	785	PA66	Natural (NA)	50 pcs.	13-14	121-82119
	8.0	210.0	47.0	785	PA66W	Black (BK)	50 pcs.	13-14	121-82160

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

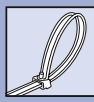
#### Recommended Tools

13	14
KR6/8	KR8PNSE

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.

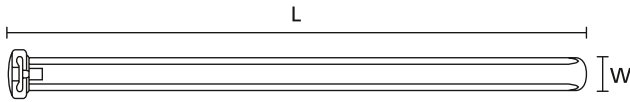


## Cable Ties and Fixings

### Cable Ties Without Serration

#### Cable Tie locked by glass fibre pin

##### KR-Series, 1-Piece



Cable ties KR-Series



Material specification please see page 24.

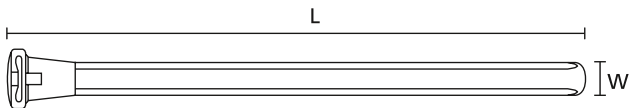
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
KR8/33	8.0	337.0	86.0	390	PA12	Black (BK)	50 pcs.	13-14	121-83380
	8.0	337.0	86.0	785	PA66	Natural (NA)	50 pcs.	13-14	121-83319
	8.0	337.0	86.0	785	PA46	Grey (GY)	50 pcs.	13-14	121-83378
	8.0	337.0	86.0	785	PA66HS	Natural (NA)	50 pcs.	13-14	121-83355
	8.0	337.0	86.0	785	PA66W	Black (BK)	50 pcs.	13-14	121-83360
KR8/43	8.0	426.0	105.0	785	PA66HS	Black (BK)	50 pcs.	13-14	121-74360
	8.0	426.0	105.0	785	PA66HS	Natural (NA)	50 pcs.	13-14	121-74359

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.

##### KR-Series, ultrasonic welded



The unlocked head of a KR-tie.

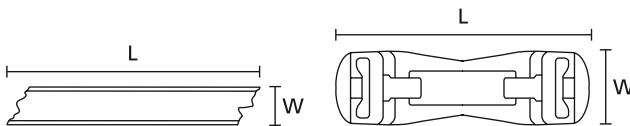


Other dimensions are available on request.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
KR8/50	8.0	500.0	152.0	785	PA66	Natural (NA)	50 pcs.	13-14	121-05019
KR8/60	8.0	600.0	184.0	785	PA66W	Black (BK)	50 pcs.	13-14	121-06060

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

##### KR-Series, endless

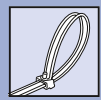


Cable ties KR8S1

Double-head KR8C5

TYPE	Width (W)	Length (L)	N	Material	Colour	Pack Cont.	Tools	Article-No.
KR8/S1	8.0	50.0 m	785	PA66HS	Natural (NA)	50.0 m	13	121-98151
	8.0	50.0 m	785	PA66W	Black (BK)	50.0 m	13	121-98160
KR8/C5	11.7	38.0	-	PA66HS	Natural (NA)	200 pcs.	13	121-58551
	11.7	38.0	-	PA66W	Black (BK)	200 pcs.	13	121-58560

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



### Endless cable ties with separate head and spacer

#### EL-TY-Series

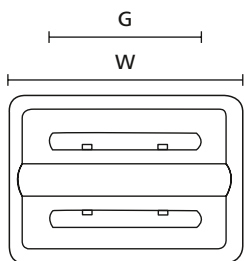
These robust cable ties are particularly suitable for use with larger diameter cables, pipes and hoses. Designed originally for securing overhead catenary cables (when used with the spacers) they are now used in many industries from the building sector, through to the chemical industry, to the installation of signs for traffic management.

#### Features and Benefits

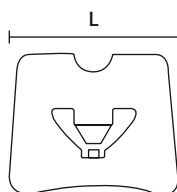
- Made of very strong Acetal (POM)
- Continuous strap, spacers and heads (with stainless steel pawls)
- Very secure fixing and good resistance to ageing and sunlight
- Suits any bundle diameter and reduces inventory



The EL-Ty can be cut to suit any bundle.



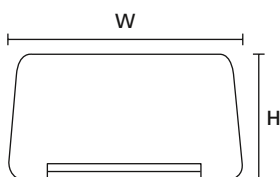
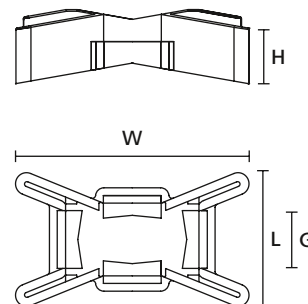
Head (Plain View)



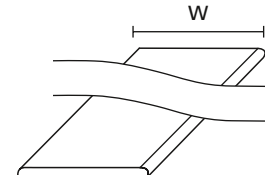
Head (Side View)



Spacer.



Head (Front View)



Strap

TYPE	Width (W)	Length (L)	Height (H)		Strap Width max. (G)	Material	Colour	Content	Tools	Article-No.
EL-TY (TELS1)	12.7	15,200.0	-	1,112	-	POM	Black (BK)	15m Strap, 30 Heads	11	111-30000
EL-TY (TELSH)	20.3	15.8	12.4	-	12.7	POM	Black (BK)	25 Heads	-	111-31000
EL-TY (TELS-SPK2)	30.5	53.3	17.0	-	12.7	PP	Black (BK)	50 Spacer	-	111-32000

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### Recommended Tools

11	13	14
MK9HT	KR6/8	KR8PNSE

For more information on toolings please refer to the Application Tooling chapter.





### Cable Ties inside serrated

Used in a wide range of industries, these releasable and reusable ties are ideal where temporary installation or the addition or removal of cables is required, e. g. theatres, outdoor events or prototype harness work.

#### Features and Benefits

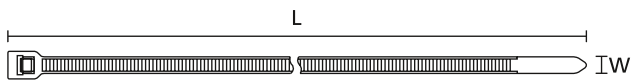
- Releasable and reusable cable tie available in black and natural colours
- Extended trigger for simple and quick release of ties
- Inside serration for a strong hold around the bundle
- Available in various lengths



Application video: RELK



RELK releasable cable ties for temporary bundling.



RELK-, RLT-Series



**Material specification please see page 24.**

#### RELK-Series up to 200 N loop tensile strength

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
RELK2R	4.6	200.0	50.0	200	PA66	Natural (NA)	100 pcs.	115-02202
RELK2M	4.6	250.0	65.0	200	PA66	Black (BK)	100 pcs.	115-02000
	4.6	250.0	65.0	200	PA66	Natural (NA)	100 pcs.	115-06729
RELK2I	4.6	300.0	81.0	200	PA66	Black (BK)	100 pcs.	115-06760
	4.6	300.0	81.0	200	PA66	Natural (NA)	100 pcs.	115-02101
RELK2L	4.6	350.0	95.0	200	PA66	Black (BK)	100 pcs.	115-02300
	4.6	350.0	95.0	200	PA66	Natural (NA)	100 pcs.	115-06919

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### RLT-Series up to 670 N loop tensile strength

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
RLT120	7.6	340.0	90.0	535	PA66	Black (BK)	100 pcs.	111-70361
	7.6	340.0	90.0	535	PA66	Natural (NA)	100 pcs.	111-70319
RLT150	8.9	770.0	225.0	670	PA66	Black (BK)	50 pcs.	111-70110
	8.9	770.0	225.0	670	PA66	Natural (NA)	50 pcs.	111-70119
	8.9	770.0	225.0	670	PA66HS	Natural (NA)	50 pcs.	111-70159
	8.9	770.0	225.0	670	PA66W	Black (BK)	50 pcs.	111-70160

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



### Cable Ties inside serrated with tuckaway

#### RT250-Series

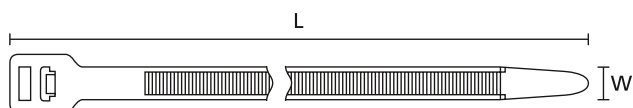
Used in a wide range of industries, these releasable and reusable ties are ideal where temporary installation or the addition or removal of cables is required, e.g. theatres, outdoor events or harness work.

#### Features and Benefits

- Extended trigger for simple and quick release of ties
- Eyelet allows excess tail to be tucked neatly away
- Trigger protected from accidental release



*Ideal for larger or heavier bundles these ties can be opened and reused.*



RT250-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
RT250M	12.5	565.3	150.0	1,115	PA66	Black (BK)	25 pcs.	131-75610
	12.5	565.3	150.0	1,115	PA66	Natural (NA)	25 pcs.	131-75619
	12.5	565.3	150.0	1,115	PA66UV	Black (BK)	25 pcs.	131-75620
RT250XL	12.5	1,030.0	305.0	1,115	PA66	Black (BK)	25 pcs.	131-75510
	12.5	1,030.0	305.0	1,115	PA66	Natural (NA)	25 pcs.	131-75519

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



### Cable Ties inside serrated with kickdown lever

#### REL-Series

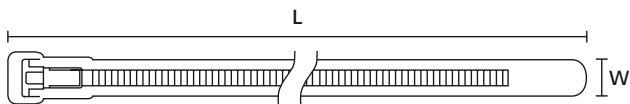
Ideal for use in applications where there is the need to repeatedly open and close the tie.

#### Features and Benefits

- Releasable and reusable cable tie available in black and natural colours (including UV-resistant)
- Simple and effective release mechanism
- Can be opened quickly and easily with one hand
- Inside serrated cable tie



Releasable and reusable cable tie, REL-Series.

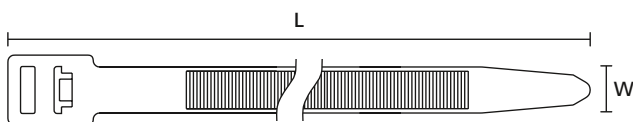


REL-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
REL180	6.5	180.0	46.0	150	PA66	Black (BK)	100 pcs.	115-00027
REL100	6.7	100.0	21.0	180	PA66	Black (BK)	100 pcs.	131-21010
	6.7	100.0	21.0	180	PA66	Natural (NA)	100 pcs.	131-21019
REL140	7.6	150.0	35.0	200	PA66	Black (BK)	100 pcs.	131-21410
	7.6	150.0	35.0	200	PA66	Natural (NA)	100 pcs.	131-21419
REL250	7.6	250.0	68.0	200	PA66	Black (BK)	100 pcs.	131-22510
	7.6	250.0	68.0	200	PA66	Natural (NA)	100 pcs.	131-22519
	7.6	250.0	68.0	200	PA66W	Black (BK)	100 pcs.	131-22560

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Releasable cable tie REL250-Series



Releasable cable tie REL250-Series.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
REL250S	12.2	230.0	50.0	1,115	PA66HIR(S)	Black (BK)	50 pcs.	111-00074
REL250X	12.2	385.0	100.0	1,115	PA66HIR(S)	Black (BK)	50 pcs.	111-00075

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



### Cable Ties outside serrated for marking

#### LR55-Series

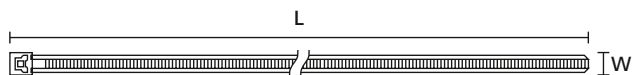
These releasable and reusable ties are ideal where temporary installation or the addition or removal of cables is required, e.g. logistic identification (colour coding), packaging industries or cable harness manufacturing.

#### Features and Benefits


- Releasable and reusable cable tie available in various colours
- Extended trigger for quick and easy release of ties
- Various colours ideal for applications that require colour coding
- Outside serration, minimising the risk of cable insulation damage




The LR55 cable ties are reusable and ideal for colour coding.



LR55 Series

 **Material specification please see page 24.**

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
LR55R	4.7	195.0	50.0	245	PA66	Blue (BU)	25 pcs.	115-00006
	4.7	195.0	50.0	245	PA66	Green (GN)	25 pcs.	115-00005
	4.7	195.0	50.0	245	PA66	Natural (NA)	25 pcs.	115-00008
	4.7	195.0	50.0	245	PA66	Red (RD)	25 pcs.	115-00003
	4.7	195.0	50.0	245	PA66	Yellow (YE)	25 pcs.	115-00004
	4.7	195.0	50.0	245	PA66HS	Black (BK)	25 pcs.	115-00002

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Application video: LR55



### Cable Ties without serration in flexible TPU

The soft, flexible material makes these ties particularly suitable for use on sensitive wires, e.g. fibre-optic cables.

#### Features and Benefits

- Elastic and flexible cable ties with rounded and smooth edges
- Releasable and reusable
- Double slotted head with fixing pawl
- Flexibility ensures steady and evenly distributed pressure
- Tight fixation even in a vertical position: prevents sliding or loose bundles
- Suitable for moving elements and vibrating applications such as windmills, machines, robotics, pulsating tubing and conduits
- Ideal for temporarily fixings suitable for presentations, concerts, theatres and exhibitions
- Long lifetime when used indoors
- Remains flexible even at cold temperatures (-20 °C)

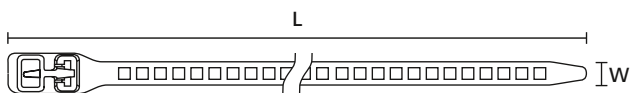


The elasticity of the SOFTFIX ties makes them suitable for use in many applications.

**i** With 2nd loop to run bundles in parallel!



Application video: SOFTFIX



SRT- and SOFTFIX-Series



SOFTFIX ties available in small packaging units.

#### SRT-Series for industry quantities

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
SRT1807	7.0	180.0	45.0	57	TPU	Black (BK)	50 pcs.	115-07189
SRT2607	7.0	260.0	79.0	57	TPU	Black (BK)	50 pcs.	115-07269
SRT26011	11.0	260.0	55.0	123	TPU	Black (BK)	50 pcs.	115-11269
SRT34011	11.0	340.0	90.0	123	TPU	Black (BK)	50 pcs.	115-11349
SRT58028	28.0	580.0	150.0	360	TPU	Black (BK)	10 pcs.	115-28589
SRT88028	28.0	880.0	240.0	360	TPU	Black (BK)	180 pcs.	115-28889

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### SOFTFIX-Family

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
SOFTFIX XS	7.0	180.0	45.0	57	TPU	Black (BK)	16 pcs.	115-07190
SOFTFIX S	7.0	260.0	79.0	57	TPU	Black (BK)	12 pcs.	115-07270
SOFTFIX M	11.0	260.0	55.0	123	TPU	Black (BK)	8 pcs.	115-11270
SOFTFIX L	11.0	340.0	90.0	123	TPU	Black (BK)	6 pcs.	115-11350
SOFTFIX XL	28.0	580.0	150.0	360	TPU	Black (BK)	3 pcs.	115-28590

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



### Cable Ties inside serrated with one-hand release mechanism

#### REZ-Series

Perfect for use in the packaging industry for tying up bags that may need to be reopened and resealed again, e.g. milk powder in the catering industry.

#### Features and Benefits

- Releasable and reusable cable tie
- Patented head design for simple and rapid use
- Quick-release mechanism for one-hand operation, even under tension
- Inside serrated
- Can be opened with gloves



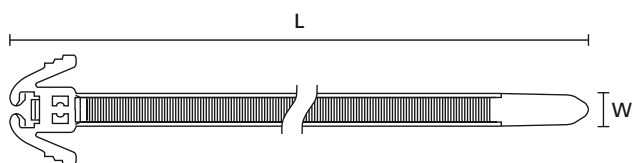
REZ ties have a simple one-hand release mechanism.



**Material specification please see page 24.**



**Patented**



REZ-Series



REZ series cable tie with ergonomic release mechanism.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
REZ200	4.7	200.0	50.0	135	PA66	Black (BK)	100 pcs.	115-40200
REZ300	4.7	305.0	80.0	135	PA66	Black (BK)	100 pcs.	115-40300

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Application video: REZ



### Cable Tie with quick release mechanism Speedy-Click

#### SpeedyTie®

The versatility of the SpeedyTie® means that it is suitable for a multitude of applications, such as electrical installations, heating and ventilation, construction, exhibitions and trade fairs. Whether it is used for permanent or temporary solutions, the SpeedyTie® provides a helping hand in every situation.

#### Features and Benefits

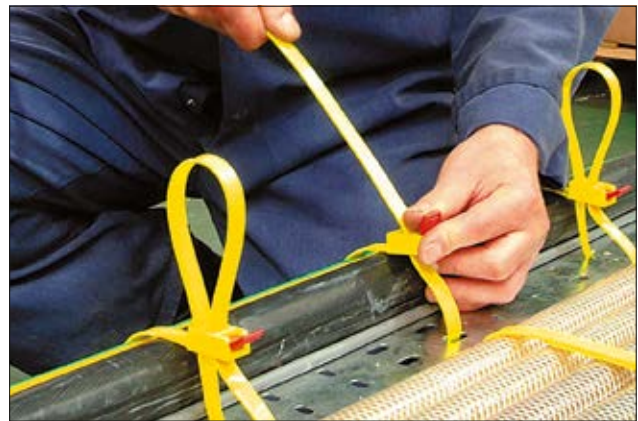
- Releasable cable tie
- Removable, patented 'Speedy-Click' rapid closure
- Bears loads of up to 888 N (approx. 90 kg)
- 750 mm long for use in a wide variety of applications
- Easy to handle when wearing protective gloves
- Available in signal yellow and black



Patented



Patented quick release mechanism for quick and easy application.



Excess Tails can be neatly tucked away.



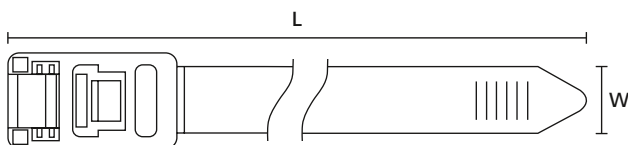
Application video:  
SpeedyTie®



SpeedyTie® – Quick and easy.



SpeedyTie® is particularly suited for temporary but safe bundling or fixing.



SpeedyTie®

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
SpeedyTie (RTT750HR)	13.0	752.0	210.0	888	PA66	Yellow (YE), Red (RD)	5 pcs.	115-00001
	13.0	752.0	210.0	888	PA66	Yellow (YE), Red (RD)	25 pcs.	115-00000
	13.0	752.0	210.0	888	PA66HIR(S)	Black (BK)	5 pcs.	115-00030

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



## Hook and Loop Ties

### TEXTIE-Series

As cables use thinner and softer insulation, and as fibre optic cables become more common, there is a need for a 'soft' method of bundling. TEXTIEs are ideal for use on telephone cables, optical fibre and network cables. In addition, they are perfect for use in temporary installations such as theatre stage construction or the manufacture of prototype cable harnesses.

TEXTIEs can also be used in many domestic and office applications, too.

### Features and Benefits

- Quick and simple to use without tools
- No waste
- Resistant to ageing with no corrosion
- Re-usable up to 400 times
- Various colours for easy identification of multiple cable runs



Due to the functional cable tie design the TEXTIE is fixed on the cable and can't get lost.



Application video: TEXTIE



The TEXTIE-Series is available in different colours and lengths.



TEXTIE-Series



Material specification please see page 24.

TYPE	Width (W)	Length (L)	Bundle Ø max.	Material Loop	Material Hook	Colour	Pack Cont.	Article-No.
TEXTIE S	12.5	150.0	45.0	Polyamide 6.6 (PA66)	Polypropylene (PP)	Black (BK)	10 pcs.	130-00012
TEXTIE M	12.5	200.0	60.0	Polyamide 6.6 (PA66)	Polypropylene (PP)	Black (BK)	10 pcs.	130-00013
	12.5	200.0	60.0	Polyamide 6.6 (PA66)	Polypropylene (PP)	Blue (BU)	10 pcs.	130-00018
	12.5	200.0	60.0	Polyamide 6.6 (PA66)	Polypropylene (PP)	Green (GN)	10 pcs.	130-00017
	12.5	200.0	60.0	Polyamide 6.6 (PA66)	Polypropylene (PP)	Red (RD)	10 pcs.	130-00014
	12.5	200.0	60.0	Polyamide 6.6 (PA66)	Polypropylene (PP)	White (WH)	10 pcs.	130-00021
	12.5	200.0	60.0	Polyamide 6.6 (PA66)	Polypropylene (PP)	Yellow (YE)	10 pcs.	130-00016
TEXTIE L	12.5	330.0	100.0	Polyamide 6.6 (PA66)	Polypropylene (PP)	Black (BK)	10 pcs.	130-00019
TEXTIE 5M	12.5	5,000.0	-	Polyamide (PA)	Polypropylene (PP)	Black (BK)	1 EA	130-00020
TEXTIE 25M	13.0	25,000.0	-	Polyamide 6.6 (PA66)	Polypropylene (PP)	Black (BK)	1 EA	130-00022

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



## Short Circuit Test (SCT)

### The alternative to cable cleats

HellermannTyton's single and double wrap Metal Ball (MBT) and Buckle Ties (AMT) fully withstand the maximum force of short circuits in trefoil formation according to the results of laboratory tests performed using the parameters outlined in the IEC 61914:2009 cable cleat standard.

The tests conducted by the NEFI High Power Laboratory in Norway – a member of the SATS Certification – demonstrated that our MBT and AMT stainless steel cable ties resist the huge forces unleashed by power cables in the event of a short circuit, even when they are installed in a 'worst case' trefoil formation (see drawing).

### Construction of the HellermannTyton SCT

The MBT and AMT metal ties were insulated from the cable jackets with LFPC polyolefin protective channels as an added layer of protection. Two different cable sizes, Ø 36 mm (300 mm<sup>2</sup>) and Ø 13 mm (50 mm<sup>2</sup>), each with 3 cables 8 m in length in trefoil formation, were tested with short circuit times between 0.2 and 0.5 seconds at various current levels.

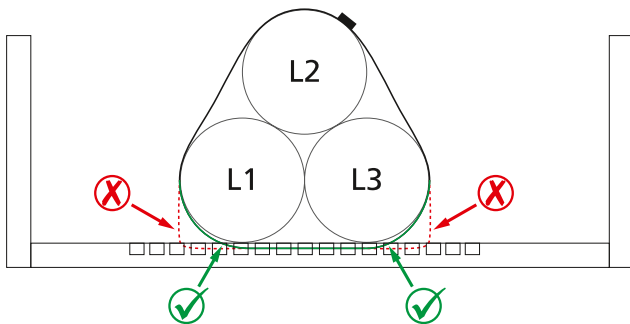
### Advantages of using HellermannTyton stainless steel cable ties over cable cleats:

- They can be used for both inside and outside environments
- They offer very good heat and chemical resistance
- A range of strap lengths and widths make it is easy to choose a solution for every application
- Only one cable tie is required for many different cable diameters
- Lower installation costs
- Low inventory value

### Conclusion

- With the SCT we have proven that our MBT and AMT cable ties are suitable for low and medium voltage cable and withstand a certain level of short circuits currents.
- By using the IEC specified formula we are able to offer customers the right cable tie for their applications.

**Stainless steel cable ties from HellermannTyton are an inexpensive alternative to cable cleats.**



*Best practice for installation in trefoil formation. Ties should be bundled as closely as possible to the cables for a smooth loop and to avoid sharp edges.*

**Please note that the information provided here is no substitute for a suitability test of your individual application.**



### Cable Ties with Ball-Lock

#### MBT-Series, Stainless Steel 304

Metal ties are ideal for all applications that require high strength, reliability and fire resistance. The MBT range of stainless steel cable ties can be used in chemical industries and on oil platforms as well as in mass transit, shipbuilding and mining industries. MBT ties are also suitable for machine building, apparatus construction and in the outside area of radio technology. Additionally, MBT ties are ideal for securing lighting in theatres and exhibition halls.

#### Features and Benefits

- MBT cable ties made from stainless steel 304
- Patented non-releasable locking feature
- Corrosion resistant
- Weather resistant
- Outstanding chemical resistance
- High temperature resistance
- Non-burning



Stainless Steel Cable Ties, uncoated, MBT\_SS, MBT\_HS.



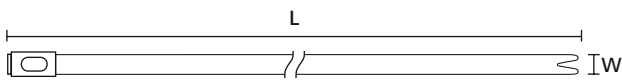
Stainless Steel Cable Ties, uncoated, MBT\_XHS.



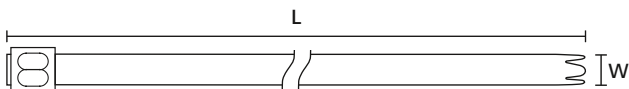
Patented



Material specification please see page 24.



MBT-Series 4.6 mm and 7.9 mm width



MBT-Series 12.3 mm width



The MBT-Series (up to 7.9 mm) can be used in combination with the stainless steel P-Mount. The mount is simple to install with a screw or bolt and ensures a durable fixing solution. Please see page 143.

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Material	Pack Cont.	Tools	Article-No.
MBT5SS	4.6	127.0	12.0	25.0	900	SS304	100 pcs.	15-18	111-93058
MBT8SS	4.6	201.0	17.0	50.0	900	SS304	100 pcs.	15-18	111-93088
MBT14SS	4.6	362.0	17.0	102.0	900	SS304	100 pcs.	15-18	111-93148
MBT20SS	4.6	521.0	17.0	152.0	900	SS304	100 pcs.	15-18	111-93208
MBT27SS	4.6	685.0	17.0	203.0	900	SS304	100 pcs.	15-18	111-93278
MBT33SS	4.6	838.0	17.0	254.0	900	SS304	100 pcs.	15-18	111-93338
MBT8HS	7.9	201.0	17.0	50.0	2,000	SS304	50 pcs.	15-18	111-94088
MBT14HS	7.9	362.0	17.0	102.0	2,000	SS304	50 pcs.	15-18	111-94148
MBT20HS	7.9	521.0	17.0	152.0	2,000	SS304	50 pcs.	15-18	111-94208
MBT27HS	7.9	685.0	17.0	203.0	2,000	SS304	50 pcs.	15-18	111-94278
MBT33HS	7.9	838.0	17.0	254.0	2,000	SS304	50 pcs.	15-18	111-94338
MBT14XHS	12.3	362.0	17.0	102.0	2,700	SS304	50 pcs.	15-18	111-95148
MBT20XHS	12.3	521.0	17.0	152.0	2,700	SS304	50 pcs.	15-18	111-95208
MBT27XHS	12.3	681.0	17.0	203.0	2,700	SS304	50 pcs.	15-18	111-95278
MBT33XHS	12.3	838.0	17.0	254.0	2,700	SS304	50 pcs.	15-18	111-95338

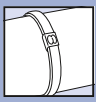
All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### Recommended Tools

15	16	17	18
MK9SST	MK9PSST	HDT16	KST-STG200

For more information on toolings please refer to the Application Tooling chapter.



### Cable Ties with Ball-Lock

#### MBT-Series, Stainless Steel 316

Metal ties are ideal for all applications that require high strength, reliability and fire resistance. The MBT range of stainless steel cable ties can be used in chemical industries and on oil platforms as well as in mass transit, shipbuilding and mining industries. MBT ties are also suitable for machine building, apparatus construction and in the outside area of radio technology. Additionally, MBT ties are ideal for securing lighting in theatres and exhibition halls.

#### Features and Benefits

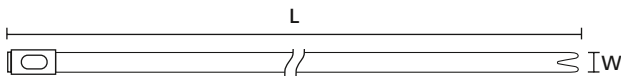
- MBT cable ties made from stainless steel 316
- Patented non-releasable locking feature
- Corrosion resistant
- Weather resistant
- Outstanding chemical resistance
- Antimagnetic
- High temperature resistance
- Non-burning



Stainless Steel Cable Ties, uncoated, MBT\_S, MBT\_H.



Patented



MBT-Series 4.6 mm and 7.9 mm width



The MBT-Series (up to 7.9 mm) can be used in combination with the stainless steel P-Mount. The mount is simple to install with a screw or bolt and ensures a durable fixing solution. Please see page 143.

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Material	Pack Cont.	Tools	Article-No.
MBT5S	4.6	127.0	12.0	25.0	900	SS316	100 pcs.	15-18	111-93059
MBT8S	4.6	201.0	12.0	50.0	900	SS316	100 pcs.	15-18	111-93089
MBT14S	4.6	362.0	12.0	102.0	900	SS316	100 pcs.	15-18	111-93149
MBT20S	4.6	521.0	12.0	152.0	900	SS316	100 pcs.	15-18	111-93209
MBT27S	4.6	685.0	12.0	203.0	900	SS316	100 pcs.	15-18	111-93279
MBT33S	4.6	838.0	12.0	254.0	900	SS316	100 pcs.	15-18	111-93339
MBT8H	7.9	201.0	12.0	50.0	2,000	SS316	50 pcs.	15-18	111-94089
MBT14H	7.9	362.0	12.0	102.0	2,000	SS316	50 pcs.	15-18	111-94149
MBT20H	7.9	521.0	12.0	152.0	2,000	SS316	50 pcs.	15-18	111-94209
MBT27H	7.9	685.0	12.0	203.0	2,000	SS316	50 pcs.	15-18	111-94279
MBT33H	7.9	838.0	12.0	254.0	2,000	SS316	50 pcs.	15-18	111-94339

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools			
15	16	17	18
MK9SST	MK9PSST	HDT16	KST-STG200

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.

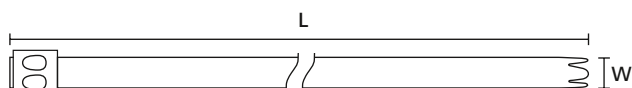


### Cable Ties with Ball-Lock

#### MBT-Series, Stainless Steel 316




MBT-Series 12.3 mm width



MBT-Series 16.0 mm width



**Material specification  
please see page 24.**

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Material	Pack Cont.	Tools	Article-No.
MBT14XH	12.3	362.0	12.0	102.0	2,700	SS316	50 pcs.	15-18	111-95149
MBT20XH	12.3	521.0	12.0	152.0	2,700	SS316	50 pcs.	15-18	111-95209
MBT27XH	12.3	681.0	12.0	203.0	2,700	SS316	50 pcs.	15-18	111-95279
MBT33XH	12.3	838.0	12.0	254.0	2,700	SS316	50 pcs.	15-18	111-95339
MBT14UH	16.0	362.0	12.0	102.0	4,100	SS316	50 pcs.	15;17	111-01301
MBT20UH	16.0	521.0	12.0	152.0	4,100	SS316	50 pcs.	15;17	111-01302
MBT27UH	16.0	681.0	12.0	203.0	4,100	SS316	50 pcs.	15;17	111-01303
MBT33UH	16.0	838.0	12.0	254.0	4,100	SS316	50 pcs.	15;17	111-01304
MBT43UH	16.0	1,092.0	12.0	330.0	4,100	SS316	25 pcs.	15;17	111-01305
MBT49UH	16.0	1,245.0	12.0	380.0	4,100	SS316	25 pcs.	15;17	111-01306

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### Recommended Tools

15	16	17	18
MK9SST	MK9PSST	HDT16	KST-STG200

For more information on toolings please refer to the Application Tooling chapter.

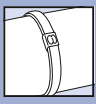


**ABS**



**DNV·GL**

For product specific approvals and specifications please refer to the Appendix.



### Double Wrap Cable Ties with Ball-Lock

**MBTXHD- / MBTUHD-Series, Stainless Steel 316**

The double wrap ties of the MBT-series are used in applications where a fixing requires an extraordinary high tensile strength.

#### Features and Benefits

- Stainless steel MBT ties with double wrap operation
- Wraps around the bundle and passes through the head twice
- Very high tensile strength to carry enormous applied loads
- Head with two locking balls
- Resistant to arduous conditions and environments



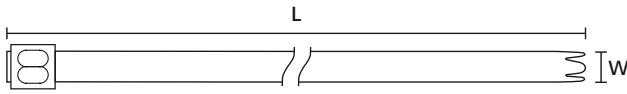
Double wrap Stainless Steel Cable Ties, uncoated, MBT\_UHD.



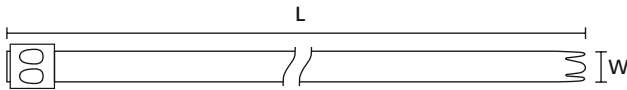
**Patented**



**Material specification please see page 24.**




MBT-Series 12.3 mm width



MBT-Series 16.0 mm width



Double wrap Stainless Steel Cable Ties, uncoated MBT\_UHD.

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Material	Pack Cont.	Tools	Article-No.
MBT27XHD	12.3	681.0	17.0	100.0	5,000	SS316	50 pcs.	15-18	111-01307
MBT33XHD	12.3	838.0	17.0	120.0	5,000	SS316	50 pcs.	15-18	111-01308
MBT43XHD	12.3	1,092.0	17.0	160.0	5,000	SS316	25 pcs.	15-18	111-01309
MBT49XHD	12.3	1,245.0	17.0	180.0	5,000	SS316	25 pcs.	15-18	111-01310
MBT60XHD	12.3	1,524.0	17.0	230.0	5,000	SS316	25 pcs.	15-18	111-01311
MBT27UHD	16.0	681.0	25.0	100.0	7,000	SS316	50 pcs.	15;17	111-01312
MBT33UHD	16.0	838.0	25.0	120.0	7,000	SS316	50 pcs.	15;17	111-01313
MBT43UHD	16.0	1,092.0	25.0	160.0	7,000	SS316	25 pcs.	15;17	111-01314
MBT49UHD	16.0	1,245.0	25.0	180.0	7,000	SS316	25 pcs.	15;17	111-01315
MBT60UHD	16.0	1,524.0	25.0	230.0	7,000	SS316	25 pcs.	15;17	111-01316

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### Recommended Tools

15	16	17	18
MK9SST	MK9PSST	HDT16	KST-STG200

For more information on toolings please refer to the Application Tooling chapter.



### Cable Ties with Ball-Lock and Coating

#### MBT-FC-Series, Stainless Steel 316

The MBT range of stainless steel cable ties can be used in the most arduous of conditions or where the additional security, strength and fire resistance of a metal fixing is required. Used in all areas from mass transit, ship building, oil rigs, mining and chemical industries to theatres and exhibition halls. In the event of a fire, cables will remain securely held in place and will not fall to block emergency exits.

#### Features and Benefits

- Fully coated MBT, made from type 316 stainless steel with polyester coating
- Patented non-releasable locking feature
- Coated cable tie with smooth edges
- Comfortable handling and installation
- Eliminates contact corrosion between dissimilar materials during application



Stainless Steel Cable Ties, coated, MBT\_SFC, MBT\_HFC.



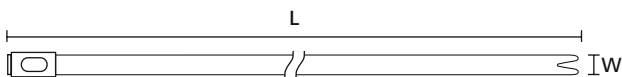
Stainless Steel Cable Ties, coated, MBT\_XHFC.



Patented



The MBT-Series (up to 7.9 mm) can be used in combination with the stainless steel P-Mount. The mount is simple to install with a screw or bolt and ensures a durable fixing solution. Please see page 143.



MBT-Series 4.6 mm and 7.9 mm width

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Material	Pack Cont.	Tools	Article-No.
MBT5SFC	4.6	127.0	15.0	25.0	540	SS316, SP	100 pcs.	15-18	111-00288
MBT8SFC	4.6	201.0	17.0	50.0	540	SS316, SP	100 pcs.	15-18	111-00289
MBT14SFC	4.6	362.0	17.0	102.0	540	SS316, SP	100 pcs.	15-18	111-00290
MBT20SFC	4.6	521.0	17.0	152.0	540	SS316, SP	100 pcs.	15-18	111-00291
MBT27SFC	4.6	681.0	17.0	203.0	540	SS316, SP	100 pcs.	15-18	111-00292
MBT33SFC	4.6	838.0	17.0	254.0	540	SS316, SP	100 pcs.	15-18	111-00293
MBT8HFC	7.9	201.0	17.0	50.0	1,020	SS316, SP	50 pcs.	15-18	111-00294
MBT14HFC	7.9	362.0	17.0	102.0	1,020	SS316, SP	50 pcs.	15-18	111-00295
MBT20HFC	7.9	521.0	17.0	152.0	1,020	SS316, SP	50 pcs.	15-18	111-00296
MBT27HFC	7.9	681.0	17.0	203.0	1,020	SS316, SP	50 pcs.	15-18	111-00297
MBT33HFC	7.9	838.0	17.0	254.0	1,020	SS316, SP	50 pcs.	15-18	111-00298

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### Recommended Tools

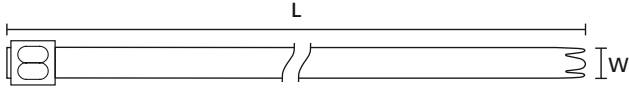
15	16	17	18
MK9SST	MK9PSST	HDT16	KST-STG200

For more information on toolings please refer to the Application Tooling chapter.

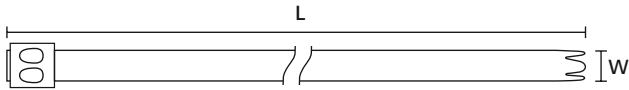


## Cable Ties with Ball-Lock and Coating

## MBT-FC-Series, Stainless Steel 316



MBT-Series 12.3 mm width



MBT-Series 16.0 mm width



Material specification  
please see page 24.

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Material	Pack Cont.	Tools	Article-No.
MBT14XHFC	12.3	362.0	17.0	102.0	1,620	SS316, SP	50 pcs.	15-18	111-00299
MBT17XHFC	12.3	434.0	17.0	125.0	1,620	SS316, SP	50 pcs.	15-18	111-01500
MBT20XHFC	12.3	521.0	17.0	152.0	1,620	SS316, SP	50 pcs.	15-18	111-00300
MBT23XHFC	12.3	575.0	17.0	168.0	1,620	SS316, SP	50 pcs.	15-18	111-01501
MBT27XHFC	12.3	681.0	17.0	203.0	1,620	SS316, SP	50 pcs.	15-18	111-00301
MBT30XHFC	12.3	754.0	17.0	225.0	1,620	SS316, SP	50 pcs.	15-18	111-01502
MBT33XHFC	12.3	838.0	17.0	254.0	1,620	SS316, SP	50 pcs.	15-18	111-00302
MBT43XHFC	12.3	1,092.0	17.0	330.0	1,620	SS316, SP	25 pcs.	15-18	111-01503
MBT49XHFC	12.3	1,245.0	17.0	380.0	1,620	SS316, SP	25 pcs.	15-18	111-01504
MBT14UHFC	16.0	362.0	25.0	102.0	2,500	SS316, SP	50 pcs.	15;17	111-01512
MBT17UHFC	16.0	434.0	25.0	125.0	2,500	SS316, SP	50 pcs.	15;17	111-01513
MBT20UHFC	16.0	521.0	25.0	152.0	2,500	SS316, SP	50 pcs.	15;17	111-01514
MBT23UHFC	16.0	575.0	25.0	168.0	2,500	SS316, SP	50 pcs.	15;17	111-01515
MBT27UHFC	16.0	681.0	25.0	203.0	2,500	SS316, SP	50 pcs.	15;17	111-01516
MBT30UHFC	16.0	754.0	25.0	225.0	2,500	SS316, SP	50 pcs.	15;17	111-01517
MBT33UHFC	16.0	838.0	25.0	254.0	2,500	SS316, SP	50 pcs.	15;17	111-01518
MBT43UHFC	16.0	1,092.0	25.0	330.0	2,500	SS316, SP	25 pcs.	15;17	111-01519
MBT49UHFC	16.0	1,245.0	25.0	380.0	2,500	SS316, SP	25 pcs.	15;17	111-01520

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

## Recommended Tools

15	16	17	18
MK9SST	MK9PSST	HDT16	KST-STG200

For more information on toolings please refer to the Application Tooling chapter.



### Double Wrap Cable Ties with Ball-Lock and Coating

**MBTXHDFC- / MBTUHDFC-Series, Stainless Steel 316**

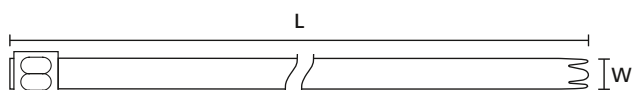
The MBT range of stainless steel cable ties can be used in the most arduous of conditions or where the additional security, strength and fire resistance of a metal fixing is required. Used in all areas from mass transit, ship building, oil rigs, mining and chemical industries to theatres and exhibition halls. In the event of a fire, cables will remain securely held in place and will not fall to block emergency exits.

#### Features and Benefits

- MBT cable ties, made from stainless steel SS316 with a polyester coating
- Patented non-releasable locking feature
- Double wrap operation
- Corrosion resistant
- Weather resistant
- Outstanding chemical resistance
- Antimagnetic
- High temperature resistant
- Non-burning



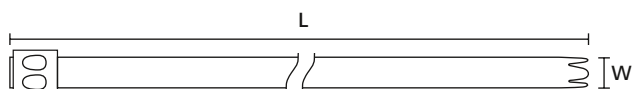
Stainless Steel Cable Ties, coated, MBT\_UHDFC.




MBT-Series 12.3 mm width



Patented



MBT-Series 16.0 mm width

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Material	Pack Cont.	Tools	Article-No.
MBT27XHDFC	12.3	681.0	17.0	100.0	2,500	SS316, SP	50 pcs.	15-18	111-01505
MBT33XHDFC	12.3	838.0	17.0	120.0	2,500	SS316, SP	50 pcs.	15-18	111-01506
MBT43XHDFC	12.3	1,092.0	17.0	160.0	2,500	SS316, SP	25 pcs.	15-18	111-01507
MBT49XHDFC	12.3	1,245.0	17.0	180.0	2,500	SS316, SP	25 pcs.	15-18	111-01508
MBT60XHDFC	12.3	1,524.0	17.0	230.0	2,500	SS316, SP	25 pcs.	15-18	111-01509
MBT27UHDFC	16.0	681.0	25.0	100.0	5,000	SS316, SP	50 pcs.	15;17	111-01521
MBT33UHDFC	16.0	838.0	25.0	120.0	5,000	SS316, SP	50 pcs.	15;17	111-01522
MBT43UHDFC	16.0	1,092.0	25.0	160.0	5,000	SS316, SP	25 pcs.	15;17	111-01523
MBT49UHDFC	16.0	1,245.0	25.0	180.0	5,000	SS316, SP	25 pcs.	15;17	111-01524
MBT60UHDFC	16.0	1,524.0	25.0	230.0	5,000	SS316, SP	25 pcs.	15;17	111-01525

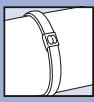
All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools			
15	16	17	18
MK9SST	MK9PSST	HDT16	KST-STG200

For more information on toolings please refer to the Application Tooling chapter.





### Cable Ties with punch-locking mechanism

#### MST-Series, Stainless Steel 304

Stainless steel cable ties are designed for fixing loads and cables securely in hazardous industrial environments such as railway carriages, jet engines, inside power plants or on offshore drilling platforms, where exposure to extremes of weather, saltwater and temperature are common. The MST-Series tie with its new punch-locking mechanism is an excellent choice especially for environments which require high resistance to vibrations.

#### Features and Benefits

- MST-Series cable ties are made from stainless steel 304
- No loosening after bundling
- Corrosion and weather resistant
- Significantly improved vibration resistance
- Outstanding chemical resistance
- Space saving solution
- Safe cut-off (no sharp edges)
- High temperature resistant
- Non-burning



Stainless Steel Cable Ties MST-Series.



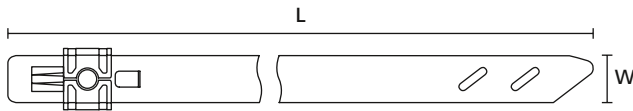
**Material specification please see page 24.**




One Step to the Web!



**The MST-Series (up to 8.9 mm) can be used in combination with the stainless steel P-Mount. The mount is simple to install with a screw or bolt and ensures a durable fixing solution. Please see page 143.**



MST tie

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Material	Pack Cont.	Tools	Article-No.
MST200S	5.9	207.0	5.0	50.0	900	SS304	100 pcs.	19	111-01549
MST360S	5.9	360.0	5.0	100.0	900	SS304	100 pcs.	19	111-01550
MST500S	5.9	500.0	5.0	145.0	900	SS304	100 pcs.	19	111-01551
MST700S	5.9	700.0	5.0	205.0	900	SS304	100 pcs.	19	111-01552
MST360M	8.9	369.0	8.0	100.0	1,500	SS304	50 pcs.	20	111-01631
MST500M	8.9	509.0	8.0	145.0	1,500	SS304	50 pcs.	20	111-01632
MST700M	8.9	700.0	8.0	205.0	1,500	SS304	50 pcs.	20	111-01633

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### Recommended Tools

19	20
MST6	MST9

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.



### Cable Ties with Fold Locking

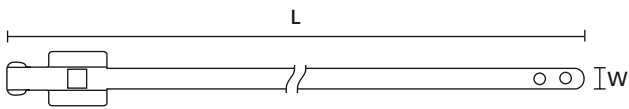
The MLT range of stainless steel cable ties can be used in the most arduous of conditions or where the additional security, strength and fire resistance of a metal fixing is required. Used in all areas from mass transit, ship building, oil rigs, mining and chemical industries to theatres and exhibition halls. In the event of a fire, cables will remain securely held in place and will not fall to block emergency exits.

#### Features and Benefits

- Releasable stainless steel buckle tie, MLT-series
- Heavy-duty type 316 stainless steel
- Can be re-opened and re-used
- Available also with polyester coating which prevents corrosion between dissimilar materials



MLT-Series. Releasable Stainless Steel buckle tie with and without coating.



MLT-Series

**i** The MLT-Series (up to 10 mm) can be used in combination with the stainless steel P-Mount. The mount is simple to install with a screw or bolt and ensures a durable fixing solution. Please see page 143.

#### MLT-Series, Stainless Steel 316

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Material	Pack Cont.	Tools	Article-No.
MLT8SS5	5.0	230.0	20.0	60.0	420	SS316	100 pcs.	17;21	111-94080
MLT12SS5	5.0	330.0	20.0	90.0	420	SS316	100 pcs.	17;21	111-94120
MLT16SS5	5.0	430.0	20.0	120.0	420	SS316	100 pcs.	17;21	111-94161
MLT24SS5	5.0	630.0	20.0	180.0	420	SS316	100 pcs.	17;21	111-91400
MLT8SS10	10.0	230.0	25.0	60.0	850	SS316	100 pcs.	17;21	111-95080
MLT12SS10	10.0	330.0	25.0	90.0	850	SS316	100 pcs.	17;21	111-95120
MLT16SS10	10.0	430.0	25.0	120.0	850	SS316	100 pcs.	17;21	111-91300
MLT24SS10	10.0	630.0	25.0	180.0	850	SS316	100 pcs.	17;21	111-95241

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### MLT-C-Series coated, Stainless Steel 316

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Material	Pack Cont.	Tools	Article-No.
MLT8SSC5	5.3	230.0	20.0	60.0	420	SS316, SP	100 pcs.	17;21	111-91000
MLT12SSC5	5.3	330.0	20.0	90.0	420	SS316, SP	100 pcs.	17;21	111-91121
MLT16SSC5	5.3	430.0	20.0	120.0	420	SS316, SP	100 pcs.	17;21	111-91161
MLT24SSC5	5.3	630.0	20.0	180.0	420	SS316, SP	100 pcs.	17;21	111-91180
MLT8SSC10	10.3	230.0	25.0	60.0	850	SS316, SP	100 pcs.	17;21	111-91001
MLT12SSC10	10.3	330.0	25.0	90.0	850	SS316, SP	100 pcs.	17;21	111-91123
MLT16SSC10	10.3	430.0	25.0	120.0	850	SS316, SP	100 pcs.	17;21	111-91163
MLT24SSC10	10.3	630.0	25.0	180.0	850	SS316, SP	100 pcs.	17;21	111-91181

All dimensions in mm. Subject to technical changes.

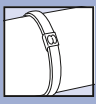
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools	
17	21
HDT16	MTT4

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.



## Protective Channel for Stainless Steel Ties

### LFPC

When used in conjunction with the MBT, MST and AMT range of stainless steel cable ties this channel gives the cable protection against chafing, vibration and shock. Ideal for use in arduous conditions such as those found on board ships, oil rigs or in nuclear power stations.

#### Features and Benefits

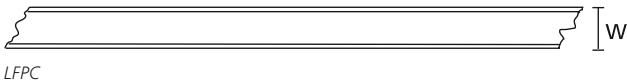
- LFPC channel, manufactured from Polyolefin
- Works with MBT-, MST- and AMT-Series
- Smooth surface protects bundle against chafing caused by vibrations and shocks
- Can be cut from roll (50 m) to any length
- Halogenfree
- Flame retardant



Cable tie MBTXH with LFPC Protective Channel.



The fire protection properties of the material relate to the test performed on defined test samples. This is a test under laboratory conditions and not directly transferable to the product made from this material.



LFPC



Material specification please see page 24.

TYPE	Width (W)	For Ties	Material	Pack Cont.	Article-No.
LFPC70	7.0	MBTS	PO	25 m	111-93000
LFPC83	8.3	MBTH	PO	25 m	111-00257
LFPC103	10.3	MBTH	PO	25 m	111-94000
LFPC129	12.9	MBTXH	PO	50 m	111-00253
LFPC132	13.2	MBTXH	PO	25 m	111-00254
LFPC150	15.0	MBTXH	PO	25 m	111-95000
LFPC163	16.3	AMT, MBTUH	PO	50 m	111-00255

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.

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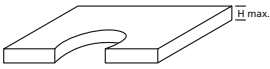
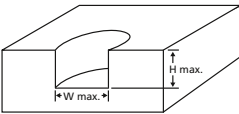

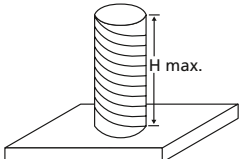


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User guide for fixing ties

Application	Arrowhead	Fir Tree Mount	Rivet Wall Plug	Screw Mount	EdgeClip	Weld Stud Mount
	•	•		•		
		•	•	•		
					•	
						•



**Arrowhead**

This fixing tie is based on an arrowhead offering high extraction forces. The arrowhead is securely in place when a click can be heard and felt by the user.



**Arrowhead with disc**

The disc minimises the ingress of dust, dirt and water. Furthermore a safe fixation inside the drill hole is assured that withstands pressure from various directions.



**Arrowhead with supporting legs**

Arrowhead fixings with supporting legs offer good and stable fixation in drilled holes. The supporting legs generate additional pressure to assure a firm and secure fixing while taking up any variation in panel thickness. These ties are also suitable in high vibration applications.



**Arrowhead without supporting legs**

The arrowhead design assures good fixation while utilising lowest possible space.



**Fir Tree Mount**

Fir Tree Mounts can be pushed into pre-punched holes easily in panels or threaded, blind holes based on the low insertion forces. The design is ideally suited for a wide range of sheet thicknesses. The disc on top of the fir tree covers the hole and minimises the ingress of dust, dirt and water.



### Weld Stud Mount

Many of the HellermannTyton weld stud mounts can easily be attached by hand ("soft push"). The design offers very low insertion forces that require no tools. The mounts can be removed by twisting to the left. SB9 and SB14 are based on "hard push" technology and require a hammer to be applied.



### Weld Stud Fixings with Lateral Adjustment

The special oval shape of these mounts provides a 5-6 mm lateral adjustment to cater for any misalignment of the stud or incorrect positioning of ties on the cables. The bundle can therefore be moved when mounted.



### EdgeClip

The EdgeClips are specifically designed to bundle and guide cable and wires on edges. Cost intensive drill holes for fixing are no longer required. EdgeClips are easily mounted by hand, the integrated metal clamp, securely keeping the clips on the edge.



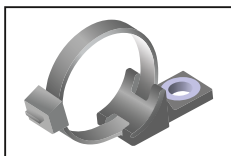
### EdgeClip Twistable

Ideally suited for fixations where bundles need to be flexibly guided. These EdgeClips are available with facilities for 90° or 360° rotation.



### Cable and Hose Attachment

Excellent solution for subsequent attachment of pipes and wires to installed tubes.



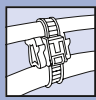
### Heavy Duty Application

These sturdy fixing ties can withstand vibrations. They are easy to apply and give a secure alignment to the bundle. There will be high tightening torque through metal bushing.



### Two Piece Fixing Ties with Clip Coupler

The Coupler is an article to connect two cable ties for parallel bundling of tubes, harnesses or cables. Its design enables the cable ties to rotate up to 90° and allows flexible installations.



### 1-Piece Fixing Tie with Arrowhead, with Disc

With a diverse range of fixing possibilities these ties are ideal for use in many different industries, including automotive, aerospace, white goods manufacture and panel building.

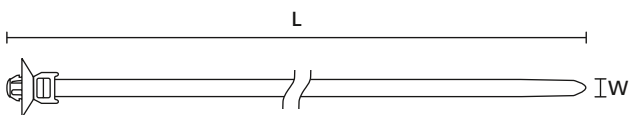
#### Features and Benefits

- Easy to install without the need for a tool
- Arrowhead simply locks into place
- Disc adjusts tie for pressures from various directions and minimises access of dust, dirt and water
- Cable tie head always situated in a defined position
- KSFT-types with specially rounded arrowhead minimise the assembly height

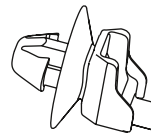


The flexible disc adjusts to take up variations in panel thickness - ensuring a firm fixing at all times.

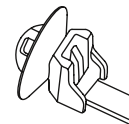
### 1-Piece Fixing Tie with Arrowhead, with Disc, for round holes



T50SOSKSFT5.4E



T50SOSSFT6.5E



T50SOSKSFT6.5E

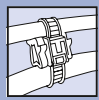
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Tools	Article-No.
PT2ASFT6.5PT0.7-1.5-E	3.4	112.7	20.0	230	16.0	6.3 - 6.7	0.7 - 1.5	PEEK	Beige (BGE)	2;4-6	126-00183
T50SOSKSFT5SE	4.6	156.0	35.0	180	16.0	4.8 - 5.2	0.7 - 1.3	PA66HS	Natural (NA)	2-10	126-00111
	4.6	156.0	35.0	180	16.0	4.8 - 5.2	0.7 - 1.3	PA66HS	Black (BK)	2-10	126-00099
T50SOSKSFT5.4E	4.6	156.0	35.0	180	16.0	5.2 - 5.6	0.7 - 1.3	PA66HS	Black (BK)	2-10	126-00075
T50SOSKSFT65E	4.6	156.0	35.0	180	16.0	6.3 - 6.7	0.7 - 1.3	PA66HS	Black (BK)	2-10	126-00081
T50SOSKSFT6.5S2-E	4.6	157.5	35.0	225	16.0	6.3 - 6.7	1.7 - 2.3	PA66HS	Black (BK)	2-10	126-00086
T50SOSSFT6.5E	4.6	158.8	30.0	200	16.0	6.3 - 6.7	1.9 - 2.5	PA66HS	Black (BK)	2-10	126-03102
T50SST5	4.6	170.0	31.0	225	16.2	6.1 - 6.5	0.7 - 1.5	PA66	Natural (NA)	2-10	126-02300
	4.6	170.0	31.0	225	16.2	6.1 - 6.5	0.7 - 1.5	PA66HS	Black (BK)	2-10	126-00017
T50SD6	5.0	160.0	31.0	225	18.0	6.3 - 7.5	0.6 - 1.8	PA66HS	Black (BK)	2-10	111-85350
T50MD7	5.0	225.0	59.0	225	16.0	6.8 - 7.2	0.8 - 2.0	PA66HS	Black (BK)	2-10	111-85850

All dimensions in mm. Subject to technical changes.

#### Recommended Tools

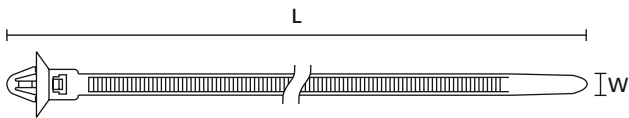
2	3	4	5	6	7	8	9	10
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9

For more information on toolings please refer to the Application Tooling chapter.

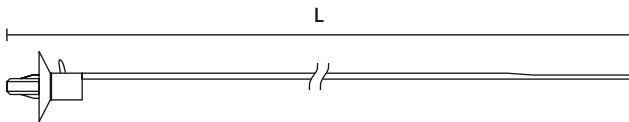


### 1-Piece Fixing Tie with Arrowhead, with Disc


#### 1-Piece Fixing Tie with Arrowhead, with Disc, releasable



RT50SD6



RT50SD6

TYPE	Width (W)	Length (L)	Bundle Ø max.		Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Tools	Article-No.
RT50SD6	5.0	160.0	31.0	180	18.0	6.3 - 7.5	0.6 - 1.8	PA66HS	Black (BK)	2-10	111-85480

All dimensions in mm. Subject to technical changes.

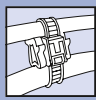
Recommended Tools									
2	3	4	5	6	7	8	9	10	
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	

For more information on toolings please refer to the Application Tooling chapter.



**Material specification please see page 24.**



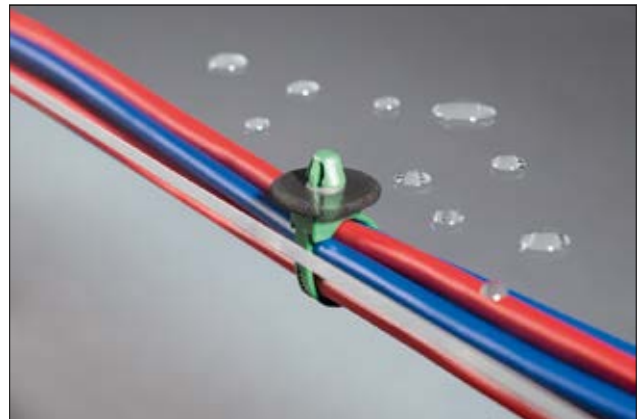


### 1-Piece Fixing Ties with Arrowhead, with disc, sealed

The parts are mainly used in the automotive industry, e.g. for door harnesses.

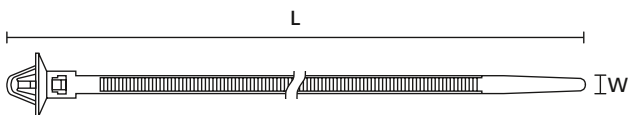
#### Features and Benefits

- One-piece fixing ties with cellular rubber disc
- Especially suitable for door and tailgate harnesses used for car body applications
- T50SOSSFT6,5E-MD with lasered seal and T60SOSSFT6,5E-MD made from PA6.6 HS are tested acc. IEC60529 and fulfill IP67
- Made from PA66 heat-stabilised material
- Welded cellular rubber disc minimises access of dust, dirt and water

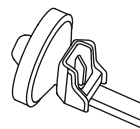


The additional seal protects against the ingress of moisture.

#### Fixing Ties, sealed, round holes



One piece fixing tie with arrowhead and disc, standard design

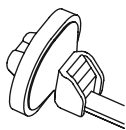


T50SOSSFT6.5E-MDL

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Tools	Article-No.
T50SOSSFT6.5E-MDL	4.6	158.8	30.0	200	16.0	6.3 - 6.7	0.6 - 1.8	PA66HS	Green (GN)	2-10	126-03100
	4.6	158.8	30.0	200	16.0	6.3 - 6.7	0.6 - 1.8	PA66HS	Black (BK)	2-10	156-00264
T50SOSSFT6.5E-MDL	4.6	158.8	30.0	200	16.0	6.3 - 6.7	0.6 - 1.8	PA66HS	Natural (NA)	2-10	156-00271
T50SOSSFT6.5E-MS-MD	4.6	163.0	35.0	180	16.0	6.25 - 6.75	0.7 - 1.6	PA66HS	Natural (NA)	2-10	126-00065
T50XCROSSFT6.5EMDL	4.6	200.0	45.0	200	16.0	6.25 - 6.75	1.2 - 2.1	PA66HS	Black (BK)	2-10	156-00379

All dimensions in mm. Subject to technical changes.

#### Fixing Ties, sealed, oval holes



T60SOSSFT6.5x130E-MD



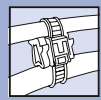
Material specification please see page 24.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Tools	Article-No.
T60SOSSFT62X122-E-MD	5.5	133.6	25.0	300	16.0 x 22.0	6.2 x 12.2	0.7 - 2.0	PA66HS	Black (BK)	2-12	126-00208
T60SOSSFT62x122-E-MD	5.5	157.5	30.0	300	16.0 x 22.0	6.2 x 12.2	0.6 - 2.0	PA66HS	Black (BK)	2-12	126-00080
T60SOSSFT70x120-E-MD	5.5	157.5	30.0	300	16.0 x 22.0	7.0 x 12.0	0.7 - 2.0	PA66HS	Black (BK)	2-12	126-00079
T60SOSSFT65x130-E-MD	5.5	157.6	30.0	300	16.0 x 22.0	6.5 x 13.0	0.6 - 2.0	PA66HS	Natural (NA)	2-12	126-00076

All dimensions in mm. Subject to technical changes.

Recommended Tools											
2	3	4	5	6	7	8	9	10	11	12	
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P	

For more information on toolings please refer to the Application Tooling chapter.



### 1-Piece Fixing Ties with Arrowhead, with wings

For bundling and fixing of cable harnesses, pipes and hoses in many different industries, including automotive, aerospace, white goods manufacturing and panel building.

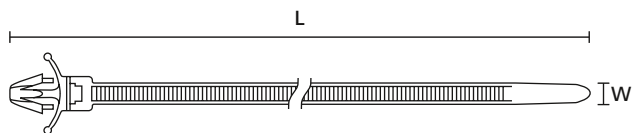
#### Features and Benefits

- Easy to assemble without the need for a tool
- Cable tie head always situated in defined position
- Arrowhead simply locks into place
- Supporting legs provide a secure and firm fixing in areas where space is limited



A wide range of arrowhead fixing ties which are suitable for different panel thicknesses and hole diameters.

### 1-Piece Fixing Ties with Arrowhead, with wings, for round holes



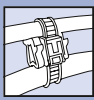
T50SSL5

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Hole Ø (FH)	Panel Thickness	Material	Colour	Tools	Article-No.
T18RSF		2.5	100.0	16.0	80	4.6 - 4.8	0.8 - 3.0	PA66HS	Natural (NA)	2;4-6	111-85519
		2.5	100.0	16.0	80	4.6 - 4.8	0.8 - 3.0	PA66W	Black (BK)	2;4-6	111-85560
T50SSL5		4.6	135.0	27.0	200	6.1 - 6.5	0.5 - 2.7	PA66HS	Black (BK)	2-10	126-02204
		4.6	135.0	27.0	225	6.1 - 6.5	0.5 - 2.7	PA46	Grey (GY)	2-10	111-85395
		4.6	135.0	27.0	225	6.1 - 6.5	0.5 - 2.7	PA66	Natural (NA)	2-10	111-85339
T50SL5		4.6	163.0	34.0	222	6.1 - 6.5	0.8 - 2.7	PA66HIRHS	Black (BK)	2-10	126-00005
		4.6	165.0	34.0	222	6.1 - 6.5	0.8 - 2.7	PA66	Natural (NA)	2-10	111-85369
T50SL6		4.6	165.0	34.0	225	6.3 - 7.5	0.5 - 2.5	PA66	Black (BK)	2-10	111-85460
T50SL7		4.6	165.0	34.0	225	6.9 - 7.1	0.8 - 2.5	PA66	Natural (NA)	2-10	111-85479
T50SL5		4.7	165.0	34.0	222	6.1 - 6.5	0.8 - 2.5	PA66HS	Black (BK)	2-10	126-00001
T50SSFMM		4.6	160.0	35.0	225	6.0 - 6.6	0.7 - 3.0	PA66	Natural (NA)	2-10	111-85739
		4.6	160.0	35.0	225	6.0 - 6.6	0.7 - 3.0	PA66HS	Black (BK)	2-10	126-00032
		4.6	160.0	35.0	225	6.0 - 6.6	0.7 - 3.0	PA66HS	Natural (NA)	2-10	126-01104
T50RSFM		4.7	205.0	45.0	225	6.0 - 6.6	0.7 - 3.0	PA66	Natural (NA)	2-10	111-85729
T50SAH		4.6	160.0	25.0	225	6.0 - 6.6	0.7 - 3.0	PA66HS	Natural (NA)	2-10	155-41102

All dimensions in mm. Subject to technical changes.


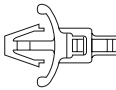
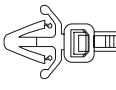
Recommended Tools									
2	3	4	5	6	7	8	9	10	
MK20	MK21	MK3SP	MK3PNP2	EVO7	MK7HT	MK7P	MK6	MK9	

For more information on toolings please refer to the Application Tooling chapter.




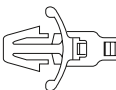
### 1-Piece Fixing Ties with Arrowhead, with wings

#### 1-Piece Fixing Ties with Arrowhead, with wings, releasable

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.		Hole Ø (FH)	Panel Thickness	Material	Colour	Tools	Article-No.
RT50RSF		4.6	215.0	50.0	225	7.8 - 8.2	0.8 - 2.5	PA66	Black (BK)	2-10	115-07010
RT50SFK		5.0	225.0	50.0	225	6.4 - 7.0	0.8 - 3.0	PA66	Black (BK)	2-10	115-06960

All dimensions in mm. Subject to technical changes.

#### 1-Piece Fixing Ties with Arrowhead, with wings, for oval holes

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.		Hole Ø (FH)	Panel Thickness	Material	Colour	Tools	Article-No.
T80RFT6X12		4.6	228.0	45.0	222	6.3 x 12.3	0.6 - 3.0	PA46	Grey (GY)	2-12	150-48397
		4.6	228.0	45.0	222	6.3 x 12.3	0.6 - 3.0	PA66	Black (BK)	2-12	150-48396

All dimensions in mm. Subject to technical changes.

#### Recommended Tools

2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



### 1-Piece Fixing Ties with Arrowhead

#### 1-Piece Fixing Ties with Arrowhead, without Wings and Disc

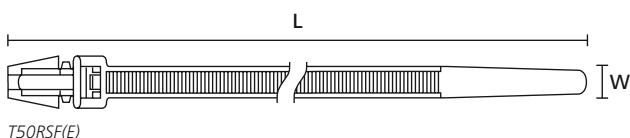
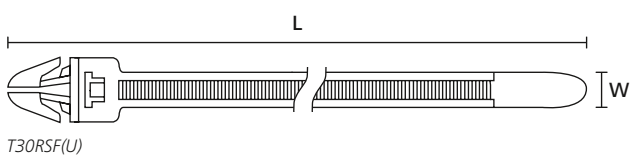
The arrowhead design allows these ties to be used in areas with limited space.

#### Features and Benefits


- Easy to assemble without the need for a tool
- Fixing tie with arrowhead without legs
- Arrowhead simply locks into place
- Cable tie head always situated in defined position



The arrowhead design allows these fixing ties to be used in areas with limited space.



Material specification please see page 24.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Hole Ø (FH)	Panel Thickness	Material	Colour	Tools	Article-No.
T30RSF(U)	3.6	158.0	31.0	136	4.7 - 5.5	0.8 - 2.1	PA66HS	Black (BK)	2;4-6	111-85610
	3.6	158.0	32.0	136	4.7 - 5.5	0.8 - 2.1	PA66	Natural (NA)	2;4-6	111-85603
T50RSF(E)	4.6	210.0	50.0	225	6.2 - 6.4	2.9 - 3.0	PA66	Natural (NA)	2-10	111-85799
	4.6	210.0	50.0	225	6.2 - 6.4	2.9 - 3.0	PA66	Black (BK)	2-10	126-01001

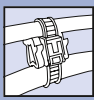
All dimensions in mm. Subject to technical changes.

Recommended Tools									
2	3	4	5	6	7	8	9	10	
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.



### 1-Piece Fixing Tie with Arrowhead, with Disc

#### 1-Piece Fixing Tie with Arrowhead, with Disc, for round holes

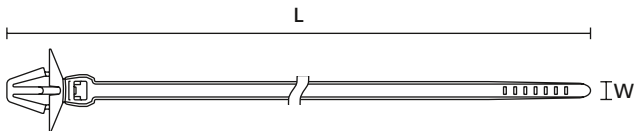
With a diverse range of fixing possibilities these ties are ideal for use in many different industries, including automotive, aerospace, white goods manufacture and panel building.

#### Features and Benefits

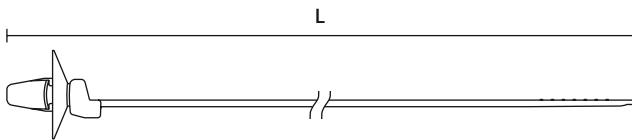
- Easy to install without the need for a tool
- Arrowhead simply locks into place
- Disc adjusts tie for pressures from various directions and minimises access of dust, dirt and water
- Cable tie head always situated in a defined position
- KSFT-types with specially rounded arrowhead minimise the assembly height



One piece fixing tie with arrowhead, outside serrated.



PT2ASFT6.5PT0.7-1.5E



PT2ASFT6.5PT0.7-1.5E



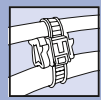
Material specification please see page 24.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Tools	Article-No.
PT2ASFT6.5PT0.7-1.5-E	3.4	112.7	20.0	230	16.0	6.3 - 6.7	0.7 - 1.5	PEEK	Beige (BGE)	2;4-6	126-00183

All dimensions in mm. Subject to technical changes.

Recommended Tools			
2	4	5	6
MK20	MK3SP	MK3PNSP2	EVO7

For more information on toolings please refer to the Application Tooling chapter.



### 2-Piece Fixing Ties with Arrowhead, with Disc

Primarily designed for fixing cable harnesses in the automotive industry, their simplicity and ease of use has resulted in these parts being used in other industries, for example aviation, switch gear and white goods manufacturing.

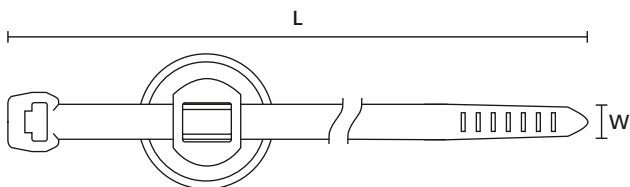
#### Features and Benefits

- Pre-assembled 2-piece fixing tie with arrowhead foot part
- Cable tie head can be moved after bundling
- Easy to assemble without the need for a tool
- Arrowhead simply locks into place
- Disc adjusts tie for pressure from various directions

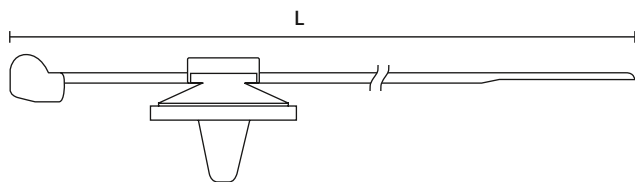


Being a two piece assembly allows the tie head to be located in the most convenient position.

### 2-Piece Fixing Ties with Arrowhead, with Disc, sealed



T50ROSSFT6.5-16-2MOD-MD

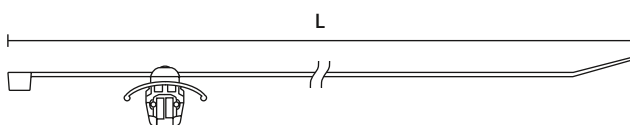


T50ROSSFT6.5-16-2MOD-MD

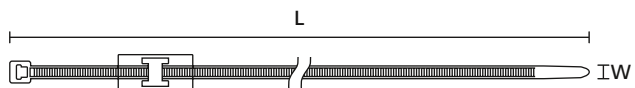
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
T50ROSSFT6.5-D16-2 MD	4.6	200.0	45.0	222	22.4	6.3 - 6.7	0.7 - 1.8	PA66HS	PA66HIRHS	Black (BK)	2-10	150-93100
T50ROSSFT6.5-16-2-MD	4.6	200.0	45.0	225	16.0	6.3 - 6.7	0.7 - 1.2	PA66HS	PA66HIRHS	Black (BK)	2-10	155-42002
T50ROSSFT6.5-16-3MD	4.6	200.0	45.0	225	16.0	6.3 - 6.7	2.5 - 3.5	PA66HS	PA66HIRHS	Black (BK)	2-10	150-37799
T50RAHD6-MS-MD	4.6	202.0	50.0	225	18.0	6.5 - 7.0	0.7 - 1.2	PA66HS	PA66HS	Natural (NA)	2-10	156-01193

All dimensions in mm. Subject to technical changes.

### 2-Piece Fixing Ties with Arrowhead, for oval holes



T50RFT62x122



T50RFT62x122

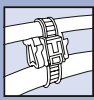
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Hole Ø (FH)	Panel Thickness	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
T50RFT62x122HR	4.6	202.0	45.0	225	6.3 x 12.2	0.6 - 3.0	PA46	PA46	Grey (GY)	2-10	156-00446
T50RFT60VAL	4.6	202.0	45.0	355	6.3 x 12.2	0.6 - 3.0	PA66HS	PA66HIRHS	Black (BK)	2-10	150-37591

All dimensions in mm. Subject to technical changes.

### Recommended Tools

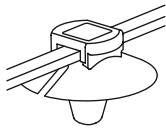
2	3	4	5	6	7	8	9	10
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9

For more information on toolings please refer to the Application Tooling chapter.

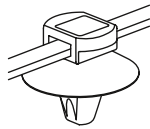


### 2-Piece Fixing Ties with Arrowhead, with Disc

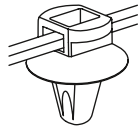
#### 2-Piece Fixing Ties with Arrowhead, with Disc, for round holes



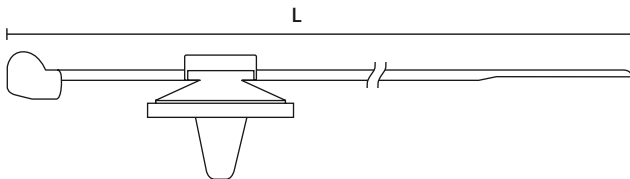
T50SSFT6.5



T50RSFT6.5D18



T50ROSSFT6.5 16-3



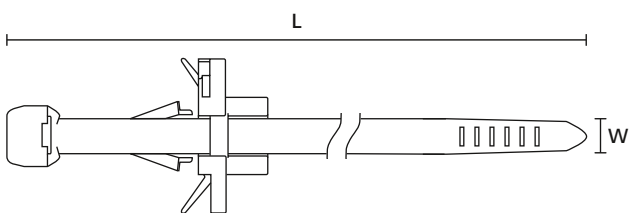
T50ROSSFT6.5-16-2MOD-MD

**i** Other dimensions are available on request.

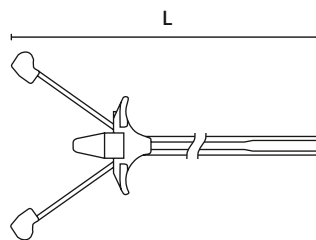
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
T50SOSST6.5-16-2OD	4.6	150.0	35.0	225	16.0	6.3 - 6.7	1.5 - 2.2	PA66HS	PA66HIRHS	Black (BK)	2-10	150-93130
T50SSFT6.5	4.6	150.0	35.0	225	22.4	6.3 - 6.7	0.7 - 2.0	PA66HS	PA66HS	Black (BK)	2-10	150-13593
T50RSFT6.5D18	4.6	200.0	45.0	200	18.0	6.5 - 6.8	0.4 - 1.6	PA66HS	PA66HIRHS	Black (BK)	2-10	150-37691
T50ROS-SFT6.5 16-3	4.6	200.0	45.0	225	16.0	6.3 - 6.7	2.5 - 3.5	PA66HS	PA66HIRHS	Black (BK)	2-10	150-37791
T50RSFT6.5	4.6	200.0	45.0	225	22.4	6.3 - 6.7	0.7 - 2.0	PA66HS	PA66HS	Black (BK)	2-10	150-13591
T50RSFT6.5 16-3	4.6	200.0	49.0	222	16.0	6.3 - 6.7	2.5 - 3.5	PA66HS	PA66HIRHS	Black (BK)	2-10	150-37792
T80ISFT6.5	4.6	300.0	81.0	355	22.4	6.3 - 6.7	0.7 - 2.0	PA66HS	PA66HS	Black (BK)	2-12	150-13596
T50RDHSFT6.5	4.7	210.0	38.0	178	22.4	6.4 - 6.8	0.7 - 2.0	PA66HS	PA66HS	Black (BK)	2-10	117-05160

All dimensions in mm. Subject to technical changes.

### 2-Piece Fixing Ties with Arrowhead, for parallel routing



T50SOSDSFT6.5



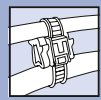
T50SOSDSFT6.5

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Hole Ø (FH)	Panel Thickness	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
T50SOSDSFT6.5	4.6	150.0	35.0	225	6.3 - 6.7	0.7 - 1.5	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00133

All dimensions in mm. Subject to technical changes.

Recommended Tools											
2	3	4	5	6	7	8	9	10	11	12	
MK20	MK21	MK3SP	MK3PNP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P	

For more information on toolings please refer to the Application Tooling chapter.



### 2-Piece Fixing Ties with Arrowhead, with Disc

For temperatures up to +240 °C

Primarily designed for fixing cable harnesses in the automotive industry, their simplicity and ease of use has resulted in these parts being used in other industries, for example aviation, switch gear and white goods manufacturing.

#### Features and Benefits

- Pre-assembled 2-piece fixing tie with arrowhead foot part
- Cable tie head can be moved after bundling
- Easy to assemble without the need for a tool
- Arrowhead simply locks into place
- Disc adjusts tie for pressure from various directions and minimises access of dust, dirt and water

#### Manufactured in PEEK material

- -55 °C to +240 °C operating temperature
- Excellent resistance against chemicals and gamma radiation



PEEK FixingTies can be used for small diameters from 1.0 mm.



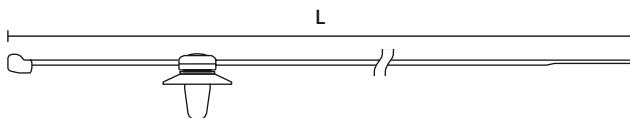
One Step to the Web!



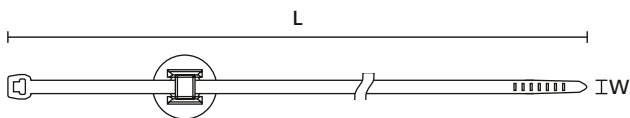
Please find more PEEK products for your system solutions: PEEK Ties, see page 66. Screw Mount CTAM, see page 139.



Material specification please see page 24.



PT2AP1SFT6.5



PT2AP1SFT6.5

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Tools	Article-No.
PT2AP1SFT6.5	3.4	145.0	35.0	230	16.0	6.3 - 6.7	0.7 - 1.3	PEEK	Beige (BGE)	2;4-6	156-01090
PT2AP2SFT6.5	3.4	145.0	35.0	230	16.0	6.3 - 6.7	1.7 - 2.3	PEEK	Beige (BGE)	2;4-6	156-01091
PT2AP3SFT6,5	3.4	145.0	32.0	230	16.0	6.3 - 6.7	1.2 - 1.8	PEEK	Beige (BGE)	2;4-6	156-01146

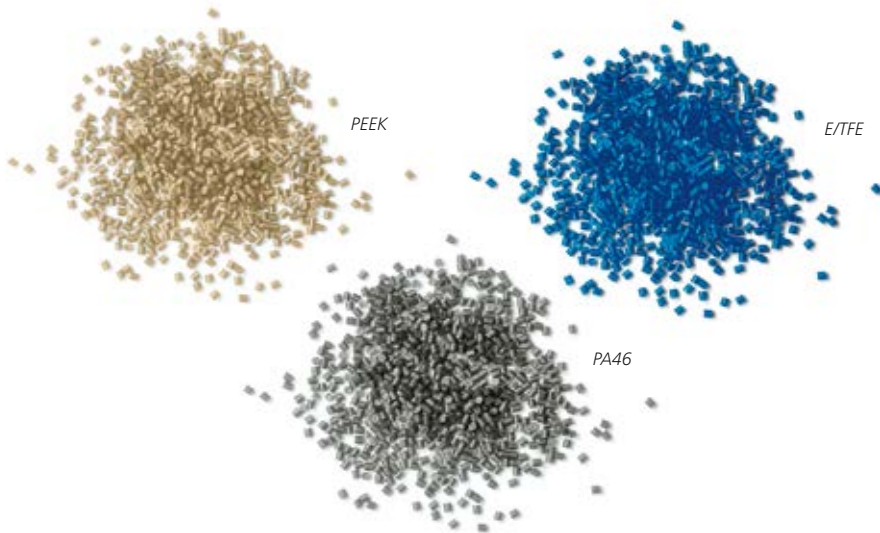
All dimensions in mm. Subject to technical changes.

Recommended Tools			
2	4	5	6
MK20	MK3SP	MK3PNSP2	EVO7

For more information on toolings please refer to the Application Tooling chapter.

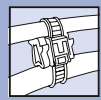


We replace metal solutions with plastic components – even for high temperatures.



Learn more about our fixing ties and elements for high temperature applications in our brochure.

**Order now!**



### 1-Piece Fixing Ties with Fir Tree, with Disc

#### 1-Piece Fixing Ties with Fir Tree, with Disc

Primarily designed for fixing cable harnesses in the automotive industry, their simplicity and ease of use has resulted in these parts being used in other industries, for example aviation, switch gear and white goods manufacturing.

#### Features and Benefits

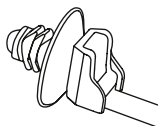
- Cable tie head always situated in defined position
- Easy to assemble without the need for a tool
- Disc adjusts tie for pressure from various directions and minimises access of dust, dirt and water
- Fir tree foot part can be used for a variety of panel thicknesses
- Suitable for use within threaded holes



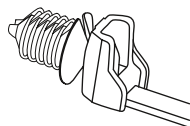
Fir tree foot parts can be used for a variety of panel thicknesses.



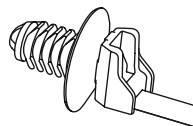
**Material specification please see page 24.**



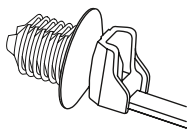
T50SOSFT6-E2



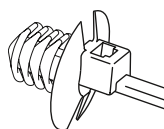
T50SOSFT6D10E



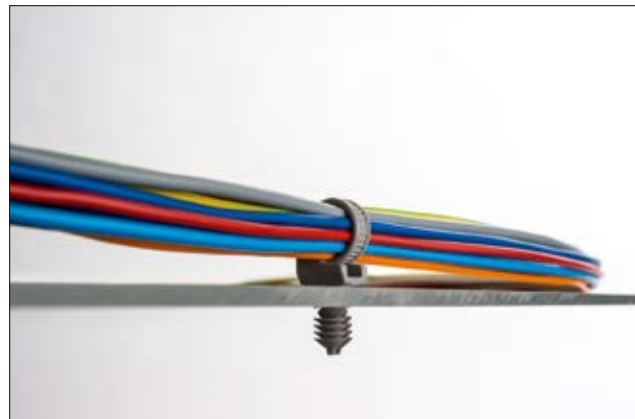
T50SOSFT6LGE



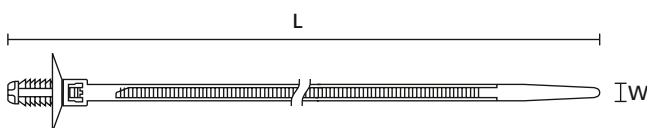
T50SOSFT8E



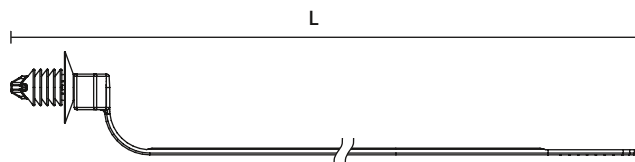
T18RDP5



T50SOSFT6D10E - One piece fixing tie with fir tree foot part.



One piece fixing tie with fir tree mount, standard design



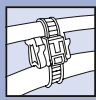
Special design without a gap between head and bundle; FT220DP7

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Tools	Article-No.
T18RDP5	2.5	110.0	20.0	80	13.0	4.9 - 5.1	3.0 - 4.0	PA66	Black (BK)	2;4-6	150-55610
T50SOSFT6-E2	4.6	160.0	35.0	180	16.0	6.3 - 7.0	0.6 - 4.2	PA66HS	Black (BK)	2-10	157-00085
T50SOSFT6D10E	4.6	163.0	32.0	180	9.8	5.8 - 6.2	0.8 - 5.5	PA46	Grey (GY)	2-10	157-00028
T50SOSFT8E	4.6	163.0	35.0	225	16.0	8.0 - 8.5	0.6 - 6.0	PA46	Grey (GY)	2-10	157-00115
	4.6	163.0	35.0	225	16.0	8.0 - 8.5	0.6 - 6.0	PA66HS	Black (BK)	2-10	157-00072
T50SOSFT6LGE	4.6	165.0	35.0	180	16.0	6.3 - 7.0	0.7 - 7.0	PA66HS	Black (BK)	2-10	157-00228

All dimensions in mm. Subject to technical changes.


Recommended Tools											
2	3	4	5	6	7	8	9	10	11	12	
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P	

For more information on toolings please refer to the Application Tooling chapter.



### 1-Piece Fixing Ties with Fir Tree, with Disc

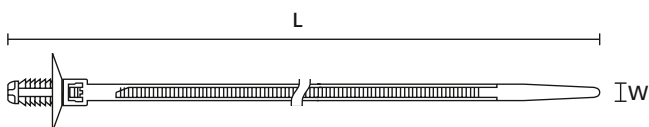
#### 1-Piece Fixing Ties with Fir Tree, with Disc

TYPE	Width (W)	Length (L)	Bundle Ø max.	 N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Tools	Article-No.
T50SOSFT6LG-E2	4.6	167.0	35.0	222	16.0	6.1 - 6.9	0.6 - 8.3	PA66HIRHS	Black (BK)	2-10	157-00140
T50SOSFT6E1	4.7	161.4	35.0	150	16.0	6.3 - 7.0	0.7 - 3.0	PA66HIRHS	Black (BK)	2-10	157-00033
FT220DP7	4.7	232.0	40.0	225	16.0	6.8 - 7.2	0.8 - 5.0	PA66	Black (BK)	2-12	150-01700
T50SOSFT6LG-E4	4.9	165.0	31.0	200	22.0	6.3 - 7.0	6.3 - 7.0	PA66HS	Black (BK)	2-10	157-00237
T50ROSFT8SO25A	5.1	230.0	50.0	220	19.0	7.6 - 8.4	0.6 - 6.7	PA46	Brown (BN)	2-10	157-00168
	5.1	230.0	50.0	222	19.0	7.6 - 8.4	0.6 - 6.7	PA66HIRHS	Grey (GY)	2-10	157-00120
T50ROSFT612.5SO	5.1	234.2	50.0	220	16.6	6.1 - 6.9	0.6 - 6.0	PA66HIRHS	Black (BK)	2-10	157-00216
OS170FT7LH	5.3	170.0	30.0	147	16.0	6.8 - 7.2	0.7 - 4.5	PA66	Black (BK)	3;9-12	157-00019
OS160FT6HEX	5.3	170.0	30.0	200	16.0	6.35	0.7 - 5.0	PA66	Black (BK)	3;9-12	157-00080
	5.3	170.0	30.0	200	16.0	6.35	0.7 - 5.0	PA66HS	Black (BK)	3;9-12	157-00081


All dimensions in mm. Subject to technical changes.

### 1-Piece Fixing Ties with Fir Tree, with Disc

#### 1-Piece Fixing Ties with Fir Tree, with Disc, releasable



One piece fixing tie with fir tree mount, standard design

TYPE	Width (W)	Length (L)	Bundle Ø max.	 N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Tools	Article-No.
REL30SDP6	5.0	170.0	31.0	135	22.0	6.3 - 7.1	3.0 - 7.0	PA66	Black (BK)	2;4-6	150-55500

All dimensions in mm. Subject to technical changes.

#### Recommended Tools

2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



### 2-Piece Fixing Ties with Fir Tree, with Disc, for Round Holes

Primarily designed for fixing cable harnesses in the automotive industry, their simplicity and ease of use has resulted in these parts being used in other industries, for example aviation, switch gear manufacturer, white goods manufacturer.

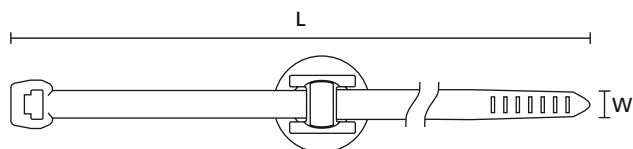
#### Features and Benefits

- Pre-assembled 2-piece fixing tie with fir tree foot part
- Cable tie head can be moved after bundling
- Easy to assemble without the need for a tool
- Disc adjusts tie for pressure from various directions and minimises access of dust, dirt and water
- Fir tree foot part can be used for a variety of panel thicknesses
- Suitable for use within threaded holes

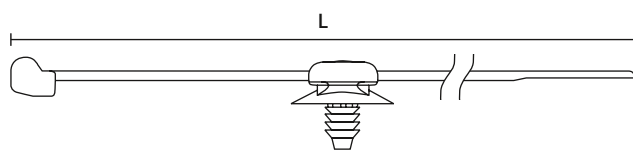


These Fir Tree fixings can also be used in threaded, blind holes.

#### Fir Tree Parts FT5



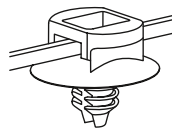
T50SOSFT5SD



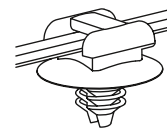
T50SOSFT5SD

**i** Other dimensions are available on request.

**d** Material specification please see page 24.



T30RFT5



T50SOSFT5SD

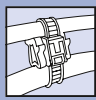
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
T18RFT5	2.5	100.0	20.0	80	16.0	4.5 - 5.0	0.7 - 3.0	PA66HS	PA66HIRHS	Black (BK)	2;4-6	156-01225
T30RFT5	3.5	150.0	34.0	135	16.0	4.5 - 5.0	0.7 - 3.0	PA46	PA46	Natural (NA), Grey (GY)	2;4-6	150-55948
	3.5	150.0	34.0	135	16.0	4.5 - 5.0	0.7 - 3.0	PA66HS	PA66HIRHS	Black (BK)	2;4-6	150-55850
	3.5	150.0	34.0	135	16.0	4.5 - 5.0	0.7 - 3.0	PA46	PA46	Natural (NA), Grey (GY)	2;4-6	156-01191
	3.5	150.0	34.0	135	16.0	4.5 - 5.0	0.7 - 3.0	PA46	PA46	Grey (GY)	2;4-6	156-01316
T50SOSFT5	4.6	150.0	31.0	225	16.0	4.5 - 5.0	0.7 - 3.0	PA66HS	PA66HIRHS	Black (BK)	2-10	156-06200
T50SOSFT5SD	4.6	150.0	35.0	225	16.0	4.5 - 5.0	0.7 - 3.0	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00432
T50RFT5	4.6	200.0	45.0	225	16.0	4.5 - 5.0	0.7 - 3.0	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00025

All dimensions in mm. Subject to technical changes.

#### Recommended Tools

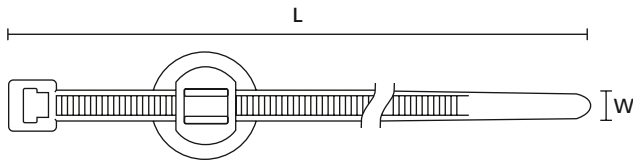
2	3	4	5	6	7	8	9	10
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9

For more information on toolings please refer to the Application Tooling chapter.

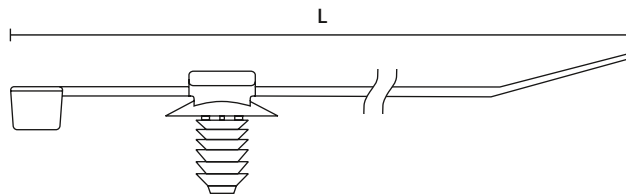


## 2-Piece Fixing Ties with Fir Tree, with Disc, for Round Holes

### Fir Tree Parts FT6



T50RFT6LG



T50RFT6LG

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
T18RFT6	2.5	100.0	20.0	80	16.0	6.5 - 7.0	0.8 - 3.0	PA66	PA66	Black (BK)	2;4-6	150-09110
PT2AFT6LG	3.4	145.0	35.0	230	16.0	6.4 - 7.1	0.8 - 6.0	PEEK	PA46	Beige (BGE), Grey (GY)	2;4-6	156-01336
T30RFT6	3.5	150.0	34.0	135	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66HIRHS	Black (BK)	2;4-6	150-77950
T30RFT6LG	3.5	150.0	35.0	133	16.0	6.4 - 7.1	0.8 - 6.0	PA66HS	PA66HIRHS	Black (BK)	2;4-6	150-31090
T30RFT6SD	3.6	148.0	35.0	135	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66HIRHS	Black (BK)	2;4-6	150-52690
T50SFT6LG1SD	4.6	160.0	30.0	225	16.0	6.5 - 7.0	0.6 - 6.0	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00154
T50ROSFT6	4.6	200.0	45.0	225	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00076
T50ROSFT6SD	4.6	200.0	45.0	225	16.0	6.4 - 7.1	0.8 - 3.0	PA46	PA46	Grey (GY)	2-10	156-00085
	4.6	200.0	46.0	225	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66HIR	Black (BK)	2-10	156-05902
T50RFT6LGSD-HEX	4.6	202.0	45.0	225	16.0	6.25 - 6.75	0.7 - 5.0	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00399
T50RFT6	4.6	202.0	45.0	225	16.0	6.4 - 7.1	0.8 - 3.0	PA46	PA46	Grey (GY)	2-10	156-01291
	4.6	202.0	45.0	225	16.0	6.4 - 7.1	0.8 - 3.0	PA46	PA46	Grey (GY)	2-10	150-77938
	4.6	202.0	45.0	225	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66	Black (BK)	2-10	150-77941
T50RFT6LG	4.6	202.0	44.0	225	16.0	6.4 - 7.1	0.8 - 6.0	PA66HS	PA66HIRHS	Black (BK)	2-10	150-31091
T80IFT6LG	4.6	300.0	81.0	356	16.0	6.4 - 7.1	0.8 - 6.0	PA66HS	PA66HIRHS	Black (BK)	2-12	150-31096
T50RDHFT6	4.7	210.0	19.0	180	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66HIRHS	Black (BK)	2-10	150-77936
T80LFT6	5.0	390.0	108.0	355	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66HIRHS	Black (BK)	2-12	150-77934

All dimensions in mm. Subject to technical changes.

### Recommended Tools

2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.

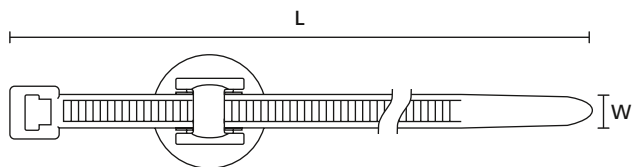


Material specification please see page 24.

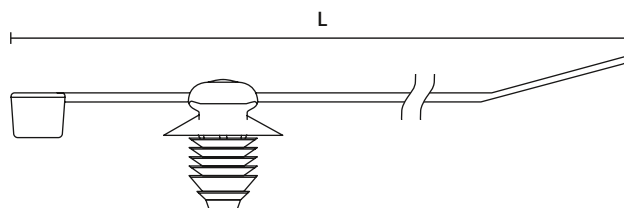


### 2-Piece Fixing Ties with Fir Tree, with Disc, for Round Holes

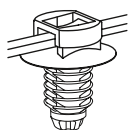
#### Fir Tree Parts FT7 - FT10



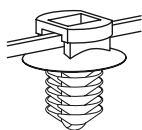
T50RFT8GSD



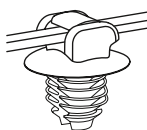
T50RFT8GSD



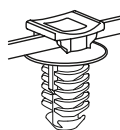
T50IFT7



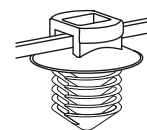
T50RFT8



T50RFT8GSD



T120IFT9



T50RFT10

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
V150RFT10	3.3	150.0	35.0	150	18.0	9.7 - 10.0	0.8 - 5.0	PA66	PA66HS	Black (BK)	2;4-6	156-01233
T40RFT8GSD	4.0	180.0	40.0	180	16.0	8.0 - 8.5	1.5 - 4.0	PA66HS	PA66HIRHS	Black (BK)	2;4-8	156-00104
T50RFT7	4.6	200.0	44.0	225	16.0	6.5 - 7.0	0.8 - 7.0	PA66HS	PA66HS	Black (BK)	2-10	111-85871
T50RFT10	4.6	200.0	45.0	225	18.0	9.7 - 10.0	0.8 - 5.0	PA66HS	PA66HS	Black (BK)	2-10	111-85810
T50ROSFT10	4.6	200.0	45.0	225	18.0	9.7 - 10.0	0.8 - 5.0	PA66HS	PA66HS	Black (BK)	2-10	156-00120
T50RFT8	4.6	200.0	49.0	225	16.0	7.7 - 8.0	0.8 - 6.0	PA66HS	PA66HS	Black (BK)	2-10	111-85880
T50RFT7HD	4.6	200.0	45.0	225	21.6	6.2 - 7.2	0.8 - 7.0	PA46	PA46	Brown (BN)	2-10	156-00457
T50RFT8GSD	4.6	202.0	45.0	225	16.0	8.0 - 8.5	1.5 - 4.0	PA66HS	PA66HIRHS	Black (BK)	2-10	133-00034
	4.6	202.0	45.0	225	16.0	8.0 - 8.5	1.5 - 4.0	PA46	PA46	Grey (GY)	2-10	156-00235
T50IFT7	4.6	300.0	81.0	225	16.0	6.5 - 7.0	0.8 - 7.0	PA66HS	PA66HS	Black (BK)	2-10	150-00700
T120IFT9	7.6	300.0	80.0	535	20.0	9.0 - 10.6	5.0 - 11.0	PA66HIR(S)	PA66HIR(S)	Black (BK)	3;9-12	156-00200

All dimensions in mm. Subject to technical changes.

#### Recommended Tools

2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



#### 2-Pieces Fixing Ties with Deep Hole Anchor, with Disc, for Round Holes

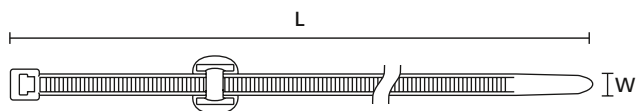
##### Deep Hole Anchor DHA5.5 - DHA8.4

##### Features and Benefits

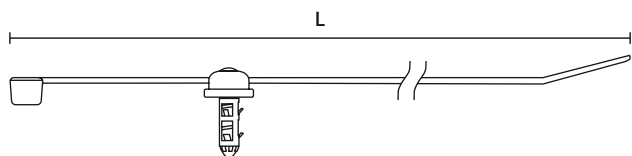
- Pre-assembled 2-piece fixing tie with deep hole anchor
- The high 'pull off' forces are due to the integrated metal clamp
- Cable tie head can be moved after bundling
- Easy to assemble without the need for a tool
- Disc adjusts tie for pressure from various directions and minimises access of dust, dirt and water
- Suitable for use within blind holes with or without thread



DHA5.5x15 and DHA8.4x20 for blind hole applications.



Fixing tie with deep hole anchor



Fixing tie with deep hole anchor



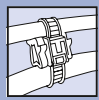
Material specification please see page 24.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Hole Ø (FH)	Panel Thickness	Material	Colour	Tools	Article-No.
T50RDHA5.5x15		4.6	202.0	45.0	225	5,4 - 5,6	15.0	PA46	Grey (GY)	2-10	156-01203
T50RDHA8.4x20		4.6	202.0	45.0	225	8,3 - 8,5	20.0	PA46	Grey (GY)	2-10	156-01155

All dimensions in mm. Subject to technical changes.

Recommended Tools									
2	3	4	5	6	7	8	9	10	
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	

For more information on toolings please refer to the Application Tooling chapter.



### 1-Piece Fixing Ties for Weld Studs

#### For cable routing above the stud

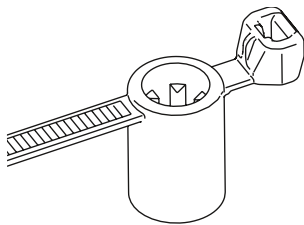
Primarily designed for use in the automotive industry, these parts can be used in a wide variety of applications where 5 mm/8 mm weld studs or 5 mm/8 mm ISO bolts are used and cables need to be bundled and secured. (WS series, T120RSM, DCT9 and DCT 11 are for 1/4" bolts)

#### Features and Benefits

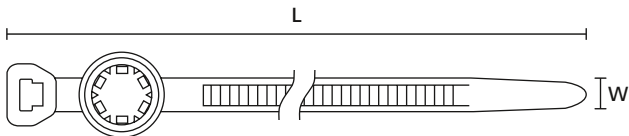
- Cable tie head always situated in defined position
- Easy to assemble without the need for a tool
- Bundle runs directly above weld stud with defined stand-off from the panel



The T50SSBS50TE / T50SSBS60T-E allows very precise routing of cable bundles.



T50SSBS50TE



T50SSBS60T-E

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Stud Ø	Material	Colour	Tools	Article-No.
T50SSBS50TE	4.0	160.0	35.0	200	5.0	PA66HS	Black (BK)	2-10	155-30602
T50SSBS60T-E	4.6	160.0	35.0	200	6.0	PA66HS	Black (BK)	2-10	157-00083

All dimensions in mm. Subject to technical changes.

Recommended Tools									
2	3	4	5	6	7	8	9	10	
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	

For more information on toolings please refer to the Application Tooling chapter.





#### 1-Piece Fixing Ties for Weld Studs

For cable routing alongside the stud

##### Features and Benefits

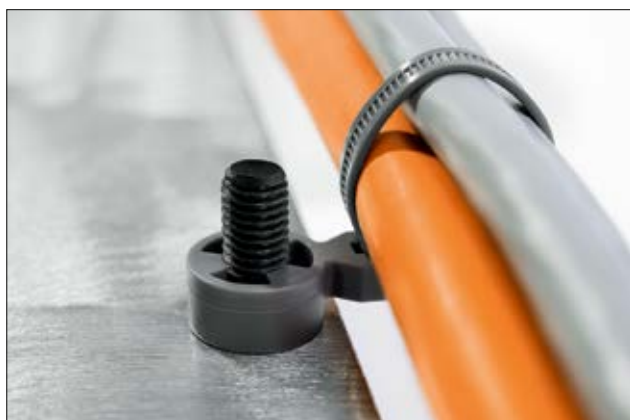
- Cable tie head always situated in defined position
- Easy to install without the need for a tool
- Bundles are routed very close to stud



Material specification please see page 24.



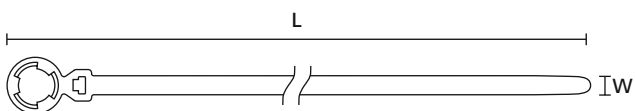
T50SOSSBD-M8/10.



T50SOSSBU-M8/10 for bundles which run below the stud.



This outside serrated cable tie with weld stud mounting keeps the cables close to the fixing stud.



T50SOSSBD-M8/M10

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Stud Ø	Material	Colour	Tools	Article-No.
T50SOSSBD-M10		5.7	175.0	30.0	150	10.0	PA66HSW	Black (BK)	2-10	157-00040
T50SOSSBD-M8		5.7	175.0	30.0	150	8.0	PA66HSW	Black (BK)	2-10	157-00039
T50SOSSBU-M10		5.7	175.0	30.0	150	10.0	PA66HSW	Grey (GY)	2-10	157-00067
T50SOSSBU-M8		5.7	175.0	30.0	150	8.0	PA66HSW	Grey (GY)	2-10	157-00066
T50SOSSBS5E		4.7	160.0	35.0	225	5.0	PA66HS	Black (BK)	2-10	155-12300

All dimensions in mm. Subject to technical changes.

Recommended Tools									
2	3	4	5	6	7	8	9	10	
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	

For more information on toolings please refer to the Application Tooling chapter.



### 1-Piece Fixing Ties for Weld Studs, moveable

#### T50SOSWSP5E-2 for 5 mm studs, retainer height 3.5 mm

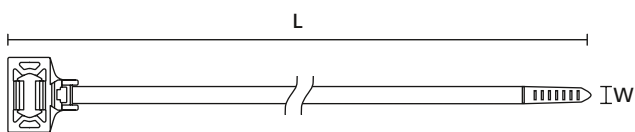
Primarily designed for use in the automotive industry, these parts can be used in a wide variety of applications, e.g. where weld studs or ISO bolts are used and cables need to be bundled and secured. (WS series, T120RSM, DCT9 & DCT 11 are for 1/4" bolts)

#### Features and Benefits

- Cable tie head always situated in defined position
- Easy to install without the need for a tool
- Provides 5 - 6 mm lateral adjustment
- Very low profile, stackable design
- For parallel routing of several bundles



T50SOSWSP5E, parallel installation using two fixing ties.



T50SOSWSP5E-2

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Stud Ø	Material	Colour	Tools	Article-No.
T50SOSWSP5E-2	4.6	162.6	35.0	225	5.0	PA66HS	Black (BK)	2-10	133-01553

All dimensions in mm. Subject to technical changes.

### 1-Piece Fixing Ties for Weld Studs, for Heavy Duty Applications

#### WS-Series for threaded studs

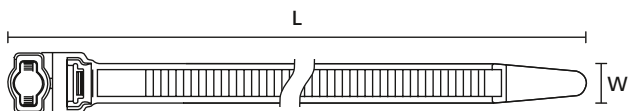
Wide strap stud-mounted cable ties are primarily designed for use in the automotive or truck industry.

#### Features and Benefits

- Very flexible strap provides minimum pinching of soft hoses and convoluted tubing
- Low profile head for compact bundling
- Clamping rails to increase grip on round bundles
- Flexible hinge



The wide strap stud mount cable tie minimizes pinching on soft bundles.



Wide Strap Heavy Duty Stud Mount Cable Ties

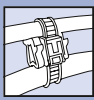
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Stud Ø	Material	Colour	Tools	Article-No.
WSS8MM	12.7	246.4	57.1	534	8.0	PA66HIRHSW	Black (BK)	11-12	157-00034
WSI8MM	12.7	322.6	82.5	534	8.0	PA66HIRHSW	Black (BK)	11-12	157-00035
WSR8MM	12.7	398.8	104.1	534	8.0	PA66HIRHSW	Black (BK)	11-12	157-00036

All dimensions in mm. Subject to technical changes.

#### Recommended Tools

2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



#### 2-Piece Fixing Ties for Weld Studs, for parallel routing

**T50SDSBS5 for max. bundle diameter 35.0 mm**

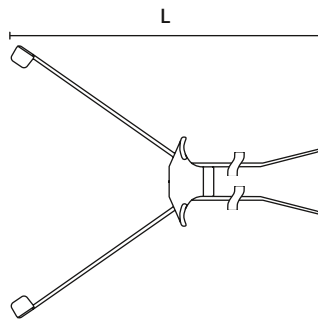
Many applications require cables to be run parallel to each other but separated to avoid abrasion. The double mounting base, when used with two cable ties, allow this to be achieved simply and quickly. Widely used for securing cables, pipes and hoses in the automotive and truck building industries, the mounting base is simply pushed onto a 5 mm diameter weld stud or bolt.

#### Features and Benefits

- Pre-assembled 2-piece fixing tie with stud retainer
- For parallel routing of cables, hoses or harnesses
- Cable tie head can be moved after bundling
- Easy to install without the need for a tool
- For 5 mm studs or 5 mm ISO threaded studs




Parallel fixation of two cables.



DSBS5



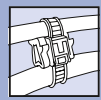
**Other dimensions are available on request.**

TYPE	Width (W)	Length (L)	Bundle Ø max.	 N	Stud Ø	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
<b>T50SDSBS5</b>	4.6	150.0	35.0	225	5.0	PA66HS	PA66HIRHS	Black (BK)	2-10	150-56193
<b>T50ROSBS5</b>	4.6	200.0	45.0	222	5.0	PA66HS	PA66HIRHS	Black (BK)	2-10	150-56199

All dimensions in mm. Subject to technical changes.

Recommended Tools									
2	3	4	5	6	7	8	9	10	
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	

For more information on toolings please refer to the Application Tooling chapter.



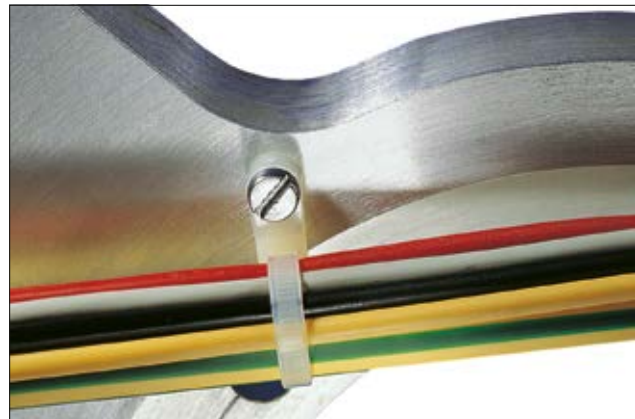
### 1-Piece Fixing Ties with Mounting Head for Screws

This range of one piece cable ties have a built in mounting hole and once fastened around the cables it can be simply secured to the panel with a screw or bolt.

The tie is fitted to the panel first and then the cables can be added.

#### Features and Benefits

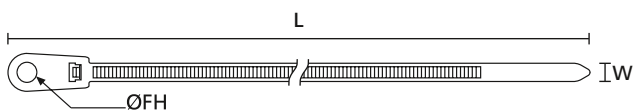
- One-piece bundling and fixing tie
- Quick and easy installation



The mounting head ties can be easily screwed onto a panel.



**Material specification**  
please see page 24.



T(MR Series with Mounting Head for Screw fixing

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Hole Ø (FH)	Material	Colour	Tools	Article-No.
T18MR	2.5	110.0	20.0	80	3.1	PA66	Black (BK)	2;4-6	113-01810
	2.5	110.0	20.0	80	3.1	PA66	Natural (NA)	2;4-6	113-01819
T30MR	3.5	160.0	32.0	135	4.3	PA66	Black (BK)	2;4-6	113-03010
	3.5	160.0	32.0	135	4.3	PA66	Natural (NA)	2;4-6	113-03019
T50MS	4.6	165.0	32.0	225	5.3	PA66	Natural (NA)	2-10	113-05819
	4.6	165.0	32.0	225	5.3	PA66	Black (BK)	2-10	113-05820
T50MR	4.7	215.0	45.0	225	5.4	PA66	Black (BK)	2-10	113-05010
	4.7	215.0	45.0	225	5.4	PA66	Natural (NA)	2-10	113-05019
	4.7	215.0	45.0	225	5.4	PA66W	Black (BK)	2-10	113-05060
T50ML	4.7	390.0	100.0	225	5.5	PA66	Natural (NA)	2-10	113-05419
T120MR	7.6	395.0	102.0	535	6.5	PA66	Black (BK)	3;9-12	113-12020
	7.6	395.0	102.0	535	6.5	PA66	Natural (NA)	3;9-12	113-12029
	7.6	395.0	102.0	535	6.5	PA66HIRHSUV	Black (BK)	3;9-12	113-12060

All dimensions in mm. Subject to technical changes.

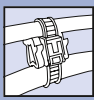
#### Recommended Tools

2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



For product specific approvals and specifications please refer to the Appendix.



## Fixing Ties for Edges

### EdgeClip-Family

These cable ties and EdgeClip assemblies are ideal for use where holes are not acceptable or where, due to temperature problems, adhesives will fail. Once the cable tie is fastened around the cables the EdgeClip is presented ready for attaching to the panel. Widely used within the automotive and panel building industries these cable ties and EdgeClips save time and money.

### Features and Benefits

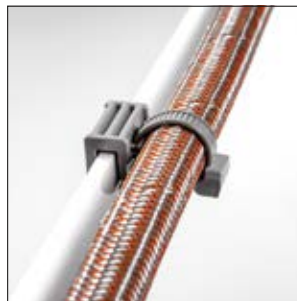
- Easy assembly by hand
- For edges of 1 – 3 mm or 3 – 6 mm
- Integrated metal clamp holds clip firmly in place
- Clamp consists of double tempered steel spring
- Ideal for applications where holes or adhesives are not suitable



One Step to the Web!



T50ROSEC10 fitted onto a plastic panel to hold a Ø 6 mm harness.



Pre-assembled 2-Piece Fixing Tie with Edge Clip for edges of 1–3 mm.



1-Piece Fixing Tie T50SOSEC12 can be pushed easily on edges.

The silver-grey clamp, the heart of our EdgeClips, consists of double-tempered spring steel in accordance with DIN EN 10132-4 C75S. The spring steel gives the clamp both the necessary rigidity to provide high pull-off forces and also sufficient flexibility for various possible applications.

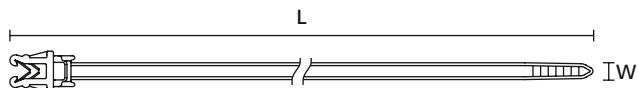
The double coating is applied initially with a zinc plate system followed by inorganic surface sealing. Naturally, no chromium (VI) is used in this

process. The clamp therefore complies with the current EU Directive 200/53/EC on end of life vehicles and the prohibition on heavy metals. The refined spring-steel clamp also fulfils the requirements for resistance to salt spray stipulated in DIN EN ISO 9227 NSS (min. 840 h without corrosion of base metal) and DIN EN ISO 6270-Z-CH (min. 720 h without corrosion of base material). This solution has therefore been approved by many OEMs for exposed installation locations, e.g. in engine compartments and the running-gear area.



### Fixing Ties for Edges


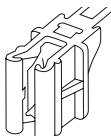
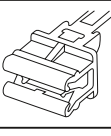
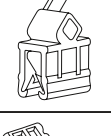
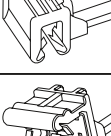
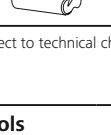
#### EdgeClip-Family



T50SOSEC12E



Material specification please see page 24.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.		Panel Thickness	Material	Colour	Tools	Article-No.
T50SOSEC12E		4.6	160.0	35.0	180	1.0 - 3.0	PA66HS	Black (BK)	2-10	148-00200
T50SOSEC13E		4.6	160.0	35.0	180	1.0 - 3.0	PA66HS	Black (BK)	2-10	126-00000
T40XEC5SP-E		4.0	85.0	15.0	178	1.0 - 3.0	PA66HS	Black (BK)	2;4-8	133-00059
T50SOSEC34E		4.6	155.0	35.0	180	1.0 - 3.0	PA66HS	Black (BK)	2-10	126-00036
T50SOSEC20-E		4.6	161.0	35.0	180	3.0 - 6.0	PA66HS	Black (BK)	2-10	126-00235

All dimensions in mm. Subject to technical changes.

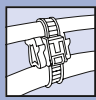
#### Recommended Tools

2	3	4	5	6	7	8	9	10
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9

For more information on toolings please refer to the Application Tooling chapter.



EdgeClips are also available on request for panel thickness from 4–7 mm.



#### 2-Piece Fixing Ties for Edges, 1.0 - 3.0 mm, Top Fixing

##### EdgeClip-Family

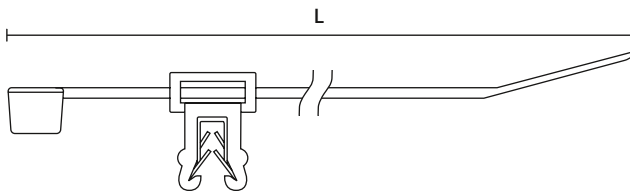
These cable ties and EdgeClip assemblies are ideal for use where holes are not acceptable or where due to temperature problems adhesives will fail. These assemblies are widely used for fixing and bundling cables, pipes and hoses within the automotive industry, harness making, panel building and electrical industry.

##### Features and Benefits

- Pre-assembled 2-piece fixing tie with EdgeClip
- Cable tie head can be moved after bundling
- EC9, EC10, EC21 and EC22 are for minimum bundle diameters of 1 mm
- For edges of 1 – 3 mm



T50ROSEC10 fitted onto a plastic panel to hold a Ø 6 mm harness.



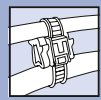
Fixing Tie with EC4



Material specification please see page 24.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
T30REC4A		3.6	148.0	33.0	135	PA66HS	PA66HIRHS	Black (BK)	2;4-6	150-76090
T50SOSEC4A		4.6	150.0	35.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	150-76093
T50ROSEC4A		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	150-76099
T50ROSEC4A-W		4.6	200.0	45.0	225	PA66W	PA66W	Black (BK)	2-10	156-00570
T50REC4A		4.6	202.0	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	150-76091
T30REC4B		3.6	148.0	35.0	135	PA66HS	PA66HIRHS	Black (BK)	2;4-6	150-76080
T50SOSEC4B		4.6	150.0	35.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00109
T50ROSEC4B		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	150-76079
T18REC10SD		2.5	100.0	22.0	80	PA66HS	PA66HIRHS	Black (BK)	2;4-6	155-38304
T50SOSEC10		4.6	150.0	31.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00015
T50ROSEC10		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	156-05904
T18REC9SD		2.5	100.0	22.0	80	PA66HS	PA66HIRHS	Black (BK)	2;4-6	155-37104
T50SOSEC9SD		4.6	150.0	31.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00019
T50ROSEC9		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	156-05903
T50REC9SD		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	156-01280
Q50REC4A		4.7	210.0	45.0	220	PA66W	PA66W	Black (BK)	2-10	156-01085
Q50REC4B		4.7	210.0	45.0	220	PA66W	PA66W	Black (BK)	2-10	156-01086

All dimensions in mm. Subject to technical changes.



### 2-Piece Fixing Ties for Edges, 1.0 - 3.0 mm, Side Fixing

#### EdgeClip-Family

These cable ties and EdgeClip assemblies are ideal for use where holes are not acceptable or where due to temperature problems adhesives will fail. These assemblies are widely used for fixing and bundling cables, pipes and hoses within the automotive industry, harness making, panel building and electrical industry.

#### Features and Benefits

- Pre-assembled 2-piece fixing tie with EdgeClip
- Cable tie head can be moved after bundling
- EC9, EC10, EC21 and EC22 are for minimum bundle diameters of 1 mm
- For edges of 1 – 3 mm



T50ROSEC23 - the cable bundle runs parallel with the edge.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
T30REC5A		3.6	148.0	33.0	135	PA66HS	PA66HIRHS	Black (BK)	2;4-6	156-00003
T50SOSEC5A		4.6	150.0	31.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	150-40593
T50ROSEC5A		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	150-40591
T50SOSEC5B		4.6	150.0	31.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	150-40583
T50REC5B		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	150-40582
T50ROSEC5B		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	150-40581
T18REC21		2.5	100.0	18.0	80	PA66W	PA66HIRHS	Black (BK)	2;4-6	156-01231
T50SOSEC21		4.6	150.0	35.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00017
T50ROSEC21		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00010
T50ROSEC22		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00011
		4.6	200.0	45.0	225	PA66W	PA66HIRHS	Black (BK)	2-10	156-00576
Q50REC5A		4.7	210.0	45.0	220	PA66W	PA66W	Black (BK)	2-10	156-01087
Q50REC5B		4.7	210.0	45.0	220	PA66W	PA66W	Black (BK)	2-10	156-01088

All dimensions in mm. Subject to technical changes.

#### Recommended Tools

2	3	4	5	6	7	8	9	10
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9

For more information on toolings please refer to the Application Tooling chapter.





#### 2-Piece Fixing Ties for Edges, 3.0 - 6.0 mm, Top Fixing

##### EdgeClip-Family

These cable ties and EdgeClip assemblies are ideal for use where holes are not acceptable or where due to temperature problems adhesives will fail. These assemblies are widely used for fixing and bundling cables, pipes and hoses within the automotive industry, harness making, panel building and electrical industry.

##### Features and Benefits

- Pre-assembled 2-piece fixing tie with EdgeClip
- Cable tie head can be moved after bundling
- For minimum bundle diameters of 1 mm
- For edges of 3 – 6 mm



Pre-assembled 2-piece fixing tie with EdgeClip.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
T18ROSEC19		2.5	100.0	20.0	80	PA66HS	PA66HIRHS	Black (BK)	2;4-6	156-04600
T50SOSEC19		4.6	150.0	35.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	156-04601
T50ROSEC19		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	156-04602
T50SOSEC20		4.6	150.0	35.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00016
T50ROSEC20		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00020

All dimensions in mm. Subject to technical changes.

#### 2-Piece Fixing Ties for Edges, 3.0 - 6.0 mm, Side Fixing

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
T50ROSEC23		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00006
T50ROSEC24		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00007

All dimensions in mm. Subject to technical changes.

##### Recommended Tools

2	3	4	5	6	7	8	9	10
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9

For more information on toolings please refer to the Application Tooling chapter.



**Other combinations between cable tie and foot part available on request.**



### 2-Piece Fixing Ties for Edges, twistable

#### EdgeClip-Family

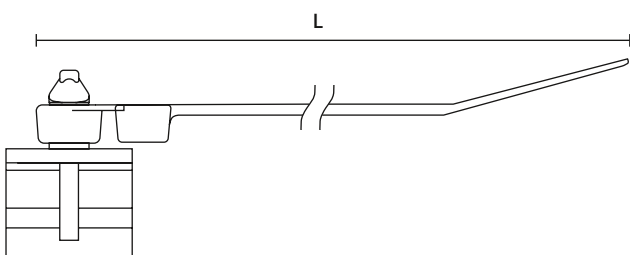
These cable ties and EdgeClip assemblies are ideal for use where holes are not acceptable or where due to temperature problems adhesives will fail. These assemblies are widely used for fixing and bundling cables, pipes and hoses within the automotive industry, harness making, panel building and electrical industry.

#### Features and Benefits

- Pre-assembled 2-piece fixing tie with EdgeClip
- Easy to assemble by hand
- Cable tie head can be moved after bundling
- For edges of 1 – 2.5 mm or 1 – 3 mm
- Can be rotated to the desired position during mounting



EdgeClip CBTO50R, rotatable 90°.



CBT30MR



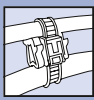
Material specification please see page 24.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Panel Thickness	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
CBT30MR		3.5	160.0	32.0	135	2.5	PA66HS	POM	Black (BK)	2;5-6	156-00049
CBTO50R		4.6	202.0	47.0	225	3.0	PA66HS	PA66HIRHS	Black (BK)	2-10	156-01601
CBTOS50RSTUD5		4.6	200.0	47.0	225	3.0	PA66HS	PA66HIRHS	Black (BK)	2-10	156-00380

All dimensions in mm. Subject to technical changes.

Recommended Tools									
2	3	4	5	6	7	8	9	10	
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	

For more information on toolings please refer to the Application Tooling chapter.



## 2-Piece Fixing Ties with Pipe Clip

These fasteners interconnect two different bundles of goods, of various size and type. The mobility of the fixing tie provides a secure grip and protects the cables or bundles, even in difficult conditions.

### Features and Benefits

- Easy to assemble
- For routing of two different bundles
- For post-installation of additional cables for pre-assembled cable looms
- Ideally used in the automotive industry, but also in all industries where bundles and cables have to be routed and connected

### 2-Piece Fixing Ties with Pipe Clip, twistable 360°

#### Features and Benefits

- Simply clip onto a wire or hose
- Fixing clip offers full 360° rotation
- Routed cable can move in any direction in relation to the fixing point
- Inside serrated cable tie
- Ideally used in the Automotive Industry



### 2-Piece Fixing Ties with Pipe Clip

#### Features and Benefits

- For post-installation of additional cables for pre-assembled cable looms
- Variety of twist angles and even different loop directions provide flexibility for cable routing
- For OC1 and 2A additional cable tie dimensions are available
- CBTO-series for cable ties up to 5 mm





Other product styles are available in the Automotive catalogue.

### 2-Piece Fixing Ties with Pipe Clip, twistable 360°

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	Attach to Ø	Material	Colour	Tools	Article-No.
T50SVC4S		4.7	155.0	35.0	3.8 - 4.2	PA66HS, PP	Black (BK), Natural (NA)	2-10	156-01374
T50SVC6,5		4.7	155.0	35.0	6.5 - 8.0	PA66HS, PA66HIRHS	Black (BK)	2-10	156-01371
T50SVCOC10-14		4.7	155.0	35.0	10.0 - 14.0	PA46	Grey (GY)	2-10	156-01385
T50SVCOC19-24,5		4.7	155.0	35.0	19.0 - 24.5	PA66HS, PA66HIRHS	Black (BK)	2-10	156-01369

All dimensions in mm. Subject to technical changes.

### 2-Piece Fixing Ties with Pipe Clip

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	Attach to Ø	Material	Colour	Tools	Article-No.
T50ROC1B		4.6	202.0	45.0	4.0 - 10.0	PA66HS, PA66HIRHS	Black (BK)	2-10	156-00306

All dimensions in mm. Subject to technical changes.

### 2-Piece Fixing Ties with Pipe, twistable 90°

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	Attach to Ø	Material	Colour	Tools	Article-No.
T50ROC15-18CBTO-SD-SET		4.6	202.0	45.0	15.0 - 18.0	PA66HS, PA66HIRHS	Black (BK)	2-10	156-00419

All dimensions in mm. Subject to technical changes.

### Recommended Tools

2	3	4	5	6	7	8	9	10
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9

For more information on toolings please refer to the Application Tooling chapter.



### 2-Piece Fixing Ties for parallel separation

#### Features and Benefits

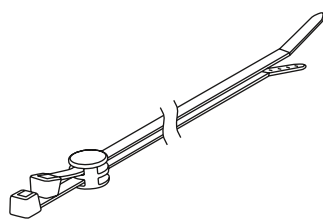
- Pre-assembled 2-piece fixing tie with coupler
- Cable tie head can be moved after bundling
- Easy addition of cables after assembly
- For parallel routing of bundles that can be twisted 90° even after installation



T120RCoupler can be used for parallel routing of two cable ties.



The second tie can be used for post-routing of two cable ties.



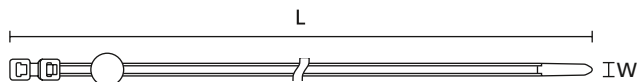
T120RCoupler



Fixing Element - Coupler



**Material specification please see page 24.**



Two Cable Ties with Coupler

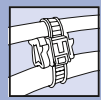
TYPE	Width (W)	Length (L)	Bundle Ø max.		Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
<b>T50RCOUPLER</b>	4.6	202.0	47.0	225	PA46	PA46	Grey (GY)	2-10	156-00382
	4.6	202.0	47.0	225	PA66HIR(S)	PA66HIRHS	Black (BK)	2-10	156-00276
<b>T50RSINGLECOUPLER</b>	4.6	202.0	47.0	225	PA66HIRHS	PA66HIRHS	Black (BK)	2-10	156-01134
<b>T120RCOUPLER</b>	7.6	390.0	105.0	535	PA66HIR(S)	PA66HIRHS	Black (BK)	3;9-12	156-00275
<b>T120RSINGLECOUPLER</b>	7.6	390.0	105.0	535	PA66HIR(S)	PA66HIRHS	Black (BK)	3;9-12	156-00550

All dimensions in mm. Subject to technical changes.

#### Recommended Tools

2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



### 1-Piece Fixing Ties with rivet, releasable

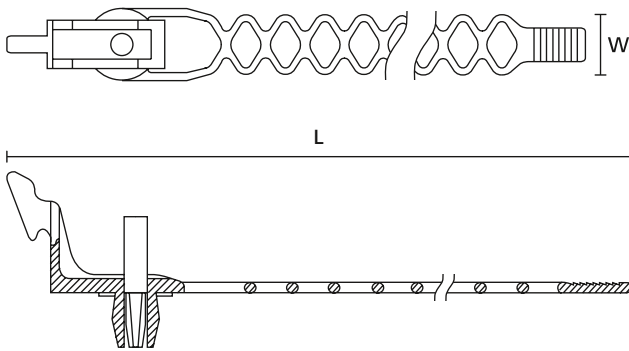
Offering a very secure fixing, particularly in applications suffering from vibration, these rivet fixing ties are simple and quick to install. Designed originally for the automotive industry they are now widely used in many industries as diverse as agriculture and ship building.

#### Features and Benefits

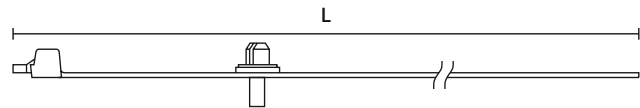
- Simple to install with wings to lock ties firmly in place
- Releasable and reusable
- RELF and RI ranges are conventional 'serrated' cable ties
- FBR range has a 'ladder-type' design for a very flexible strap



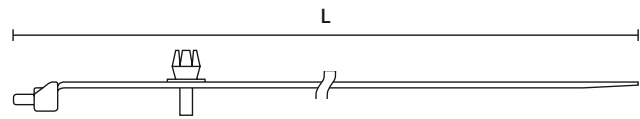
Fixing ties with rivet for especially safe fixing.



Fixing ties type FBR



Fixing ties type RELF



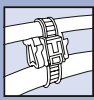
Fixing ties type RI

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Hole Ø (FH)	Panel Thickness	Material	Colour	Tools	Article-No.
RI 80	7.0	80.0	16.0	265	6.9 - 7.1	0.8 - 2.2	PA12	Black (BK)	2-12	131-14080
RELF170	8.0	180.0	44.0	225	6.3	2.5 - 2.5	PA66HIR	Black (BK)	9-12	115-40902
RI 120	9.0	120.0	28.0	265	6.9 - 7.1	0.8 - 2.2	PA12	Black (BK)	3;9-12	131-14120
RI 160	9.0	160.0	41.0	265	6.9 - 7.1	0.8 - 2.2	PA12	Black (BK)	11-12	131-14160
FBR6/140	12.0	158.0	42.0	-	6.2 - 6.5	0.8 - 2.5	PA66	Black (BK)	11-12	150-27140

All dimensions in mm. Subject to technical changes.

Recommended Tools										
2	3	4	5	6	7	8	9	10	11	12
MK20	MK21	MK3SP	MK3PNP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P

For more information on toolings please refer to the Application Tooling chapter.



### 2-Piece Fixing Ties for Heavy Duty Applications, for Screws

Used in the automotive and truck industry for harness fixing in the engine body, these parts offer solutions in many other industrial applications within difficult environments.

#### Features and Benefits

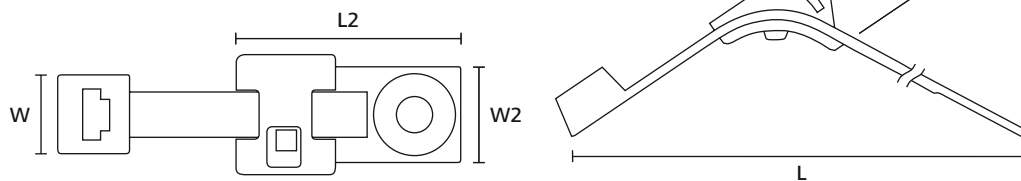
- Pre-assembled 2-piece fixing tie
- Cable tie head can be moved after bundling
- Secure alignment to the bundle due to H-design
- A suitable alternative for metal clamps
- Withstands vibrations and displacement forces
- High tightening torque through metal bushing



These HDM are suitable for assembling on screws.



**Material specification please see page 24.**



HDM6/HDM8 with cable tie (L = length of tie "flat")

TYPE	Width (W)	Width (W2)	Length (L)	Length (L2)	Height (H)	Bundle Ø max.	Mounting Screw Type	Material	Colour	Tools	Article-No.
T50RHDM6	4.6	20.0	200.0	37.5	16.0	50.0	M6	PA66HIRHS	Black (BK)	2-10	156-00410
X80RHDM6O	4.6	26.0	200.0	34.7	15.5	23.0	M6	PA66HS, PA66HIRHS	Black (BK)	2-12	156-01219
T120RHDM6	7.6	20.0	390.0	37.5	16.0	105.0	M6	PA46	Grey (GY)	3;9-12	156-00407
	7.6	20.0	390.0	37.5	16.0	105.0	M6	PA66HIRHS	Black (BK)	3;9-12	156-00406
T120RHDM8	7.6	20.0	390.0	37.5	16.0	105.0	M8	PA46	Grey (GY)	3;9-12	156-00409
	7.6	20.0	390.0	37.5	16.0	105.0	M8	PA66HIRHS	Black (BK)	3;9-12	156-00408
X120RHDM6L	7.7	20.0	369.0	61.0	16.0	100.0	M6	PA66HIRHS, PA6GF15	Black (BK)	3;9-12	156-01105
X120RDHDM6	7.7	25.4	369.0	59.4	15.5	100.0	M6	PA66HIRHS	Black (BK)	3;9-12	156-01096
X120RDHDM8	7.7	25.4	369.0	59.4	15.5	100.0	M8	PA66HIRHS	Black (BK)	3;9-12	156-01097
X120RHDM65 x160	7.7	32.0	369.0	40.2	15.5	100.0	M6	PA66HIRHS	Black (BK)	3;9-12	156-01466

All dimensions in mm. Subject to technical changes.

Recommended Tools											
2	3	4	5	6	7	8	9	10	11	12	
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P	

For more information on toolings please refer to the Application Tooling chapter.

## Information and installation instructions for self-adhesive mounting bases

HellermannTyton uses different types of adhesives for self-adhesive bases: acrylate and synthetic rubber. These differ in the operating temperature range and the 'pull off' force of the adhesive. Synthetic rubber has an excellent initial grip, allowing for almost immediate use. Acrylate adhesive has less initial grip, so there is a need to wait for a few hours before use, but has a higher 'pull off' force than synthetic rubber. This enables a permanent fixing lasting months or even years. To use these adhesives the surface must be dry, and free of dust, oil, oxides, parting agents and other impurities. For this the use of isopropanol / water (50/50) is recommended. After cleaning allow the surface to dry completely. Peel off the protective backing on the self-adhesive base, ensuring the adhesive is not touched. Apply the part to the surface and press down firmly for several seconds.

ADHESIVE		Adhesive Operating Temperature
Synthetic rubber with base of polyethylene foam	Synthetic rubber T50	-20 °C to +50 °C
	Synthetic rubber T60	-40 °C to +60 °C
Acrylate with base of polyurethane foam	Acrylate	to +105 °C
Acrylate with base of acrylic foam	mod. Acrylate	-40 °C to +90 °C

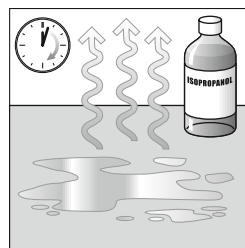


We will be happy to send you on request an up-to-date technical datasheet for whichever adhesive you are using.

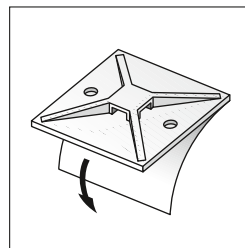
## Instructions for use



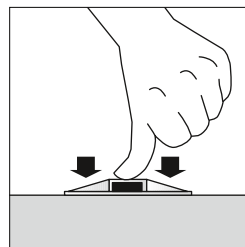
1. The surface must be dry, free from dust, oil, oxides, parting agents and other impurities. The surface to be glued should be cleaned using a clean cloth and isopropanol / water (50/50). When using other appropriate cleaning agents, ensure that they do not attack the surface nor leave any residues.



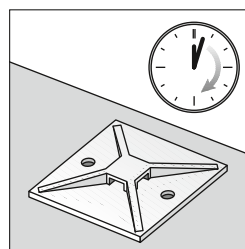
2. After cleaning allow the surface to air-dry completely.



3. Peel off protective backing and ensure the adhesive area is not touched.

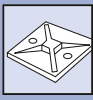


4. Press down firmly on the base with the thumbs for several seconds.



5. Depending on the type of adhesive, wait for several minutes (synthetic rubber) or hours (acrylate) so that the adhesive can bond completely with the surface.





### Fixing Parts with Special Adhesive

SolidTack mounts offer an innovative fixing solution especially for low energy surfaces like PP, PE or if drilling a hole is not possible. Suitable for a wide range of indoor and outdoor applications on varnished, plastic or metal surfaces in many areas e. g. electrical cabinet, railway, aerospace, automotive and agricultural machinery.

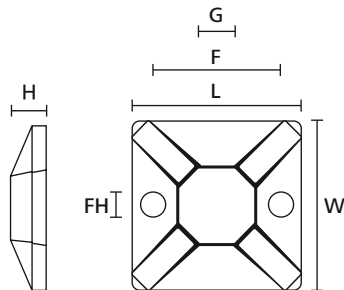
#### Features and Benefits

- MB mounts with homogeneous system of acrylic adhesive
- Very good initial adhesion, increases with time
- High cohesive strength combined with good weathering resistance
- Innovative fixing solution for low energy surfaces like PP, PE or painted / varnished surfaces
- Protection foil with finger lift for easy peel off



SolidTack products work on varnished and powder coated surfaces.

#### SolidTack-Series MB



MB3-MB5 (side view) MB3-MB5 (plan view)



One Step to the Web!



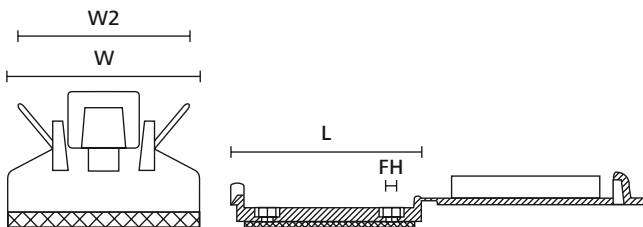
For more information on the types of adhesive please see page 129.

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Fixing Hole Centres (F)	Strap Width max. (G)	Material	Colour	Adhesive	Pack Cont.	Article-No.
MB2APT	13.0	13.0	4.1	-	-	2.7	PA66	Black (BK)	mod. Acrylate	100 pcs.	151-00996
MB3APT	19.0	19.0	3.8	3.1	13.2	4.1	PA66	Black (BK)	mod. Acrylate	100 pcs.	151-00432
	19.0	19.0	3.8	3.1	13.2	4.4	PA66	Natural (NA)	mod. Acrylate	100 pcs.	151-00514
MB4APT	28.0	28.0	4.7	4.0	20.2	5.4	PA66	Black (BK)	mod. Acrylate	100 pcs.	151-00433
	28.0	28.0	4.7	4.0	20.2	5.6	PA66	Natural (NA)	mod. Acrylate	100 pcs.	151-00587
MB5APT	38.0	38.0	6.3	4.7	25.3	10.0	PA66	Black (BK)	mod. Acrylate	100 pcs.	151-00434

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### SolidTack-Series FKH



Flat Ribbon Cable Mount (front view)

Flat Ribbon Cable Mount (side view)

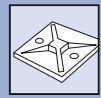


Based on extremely soft wings any flat cable is gently fastened.

TYPE	Width (W)	Width (W2)	Length (L)	Hole Ø (FH)	For Cable Width max.	Material	Colour	Adhesive	Pack Cont.	Article-No.
FKH50AVHB	25.0	22.0	56.5	3.1	50.0	PA66HIR	Black (BK)	mod. Acrylate	100 pcs.	151-00312
FKH80AVHB	25.0	22.0	86.0	3.1	80.0	PA66HIR	Black (BK)	mod. Acrylate	100 pcs.	151-00313

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



### Self Adhesive, Screw Fixing Cable Tie Mounts

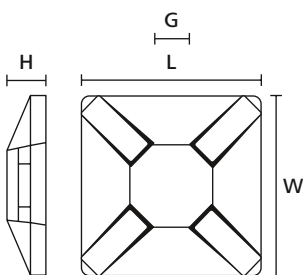
Where speed, simplicity and a firm fixing base are required these self adhesive clips are ideal. Particularly suitable for use in control cabinets, telecoms equipment or domestic appliances where the use of holes, screws or nuts and bolts are impractical or undesirable.

#### Features and Benefits

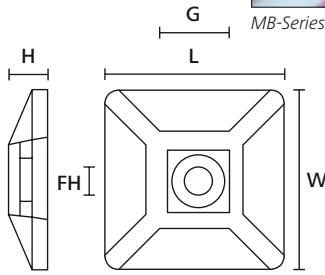
- Screw or self-adhesive versions
- Simple to install with a screw or bolt
- Excellent security, particularly in areas of high vibration
- Maximum adhesive surface area to achieve high pull-off force
- 4-way entry for cable tie for quicker and more flexible installation



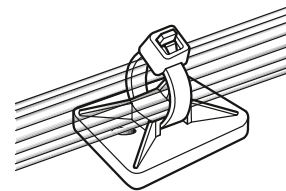
#### MB-Series Square-Cut, self adhesive, screwable



Cable Tie Mount MB2A (side and plan view)



Cable Tie Mount MB4CA (side and plan view)



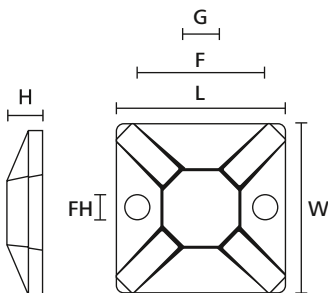
Cable Tie Mount MB3A in application

MB-Series Mounts with square design / screwable, self adhesive.

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Adhesive	Pack Cont.	Article-No.
MB2A	13.0	13.0	4.1	-	2.7	PA66	Natural (NA)	Synthetic rubber T60	100 pcs.	151-01802
MB3A	19.0	19.0	3.8	3.1	4.1	PA66	Black (BK)	Synthetic rubber T60	100 pcs.	151-28320
	19.0	19.0	3.8	3.1	4.1	PA66	Natural (NA)	Synthetic rubber T60	100 pcs.	151-28349
MB4A3	28.0	28.0	4.7	4.0	5.4	PA66	Black (BK)	Acrylate	100 pcs.	151-28430
MB4A	28.0	28.0	4.7	4.0	5.4	PA66	Black (BK)	Synthetic rubber T60	100 pcs.	151-28412
	28.0	28.0	4.7	4.0	5.4	PA66	Natural (NA)	Synthetic rubber T60	100 pcs.	151-28469
MB4CA*	29.0	29.0	5.7	4.2	5.4	PA66	Natural (NA)	Synthetic rubber T60	100 pcs.	151-28459
MB4CAS	29.0	29.0	5.7	4.2	5.4	PA66	Natural (NA)	Synthetic rubber T60	100 pcs.	151-28449
MB5A	37.7	37.7	7.1	4.8	8.9	PA66	White (WH)	Synthetic rubber T50	100 pcs.	151-28529
MB5A3	38.0	38.0	6.4	4.7	10.0	PA66	Black (BK)	Acrylate	100 pcs.	151-28530

All dimensions in mm. Subject to technical changes. Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available. \* Plastic box

#### MB-Series Square-Cut, screwable



MB3-MB5 (side view)

MB3-MB5 (plan view)



Material specification please see page 24.



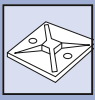
For more information on the types of adhesive please see page 129.

TYPE	Width (W)	Length (L)	Height (H)	Fixing Hole Centres (F)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
MB3	19.0	19.0	3.8	13.2	3.1	4.1	PA66	Natural (NA)	100 pcs.	151-28359
MB4	28.0	28.0	4.7	20.0	4.0	5.4	PA66	Natural (NA)	100 pcs.	151-28479
MB5	37.7	37.7	6.2	25.3	4.8	8.9	PA66	White (WH)	100 pcs.	151-00324

All dimensions in mm. Subject to technical changes. Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



## Cable Tie Mounts for food industry, detectable

### MCMB-Series, screwable

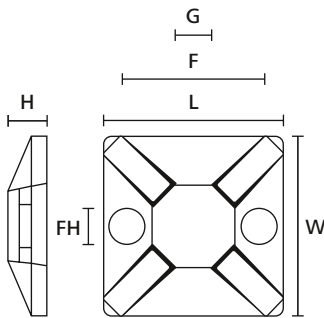
MCMB mounts are ideally suited for holding MCT-Series cable ties in position, even in areas of high vibration such as food manufacturing equipment and automated packaging machines.

#### Features and Benefits

- Distinctive blue colour for easy visual detection
- Simple to install with a screw or bolt
- Provides a secure fixing solution for routing cables, tubes and hoses
- 4-way entry of the cable tie for a quicker and more flexible installation
- Magnetic detectable – perfect for use with food and pharmaceutical grade detection equipment
- Total metal dispersion provides consistent detectability, even for small 'cut-off' pieces
- Greatly reduced risk of contamination within food products
- Usable as part of HACCP process\*



Detectable fixing solution containing of MCMB mount and MCT cable tie.



MCMB Mount (side and plan view)



One Step to the Web!

TYPE	Width (W)	Length (L)	Height (H)	Fixing Hole Centres (F)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
MCMB3	19.0	19.0	3.8	13.2	3.1	3.5	PA66MP	Blue (BU)	100 pcs.	151-01169
MCMB4	28.0	28.0	4.7	20.0	4.0	4.7	PA66MP	Blue (BU)	100 pcs.	151-01170

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

\*HACCP stands for Hazard Analysis Critical Control Points. It is a method of identifying and eliminating potential hazards in food production. Those hazards that cannot be eliminated are controlled in such a way that the consumer is protected. These controls are known as Critical Control Points (CCPs). They are CRITICAL because if they fail or are not carried out, the risk of the product harming the customer, increases.



Material specification please see page 24.



The MCMB mount can ideally be combined with MCT cable ties on page 62.



For product specific approvals and specifications please refer to the Appendix.

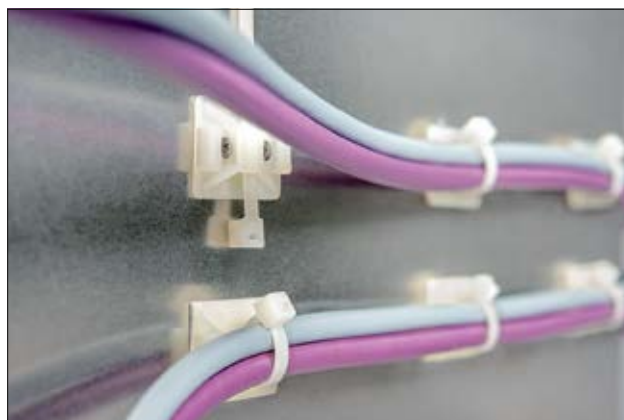


### Self Adhesive, Screw Fixing Cable Tie Mounts

These products are designed for simple, yet robust, installation in a wide variety of applications - particularly used in telecoms equipment, switchgear and control cabinets.

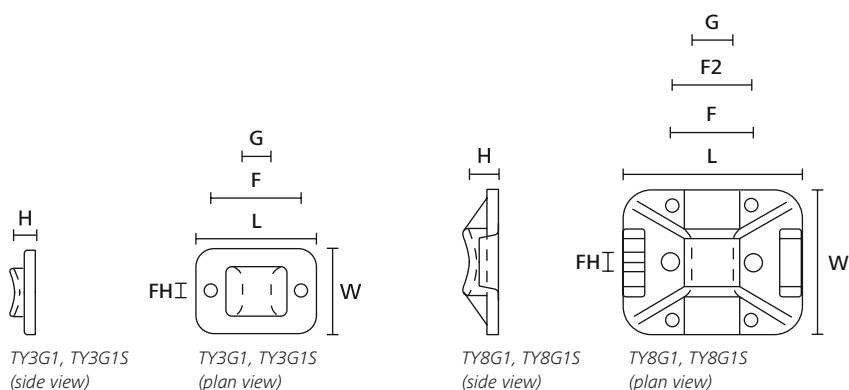
#### Features and Benefits

- Screwable or self-adhesive versions
- Concave design to support larger diameter cables and bundles
- 2-way mounting base for safe guiding of cables and conduits
- Suitable for applications with minimal space
- Mounted before cable installation
- Usable with standard cable ties



TY-Series mounts with rectangle design / screwable, self adhesive.

#### TY-Series Rectangle Design, screwable



TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Fixing Hole Centres (F)	Fixing Hole Centres (F2)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
TY3G1	14.0	20.0	3.7	2.2	15.0	-	4.0	PA66	Natural (NA)	100 pcs.	151-21319
TY8G1	25.0	32.0	5.5	3.2	15.0	14.0	8.0	PA66	Natural (NA)	100 pcs.	151-21819

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### TY-Series Rectangle Design, self adhesive, screwable

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Fixing Hole Centres (F)	Fixing Hole Centres (F2)	Strap Width max. (G)	Material	Colour	Adhesive	Pack Cont.	Article-No.
TY3G1S	14.0	20.0	3.7	2.2	15.0	-	4.0	PA66	Natural (NA)	Acrylate	100 pcs.	151-11319
	14.0	20.0	3.7	2.2	15.0	-	4.0	PA66W	Black (BK)	Acrylate	100 pcs.	151-11310
TY8G1S	25.0	32.0	5.5	3.2	15.0	14.0	8.0	PA66	Natural (NA)	Acrylate	100 pcs.	151-11819
	25.0	32.0	5.5	3.2	15.0	14.0	8.0	PA66W	Black (BK)	Acrylate	100 pcs.	151-11810

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For more information on the types of adhesive please see page 129.



### Cable Tie Mounts Q-Series

#### Features and Benefits

- Screw or self adhesive versions
- Perfect for combination with Q-ties
- 4-way entry for Q-tie
- Adhesive with high pull-off force
- Q-Mount base secures the Q-tie in a vertical position, leaving the hands free to apply cables

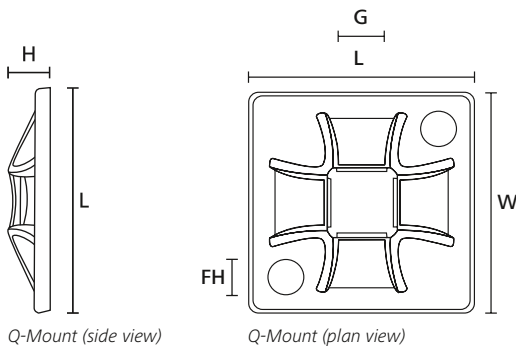


Application video: Q-Series



Q-Mount QM, 4-way entry, self adhesive, screwable.

#### Q-Mount-Series QMA, self adhesive, screwable



The Q-mount base locks the Q-tie in vertical position, leaving the hands free to apply the cables.



Without additional effort only Q-ties can be used for temporary and final cable bundling.

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Adhesive	Pack Cont.	Article-No.
QM20A	20.0	20.0	3.7	3.1	4.0	PA66	Black (BK)	Synthetic rubber T60	100 pcs.	151-10914
	20.0	20.0	3.7	3.1	4.0	PA66	Natural (NA)	Synthetic rubber T60	100 pcs.	151-10904
QM30A	30.0	30.0	4.5	4.1	5.1	PA66	Black (BK)	Synthetic rubber T60	100 pcs.	151-10915
	30.0	30.0	4.5	4.1	5.1	PA66	Natural (NA)	Synthetic rubber T60	100 pcs.	151-10905
QM40A	40.0	40.0	5.5	4.1	8.4	PA66	Black (BK)	Synthetic rubber T60	50 pcs.	151-10916
	40.0	40.0	5.5	4.1	8.4	PA66	Natural (NA)	Synthetic rubber T60	50 pcs.	151-10906

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

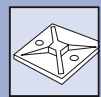
#### Q-Mount-Series QM, screwable

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
QM20	20.0	20.0	3.7	3.1	4.0	PA66	Natural (NA)	100 pcs.	151-10901
	20.0	20.0	3.7	3.1	4.0	PA66	Black (BK)	100 pcs.	151-10911
QM30	30.0	30.0	4.5	4.1	5.1	PA66	Natural (NA)	100 pcs.	151-10902
	30.0	30.0	4.5	4.1	5.1	PA66	Black (BK)	100 pcs.	151-10912
QM40	40.0	40.0	5.5	4.1	8.4	PA66	Natural (NA)	50 pcs.	151-10903
	40.0	40.0	5.5	4.1	8.4	PA66	Black (BK)	50 pcs.	151-10913

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



### Screw Fixing Cable Tie Mounts CTQM

#### Q-Mount-Series CTQM

CTQM mounts are ideally suited for holding our innovative Q-ties in place. They would perfectly fit to all applications where a reliable and durable fixation is required and where space is limited.

#### Features and Benefits

- 2-way mounting base for safe guiding of cables and conduits
- For cable ties up to 5 mm wide
- Uses screw with countersunk head (max.  $\varnothing$  of head: 8.0 mm)
- Perfect for combination with Q-ties
- Pre-assembly feature
- Provides a secure hold with Q-ties, particularly in difficult situations such as vertical mounting positions



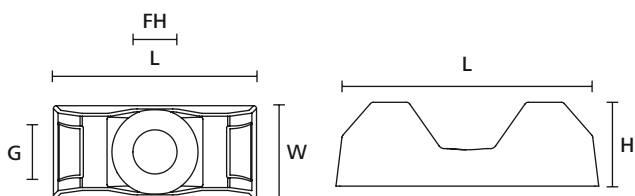
Q-Mount, CTQM 2-way entry, screwable.



**Material specification please see page 24.**



**Please find more Q-Series products for your system solution on page 54, 134 and 459.**



CTQM-Series (plan view)

CTQM-Series (side view)

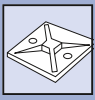
TYPE	Width (W)	Length (L)	Height (H)	Hole $\varnothing$ (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
CTQM5	9.5	21.0	6.7	4.5	5.0	PA66	Natural (NA)	100 pcs.	151-10920
	9.5	21.0	6.7	4.5	5.0	PA66	Black (BK)	100 pcs.	151-10930

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



### Paste Adhesive Mount

#### PMB5 mount for uneven surfaces

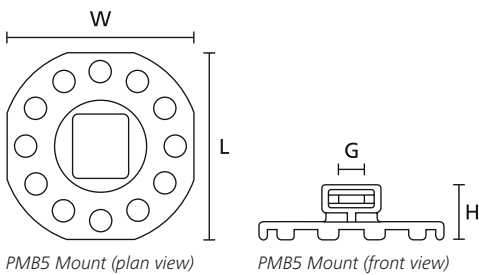
The PMB5 mount offers a fixing solution for applications where a screw fixing is not possible. Due to a larger diameter the mount can even be installed onto uneven surfaces. PMB5 mounts are used in the railway industry as well as in the renewable energy industry. Further applications can be seen in the ship building and electrical industries and the production of switching cabinets.

#### Features and Benefits

- PMB5 paste adhesive mount for fixings with paste / liquid adhesive
- Mount geometry offers a good form closure with cured adhesive
- Can even be installed onto uneven surfaces due to large diameter
- Can also be applied in combination with hot-melt adhesive, as mount is made of heat resistant PA66



PMB5 mount with paste adhesive.



**Material specification please see page 24.**

TYPE	Width (W)	Length (L)	Height (H)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
PMB5	36.0	36.0	10.7	4.8	PA66HS	Black (BK)	100 pcs.	151-00498

All dimensions in mm. Subject to technical changes.  
 Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



### Screw Fixing Mounts

#### LKC- and NY-Series with overlapping curved design

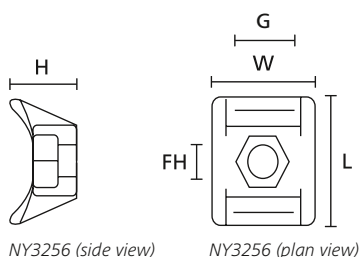
Designed specifically for holding heavier cable bundles, these mounting bases can be used in many industries from agriculture to truck manufacturing. They offer a very secure fixing and can be used with a wide variety of heavy duty cable ties up to 13 mm wide.

#### Features and Benefits

- Curved design for additional cable support
- Simple to install with a screw or bolt
- Excellent security, particularly in areas of high vibration



Cable Tie Mounts LKC Series.



NY3256 (side view)

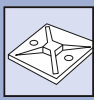
NY3256 (plan view)

TYPE	Drawing	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
LKC		17.0	25.0	13.5	5.5	8.0	PA66	Natural (NA)	100 pcs.	151-27019
		17.0	25.0	13.5	5.5	8.0	PA66	Black (BK)	100 pcs.	151-27010
LKCSF1		19.0	40.0	16.8	6.0	13.0	PA66	Natural (NA)	100 pcs.	151-27219
		19.0	40.0	16.8	6.0	13.0	PA66	Black (BK)	100 pcs.	151-27202
NY3256		12.0	13.5	7.8	3.0	8.0	PA66	Natural (NA)	1,000 pcs.	151-25219

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.





### Screw Fixing Mounts

#### Cable Tie Mounts with curved design

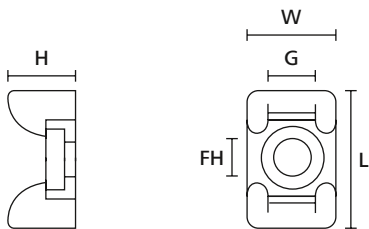
Designed specifically for holding heavier cable bundles, these mounting bases can be used in many industries from agriculture to truck manufacturing. They offer a very secure fixing and can be used with a wide variety of heavy duty cable ties up to 8.3 mm wide.

#### Features and Benefits

- Curved design for additional cable support
- Simple to install with a screw or bolt
- Excellent security, particularly in areas of high vibration



The KR-E/TFE mounts can ideally be combined with the E/TFE-cable ties on page 47.



KR6G5, KR8G5 and CTM (side view)

KR6G5, KR8G5 and CTM (plan view)



Cable Tie Mounts KR6G5, KR8G5 and CTM.



Fixing Tie Mount KR6G5-E/TFE.



Detectable fixing solution containing of MCKR Mount and MCTS cable tie.

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
CTM0	9.4	14.7	6.9	3.8	5.0	PA66	Black (BK)	100 pcs.	151-30300
	9.4	14.7	6.9	3.8	5.0	PA66	White (WH)	100 pcs.	151-30303
CTM1	9.4	14.7	6.9	4.8	5.0	PA66	Black (BK)	100 pcs.	151-30400
	9.4	14.7	6.9	4.8	5.0	PA66	White (WH)	100 pcs.	151-30404
KR6G5	11.8	17.8	8.8	4.5	6.4	E/TFE	Blue (BU)	100 pcs.	151-00653
MCKR6G5	11.8	17.8	8.8	4.5	6.4	PA66MP+	Blue (BU)	100 pcs.	151-00950
KR6G5	12.0	18.0	9.0	4.5	6.0	PA66	Natural (NA)	100 pcs.	151-24619
	12.0	18.0	9.0	4.5	6.0	PA66W	Black (BK)	100 pcs.	151-24660
MCKR8G5-5	14.3	24.8	12.0	5.2	8.3	PA66MP+	Blue (BU)	100 pcs.	151-01020
KR8G5	14.3	24.8	12.1	6.5	8.3	E/TFE	Blue (BU)	100 pcs.	151-00654
	14.5	25.0	12.0	6.5	8.0	PA66	Natural (NA)	100 pcs.	151-24819
	14.5	25.0	12.0	6.5	8.0	PA66HS	Black (BK)	100 pcs.	151-24850
CTM2	15.5	21.8	9.4	4.6	7.9	PA66	Black (BK)	100 pcs.	151-30500
	15.5	21.8	9.4	4.6	7.9	PA66	White (WH)	100 pcs.	151-30504
CTM3	15.5	21.8	9.4	5.1	7.9	PA66	Black (BK)	100 pcs.	151-30600
	15.5	21.8	9.4	5.1	7.9	PA66	White (WH)	100 pcs.	151-30605
CTM4	15.8	21.8	9.4	6.4	7.9	PA66	Black (BK)	100 pcs.	151-30700
	15.8	21.8	9.4	6.4	7.9	PA66	White (WH)	100 pcs.	151-30703

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Material specification please see page 24.



For product specific approvals and specifications please refer to the Appendix.



### Screw Fixing Mounts

#### CTAM-Series for applications where space is limited

Each of these products offer particular benefits, but all are designed for simple, yet robust, installation in a wide variety of applications. Particularly used in telecoms equipment, switchgear and control cabinets.

#### Features and Benefits

- Suitable for applications with minimal space
- Mounted before cable installation and in line with cable
- CTAM has 4-way entry design for use in line or at 90° angle to cable run
- CTAM mounts are available in different sizes and materials



CTAM mounts, for applications with limited space.



The CTAM mounts made of PEEK are the ideal complement for the PEEK tie on page 66.



The CTAM mounts made of PA66MP+ are the ideal complement for MCTS ties on page 64.



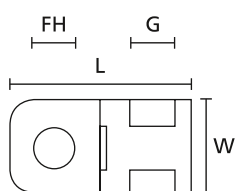
PEEK fixing solution containing of CTAM and PT2A for temperatures up to 240 °C.



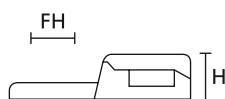
Detectable fixing solution containing of MCCTAM1 mount and MCTS cable tie.



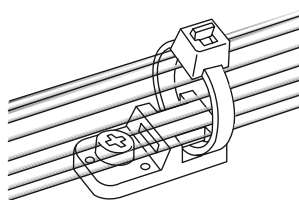
One Step to the Web!



CTAM-Series (plan view)



CTAM-Series (side view)



CTAM-Series in application

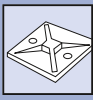
TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
CTAM1	10.2	20.4	5.1	4.3	5.0	PA66	White (WH)	100 pcs.	151-31103
CTAM2	10.2	20.4	5.1	5.2	5.0	PA66	White (WH)	100 pcs.	151-31203
CTAM1	10.2	20.5	5.5	4.3	4.6	PEEK	Beige (BGE)	100 pcs.	151-00757
CTAM2	10.2	20.5	5.5	5.2	4.6	PEEK	Beige (BGE)	100 pcs.	151-00758
MCCTAM1	10.3	20.7	5.1	4.3	5.0	PA66MP+	Blue (BU)	100 pcs.	151-00997

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



### Mounts for Screw Fixing

These products are designed for simple, yet robust, installation in a wide variety of applications - particularly used in telecoms equipment, switchgear and control cabinets.

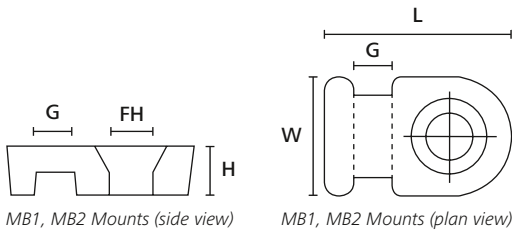
#### Features and Benefits

- Simple to install with a screw or bolt
- Excellent security, particularly in areas of high vibration
- Single hole fixing with two-way entry for cable tie



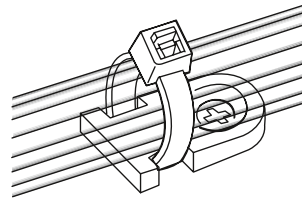
TY- (l) and MB-Series (r) with curved design, screwable.

#### MB-Series Curved Design, screwable



MB1, MB2 Mounts (side view)

MB1, MB2 Mounts (plan view)



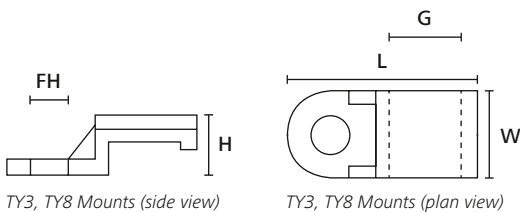
MB1, MB2 Mounts in application

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
MB1	8.0	12.5	3.5	2.9	2.6	PA66	Natural (NA)	100 pcs.	151-28119
MB2	12.5	20.5	3.3	5.0	5.0	PA66	Black (BK)	100 pcs.	151-28210
	12.5	20.5	3.3	5.0	5.0	PA66	Natural (NA)	100 pcs.	151-28219

All dimensions in mm. Subject to technical changes.

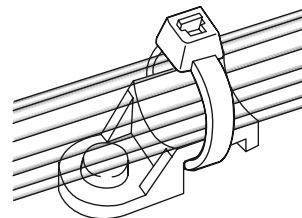
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### TY-Series Curved Design, screwable



TY3, TY8 Mounts (side view)

TY3, TY8 Mounts (plan view)



TY3, TY8 Mounts in application

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
TY3F1	8.0	19.0	7.2	3.5	5.0	PA66	Natural (NA)	1,000 pcs.	151-23319
TY8F1	10.0	22.4	7.2	4.5	8.0	PA66	Natural (NA)	1,000 pcs.	151-23819

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



### Screw Fixing Mounts

#### LKM / CL / FH with curved design for sideways fixing

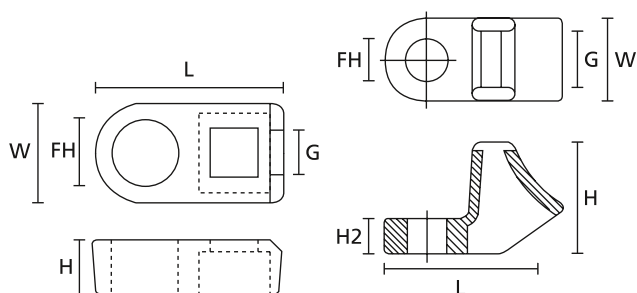
In areas with limited space, these mounting bases allow the cable to be offset from the fixing hole, and can be installed in the equipment prior to the cable installation. A major cost saving can be made by using these products as many different sizes of standard cable ties can be used, reducing the need to stock a wide range of specific fixing ties.

#### Features and Benefits

- Screw mounts for fixing cable sideways
- Ideal for securing large, heavier bundles
- Suitable for cable ties up to 8 mm wide

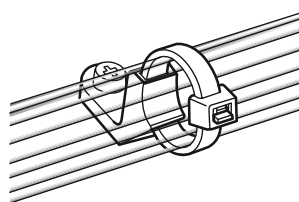


LKM, CL8 and FH cable tie mounts for applications with limited space.



FH cable tie mounts  
(plan and side view)

LKM, CL8 cable tie mounts  
(plan and side view)



CL8 cable tie mount in application

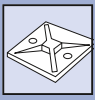
TYPE	Width (W)	Length (L)	Height (H)	Height (H2)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
FH18	7.1	13.3	4.0	-	3.7	2.5	PA66	Natural (NA)	500 pcs.	151-61119
FH30	9.5	17.9	4.7	-	5.5	3.5	PA66	Natural (NA)	500 pcs.	151-61319
FH50	11.3	22.2	6.2	-	7.1	4.6	PA66	Natural (NA)	500 pcs.	151-61519
LKM	12.0	27.0	16.0	5.0	6.0	7.6	PA66	Black (BK)	100 pcs.	151-26301
	12.0	27.0	16.0	5.0	6.0	7.6	PA66	Natural (NA)	100 pcs.	151-26304
CL8	12.5	27.3	16.0	5.0	6.5	8.0	PA66	Natural (NA)	100 pcs.	151-26819
	12.5	27.3	16.0	5.0	6.5	8.0	PA66W	Black (BK)	100 pcs.	151-26860

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



**Material specification  
please see page 24.**



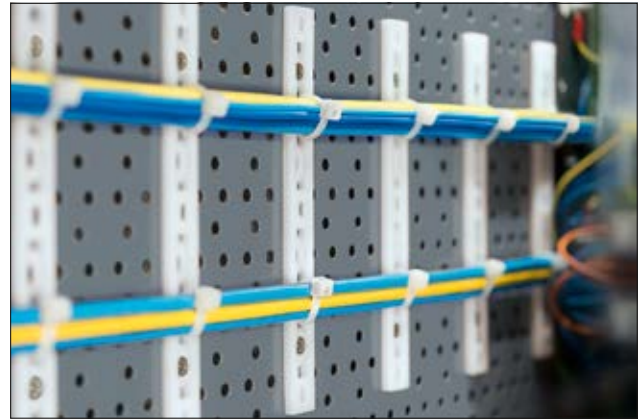
### Mounting Plates for Screw Fixing

#### MP-Series for parallel bundling

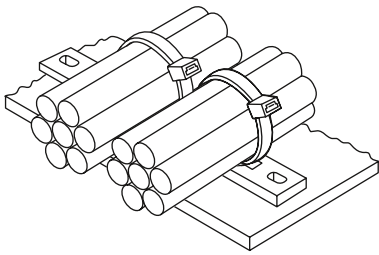
Many applications require each cable run to be firmly held in place but separately from adjacent cable runs (example - control cabinets, machinery and military systems). The MP series of mounts helps to achieve this.

#### Features and Benefits

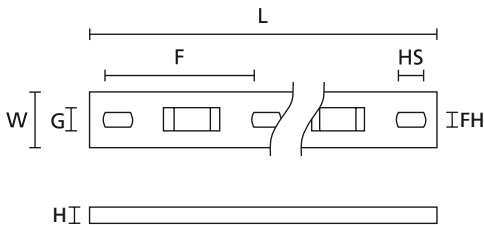
- Allow multiple cables to be run in parallel
- Simple to fix with two screws
- Cables are fixed by using a cable tie through any combination of the available slots




MSMP mounting plates, screwable.



Mounting plates in application



Mounting plates MP and MSMP  
(plan and side view)

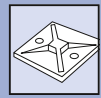
 **Material specification please see page 24.**

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	No. of bundles	Material	Colour	Pack Cont.	Article-No.
MP2M3	12.7	76.2	3.2	3.7	5.2	2	PA66	Natural (NA)	100 pcs.	151-24219
MP3M3	12.7	108.0	3.2	3.7	5.2	3	PA66	Natural (NA)	100 pcs.	151-24319
MP4M3	12.7	139.8	3.2	3.7	5.2	4	PA66	Natural (NA)	100 pcs.	151-24419
MP5M3	12.7	171.6	3.2	3.7	5.2	5	PA66	Natural (NA)	100 pcs.	151-24519
MSMP5/10	15.8	204.5	5.3	5.1	7.6	5	PA66	Natural (NA)	100 pcs.	151-25519
MSMP6/6	15.8	244.0	5.3	3.8	7.6	6	PA66	Natural (NA)	100 pcs.	151-25619
MSMP4	15.9	167.0	5.2	5.1	8.2	4	PA66	Natural (NA)	500 pcs.	150-83499

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



### Screw Fixing Mounts

#### Stainless Steel 316 mounts

Suitable for the secure fixing of cables, tubing, conduits and pipes within the most arduous of environments. Providing a complete fastening and fixing solution when used in conjunction with stainless steel ties up to 10.0 mm width. They are ideal for use within shipbuilding, oil and gas (offshore), industrial machinery and vehicles, food and beverage, power, renewable energy and process industries.

#### Features and Benefits

- 2-way fixing for stainless steel cable ties
- High performance stainless steel 316 material
- Heavy duty design
- Robust and durable solution
- Resistant to a range of materials and conditions
- Quick and easy to install
- Safe and secure solution for cables, tubing, conduits and pipes
- Ideal for a range of industries and applications

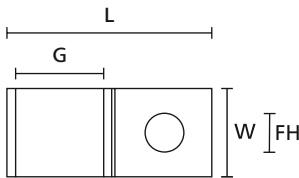


Stainless Steel P-Mount SSPC for use in arduous environments.



One Step to the Web!

**i** The SSPC-Mounts can ideally be combined with the MBT cable ties on page 83–89 and with the MST and MLT cable ties on page 90, 91.



SSPC-Series (plan view)

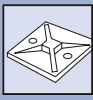


SSPC-Series (side view)

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
SSPC4	10.2	23.0	4.5	4.2	10.0	SS316	Metal (ML)	100 pcs.	151-00837
SSPC5	10.2	23.0	4.5	5.3	10.0	SS316	Metal (ML)	100 pcs.	151-00838
SSPC6	10.2	23.0	4.5	6.3	10.0	SS316	Metal (ML)	100 pcs.	151-00839

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



### Harness Clip for Heavy Duty Applications, for Screws or threaded Bolts

Primarily designed for use in the automotive / truck industry, these parts can be used in a wide variety of industries and applications where bundles need mounting.

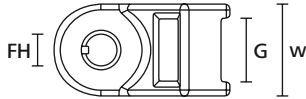
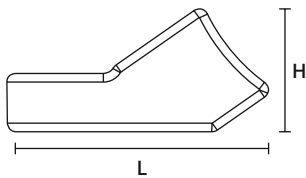
#### Features and Benefits

- Secure alignment to the bundle due to H-design
- Pre-fixing of clip with integrated nose (standard types)
- For cable ties up to 12.7 mm wide
- High tightening torque through metal bushing
- Easy maintenance of bundle by simply changing the cable tie



Heavy Duty Mounts HDM-Series, U.S. Patent Number 5820083.

#### Standard Torque Mounts



HDM19, 25, 312



Material specification please see page 24.

TYPE	Drawing	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
HDM25		19.0	35.8	16.7	6.2	12.7	PA66HIRHSW	Black (BK)	100 pcs.	151-00437
HDM19		19.3	36.3	16.7	4.7	12.7	PA66HIRHSW	Black (BK)	100 pcs.	151-00134
HDM312		19.3	36.3	16.7	7.8	12.7	PA66HIRHSW	Black (BK)	100 pcs.	151-00439

All dimensions in mm. Subject to technical changes.

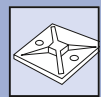
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### Medium Torque Mounts

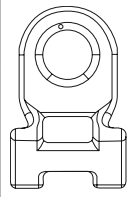
TYPE	Drawing	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Article-No.
HDM321		24.0	46.0	20.7	8.31	12.7	PA66HSW	Black (BK)	151-07100
HDM501		24.0	46.0	20.7	12.7	12.7	PA66HIRHSW	Black (BK)	151-07500

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.




### High Torque Mounts (metal bushing)

TYPE	Drawing	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Article-No.
HDM320		25.0	47.0	20.7	8.31	12.7	PA66HIRHSW	Black (BK)	151-07000
HDM400		25.0	47.0	20.7	10.29	12.7	PA66HIRHSW	Black (BK)	151-07200
HDM500		25.0	47.0	20.7	12.95	12.7	PA66HIRHSW	Black (BK)	151-07400

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

### High Torque Double Mounts (metal bushing)

TYPE	Drawing	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Article-No.
HDM375BDM4W		34.5	89.0	25.2	9.5	12.7	PA66HIRHSW	Black (BK)	151-00756

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

### Harness Clip for Heavy Duty Applications for Screws or threaded Bolts, for parallel separation

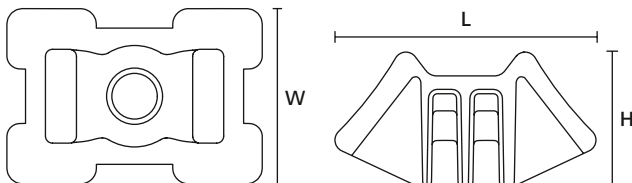
This heavy duty harness clip helps to fix and secure cables and wires in railway, truck and agricultural vehicle construction, and is also used in the ship building industry.

#### Features and Benefits

- For parallel routing of bundles
- Secure alignment to the bundle due to H-design
- Cable tie head can be moved after bundling
- For cable ties up to 12.7 mm wide
- Easy maintenance of bundle by simply changing the cable tie



This saddle mount is installed between two bundles to separate them and prevent chafing and wear.

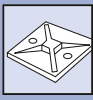


S2CM25

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Bundle Ø max.	Material	Colour	Pack Cont.	Article-No.
S2CM25	30.0	45.0	23.0	6.0	89.0	PA66HIRHS	Grey (GY)	500 pcs.	151-29400
S2HM25	30.0	45.0	23.0	6.0	89.0	PA66HIRHSW	Black (BK)	500 pcs.	151-29403

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



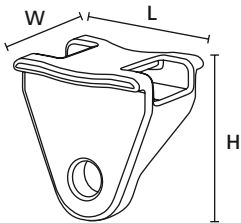


### Harness Clip for Heavy Duty Applications, for Screws or threaded Bolts for Edges

This heavy duty harness clip helps to fix and secure cables and wires in railway, truck and agricultural vehicle construction, and is also used in the ship building industry.

#### Features and Benefits

- Guides bundles securely above sharp edges
- For bolts or screws of D = 8 mm
- Cable tie head can be moved after bundling
- Secure alignment to the bundle due to H-design
- For cable ties up to 12.7 mm wide



SAM83



Axial oval mounts stand off bundles from frame rails and cross members to prevent them from rubbing and chafing.

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Material	Colour	Pack Cont.	Article-No.
SAM83	26.0	34.0	35.0	8.0	PA66HIRHS	Grey (GY)	500 pcs.	151-29600
SAOM82	26.0	34.3	35.0	8.0	PA66HIRHSW	Black (BK)	500 pcs.	151-29701

All dimensions in mm. Subject to technical changes.

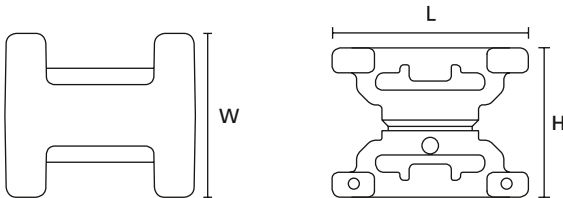
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

### Fixing elements for Parallel Routing, twistable

These fixing element for parallel routing can be used where bundles need separation from each other combined with the necessary functionality to support moving harnesses.

#### Features and Benefits

- For parallel routing of bundles that can be twisted 360° even after setting
- Secure alignment to the bundle due to H-design
- Cable tie head can be moved after bundling
- For cable ties up to 12.7 mm wide
- For post-installation of bundles



DSWS4

DSWS4



The spacers can be easily rotated by hand, allowing the bundles to be crossed and rotated at any angle.

TYPE	Width (W)	Length (L)	Height (H)	Bundle Ø min.	Bundle Ø max.	Material	Colour	Pack Cont.	Article-No.
DSWS4	20.3	23.6	18.0	6.0	76.0	PA66HS, POM	Black (BK)	2,200 pcs.	151-06500
DSWS5	25.4	40.6	23.6	16.0	152.0	PA66HS	Black (BK)	50 pcs.	151-06502

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



### Fixing Elements with Fir Tree, for Distance Routing

#### Saddle Mount

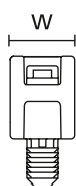
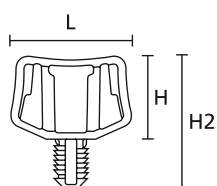
These heavy duty fixing offers excellent performance for ship building and the truck and construction vehicle industries.

#### Features and Benefits

- For parallel routing of four bundles
- Secure alignment to the bundle due to H-design
- For cable ties up to 12.7 mm wide
- Pre-fixing of tie with integrated nose



The mount can secure up to 4 separate bundles, providing parallel spacing between the frame rail and adjacent bundles.



Fir Tree Saddle Mounts



**Material specification please see page 24.**

TYPE	Width (W)	Length (L)	Height (H)	Height (H2)	Hole Ø (FH)	Panel Thickness	Bundle Ø max.	Material	Colour	Article-No.
S3STM50	22.0	50.0	35.0	55.0	12.7 - 13.7	1.9 - 13.0	127.0	PA66HIRHS	Black (BK)	151-29500

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

### Fixing Elements for BHT-Ties for Distance Routing

#### MSBT120

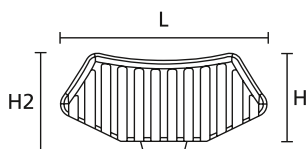
This heavy duty fixing offers excellent performance for ship building and the truck and construction vehicle industries.

#### Features and Benefits

- For parallel routing of three bundles
- Retainer is fixed in the hole with BHT-tie
- Socket centres retainer in the hole and can protect tie from sharp edges



Saddle Mount MSBT120.



MSBT120

TYPE	Width (W)	Length (L)	Height (H)	Height (H2)	Hole Ø (FH)	Panel Thickness	Material	Colour	Pack Cont.	Article-No.
MSBT120	16.5	48.3	20.6	22.2	12.2	2.7	PA66HIRHSW	Black (BK)	500 pcs.	151-29301

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



### Heavy Duty Mounts for 3-way routing

Primarily designed for use in the automotive/truck industry, these parts can be used in a wide variety of industries and applications where bundles need mounting.

These heavy duty harness clips help to fix and secure cables, lines and hydraulic lines in truck, agriculture and railway vehicle construction, as well as in the ship building industry.

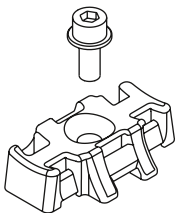
#### Features and Benefits

- For parallel routing of bundles
- Secure alignment to the bundle due to H-design
- Easy maintenance of bundle by simply changing cable tie
- Cable tie head can be moved after bundling

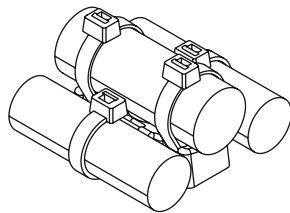


S3SB15CBM8 and S3CBM8.

#### S3CBM8



Suitable for external cylindrical hexagonal bolts M8



Exemplary illustration of a possible 3-way transfer

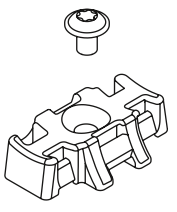


S3CBM8 in combination with our X-Series.

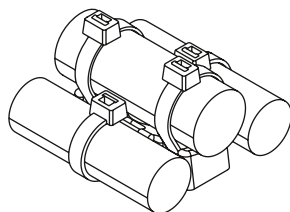
TYPE	Width (W)	Length (L)	Height (H)	Bundle Ø max.	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
S3CBM8	46.0	70.0	18.6	100.0	9.0	PA6GF30	Black (BK)	500 pcs.	151-01040

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

#### S3SB15CBM8



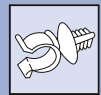
Suitable for welding studs (M8 internal bore & outer diameter 15 mm)



Exemplary illustration of a possible 3-way transfer

TYPE	Width (W)	Length (L)	Height (H)	Bundle Ø max.	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
S3SB15CBM8	46.0	70.0	18.6	100.0	9.0	PA6GF30	Black (BK)	500 pcs.	151-01010

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



### Cable Fixing Cradle

#### TM1SF for cable ties width up to 5.2 mm

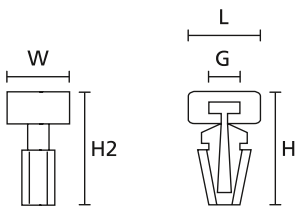
Offering simple and easy methods of securing cables or pipes, these fixing accessories have many applications within a wide range of industries.

#### Features and Benefits

- Ideal mount for space-saving applications with restricted access
- Arrowhead for very secure fixing



TM1SF Fixing Base for pre-drilled or pre-punched holes.



TM1SF Fixing Base



Material specification please see page 24.

TYPE	Width (W)	Length (L)	Height (H)	Height (H2)	Hole Ø (FH)	Panel Thickness	Strap Width max. (G)	Material	Colour	Article-No.
TM1SF	10.2	15.8	4.6	4.6	6.35	3.3 - 3.4	5.0	PA66	White (WH)	151-40119

All dimensions in mm. Subject to technical changes.

### Arrowhead Cradle

#### SFC

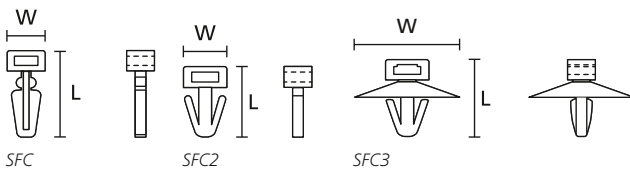
Offering simple and easy methods of securing cables or pipes, these fixing accessories have many applications within a wide range of industries.

#### Features and Benefits

- Arrowhead fixing for use in pre-drilled or punched holes
- SFC and SFC2 for ties up to 5.3 mm wide
- SFC3 for ties up to 8.6 mm wide



Securely fix and route cables and pipes with SFC3.



TYPE	Width (W)	Length (L)	Hole Ø (FH)	Panel Thickness	Strap Width max. (G)	Material	Colour	Article-No.
SFC2	6.0	14.5	6.0	0.8 - 1.0	5.3	PA66	Natural (NA)	151-02000
SFC	11.0	18.0	6.0	3.0 - 3.2	5.3	PA66	Natural (NA)	151-01600
SFC3	22.0	15.5	6.3	0.8 - 1.8	8.6	PA66	Black (BK)	151-01906
	22.0	15.5	6.3	0.8 - 1.8	8.6	PA66	Natural (NA)	151-01909

All dimensions in mm. Subject to technical changes.



## Bundling Clips

Originally designed for the Automotive industry, these clips offer simple and easy methods of securing cables, hoses or pipes. They have many applications within a wide range of industries.

### Bundling Clips for Edges

#### Features and Benefits

- Easy assembly, just shuffle manually
- Designed for edges of 1 - 3 and 3 - 6 mm
- Integrated metal clamp holds clip firmly in place
- Clamp consists of double tempered steel spring
- ATS fixing elements can be tied automatically with tools ATS3080 and AT2000



Cables and leads can be fastened with a cable tie or adhesive tape to the bars of the mounting element.



EC17 - Cables and leads can be fastened with adhesive tape to the bar of the mounting element.

### Bundling Clips for Weld Studs, moveable

#### Features and Benefits

- Very flat bundling clip for 5.0 mm weld stud
- Horizontal length tolerance compensation
- Suitable for cables of reduced weight and diameter



TCSB5CYCC: Tapebar, Stud Retainer and ConnectorClip in just one article.



The slim line BC series is particularly compact and flexible.

### Bundling Clips for round and oval holes

#### Features and Benefits

- Easy to install without the need for a tool
- One fir tree foot part can be used for a variety of panel thicknesses
- Suitable for use within threaded holes
- Holding tabs prevent the tie slipping sideways
- Versions for oval holes feature anti-twist protection



Designed for defined distance of bundles to the hole.



COW Clip used as tape-on clip.



Material specification please see page 24.



Other product styles are available in the Automotive catalogue.



### Bundling Clips for Edges

TYPE	Drawing	Width (W)	Length (L)	Height (H)	Panel Thickness	Material	Colour	Article-No.
EC14		10.0	40.0	12.4	1.0 - 3.0	PA66HIRHS	Black (BK)	151-03404

All dimensions in mm. Subject to technical changes.

### Bundling Clips for Weld Studs, moveable

TYPE	Drawing	Width (W)	Length (L)	Stud Ø	Material	Colour	Article-No.
BC30		30.0	55.0	5.0	PA66HIRHS	Black (BK)	151-00016
BCUWS5-D5-25		-	50.0	5.0	PA66HIRHS	Natural (NA)	151-00851

All dimensions in mm. Subject to technical changes.

### Bundling Clips for round and oval holes

TYPE	Drawing	Length (L)	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
TC4FT6LG		37.0	6.3 - 7.0	0.6 - 5.1	PA66HIRHS	Black (BK)	151-00215
WICKELCLIP-VDS		40.0	6.3 x 9.0	0.6 - 2.5	PA66HIRHS	Black (BK)	155-16301
STAND-OFF-CLIP-2		40.0	6.5 - 6.8	0.4 - 1.6	PA66HIR	Black (BK)	155-01600
BCSFT6.5 16-3MD		55.0	6.5	1.5 - 3.0	PA66HIRHS	Black (BK)	155-11601
BCOWFT5		24.9	4.9 - 5.1	2.9 - 3.1	PA66HIRHS	Black (BK)	151-00904

All dimensions in mm. Subject to technical changes.



## Connector Clips

The connector clips used here have been designed for electronic cables and cable sets used in the automotive industry.

### Connector Clips for oval holes

#### Features and Benefits

- Connector easily installed by simply pushing into place
- Connection can be released (non-destructive)
- Easy to assemble without the need for a tool
- Oval connectors offer twist protection



For a secure fixing simply push the connector by hand (ConnectorClip YCCFT62x122).

### Connector Clips for Edges

#### Features and Benefits

- Connectors are mounted simply by pushing them into retainer
- Connector can be removed without damage
- Fastened to an edge, the EdgeClip ensures a snug fit on almost all types of connector



EdgeClip EC6mod.

### Connector Clips for round holes

#### Features and Benefits

- Connector easily installed by simply pushing into place
- Connection can be released (non-destructive)
- One fir tree foot part can be used for a variety of panel thicknesses
- Arrowhead simply locks into place
- Disc covers the hole to prevent dirt and water gaining access
- For twist protection: Variants with additional stick or for oval holes



ConnectorClips are available for many different connector types and fixing varieties.



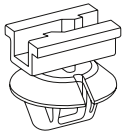
Material specification  
please see page 24.



Other product styles are available in the Automotive catalogue.

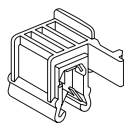
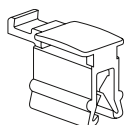


### Connector Clips for oval holes

TYPE	Drawing	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
CCSFT7x12		7.0 x 12.0	0.8 - 2.0	PA66HIRHS	Grey (GY)	151-00222

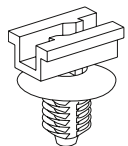
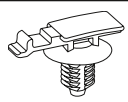
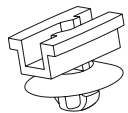
All dimensions in mm. Subject to technical changes.

### Connector Clips for Edges

TYPE	Drawing	Panel Thickness	Material	Colour	Article-No.
EC42		1.5 - 4.0	PA66HIRHS	Black (BK)	151-00429
EC6mod		1.0 - 3.0	PA66HIRHS	Black (BK)	151-00464

All dimensions in mm. Subject to technical changes.

### Connector Clips for round holes

TYPE	Drawing	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
FT6LG m. AMP-Aufnahme		6.5 - 7.0	0.7 - 6.0	PA66HIRHS	Black (BK)	155-03800
FT6LG.M.STECKERAUFN.		6.4 - 7.1	0.8 - 6.0	PA66HIRHS	Black (BK)	155-18901
CC-PAEKSFT6.5PT1.7-2.3		6.3 - 6.7	1.7 - 2.3	PA66HIRHS	Black (BK)	151-00840

All dimensions in mm. Subject to technical changes.





### Fixing Elements for Tubes and Harnesses

#### KSFT6.5OC1-3 with Arrowhead for bundle diameter 1.0 - 3.0 mm

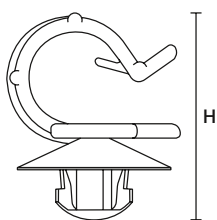
These fixing elements can be used in a wide range of applications where space saving work is necessary.

#### Features and Benefits

- Fixing part with rounded arrowhead to minimise assembly height
- Ideal for applications where space is limited
- Simply clip on a wire or hose
- Bundle diameter is defined
- Suitable for post-installation of bundles



The very low arrowhead is specially designed for narrow installation spaces.



KSFT6.5 OC 7-9

TYPE	Drawing	Height (H)	Attach to Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
KSFT6.5OC1-3		14.4	1.0 - 3.0	6.3 - 6.7	2.3 - 2.7	PA66HIRHS	Black (BK)	151-00673
KSFT6,5 OC 7-9		21.6	7.0 - 9.0	6.3 - 6.7	2.3 - 2.7	PA66HIRHS	Black (BK)	151-00674

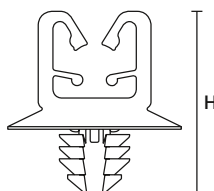
All dimensions in mm. Subject to technical changes.

### Fixing Elements with Fir Tree

#### HC48FT6 with Firtree for bundle diameter 4.8 mm

#### Features and Benefits

- Easy to install without the need for a tool
- Disc covers the hole to prevent dirt and water gaining access
- Bundle diameter is defined
- Clips to be attached into bore hole
- Suitable for post-installation of bundles



HC48FT6

TYPE	Drawing	Height (H)	Attach to Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
HC48FT6		20.8	4.3 - 5.2	6.5 - 7.0	0.7 - 2.8	PA66HIRHS	Black (BK)	151-00680

All dimensions in mm. Subject to technical changes.



### Fixing Elements for Tubes and Harnesses with Automatic Locking Feature

#### AHC-Series

Offering a simple and secure method of attaching cables to panels. Originally designed for the automotive industry, these products are used in a wide range of applications with sheet metal panels across various industries.

#### Features and Benefits

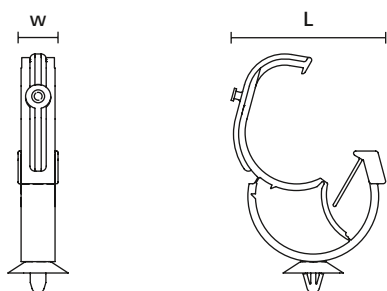
- Push and click closure for fixing of wires
- Clip is clicked into a specific hole
- AHC( )SS und AHC( )SB can be pushed onto a 5.0 mm stud



Automatic Harness Clip open.



Automatic Harness Clip closed.



AHC( )AH



Material specification please see page 24.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	Hole Ø (FH)	Stud Ø	Panel Thickness	Material	Colour	Article-No.
AHC2SS		10.0	29.0	20.0	-	5.0	-	PA66HIRHS	Black (BK)	151-00368
AHC1AH		10.0	24.0	13.0	6.2 - 6.7	-	0.5 - 2.0	PA66HIRHS	Black (BK)	151-00366
AHC2AH		10.0	29.5	20.0	6.2 - 6.7	-	0.5 - 3.0	PA66HIRHS	Black (BK)	151-00367
AHC4AH		13.5	57.6	41.5	6.5	-	0.8 - 2.7	PA66HIRHS	Black (BK)	151-00374
AHC3SB		10.0	43.0	28.0	-	5.0	-	PA66HIRHS	Black (BK)	151-00373
AHC3DH		10.0	66.0	28.0	6.2 x 12.2	-	0.5 - 2.0	PA66HIRHS	Black (BK)	151-00181
AHC3EH2		11.0	44.2	28.0	6.2 x 12.2	-	1.8 - 4.8	PA66HIRHS	Black (BK)	151-00928

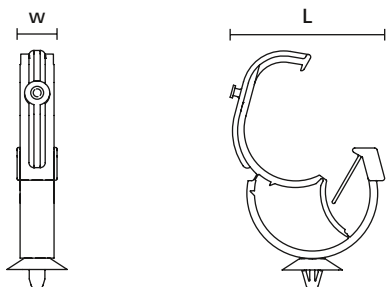
All dimensions in mm. Subject to technical changes.





### Fixing Elements for Tubes and Harnesses with Automatic Locking Feature

#### AHC-Series



AHC(AH)

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	Hole Ø (FH)	Stud Ø	Panel Thickness	Material	Colour	Article-No.
AHC2BH		10.0	31.5	20.0	6.0 x 12.2	-	0.5 - 3.0	PA66HIRHS	Black (BK)	151-00208
AHC3BHR		10.0	40.0	28.0	6.2 x 12.2	-	0.7 - 3.0	PA66HIRHS	Black (BK)	151-00370
AHC45BHG2		14.0	50.0	36.0	6.2 x 12.2	-	1.0 - 3.0	PA46	Grey (GY)	151-01197
AHC25FT6LG		10.0	34.0	22.0	6.4 - 7.0	-	0.7 - 4.0	PA66HIRHS	Black (BK)	151-01198
AHC223FT6LG		10.0	35.0	23.0	6.4 - 7.0	-	0.7 - 4.0	PA66HIRHS	Black (BK)	151-01078
AHC36FT6LG		14.0	50.0	36.0	6.4 - 7.0	-	0.7 - 4.0	PA66HIRHS	Black (BK)	151-01302
AHC3CHR		10.0	40.0	28.0	6.2 x 12.2	-	1.0 - 2.7	PA6HIR	Black (BK)	151-00371

All dimensions in mm. Subject to technical changes.



### Fixing Elements for Tubes and Harnesses with Automatic Locking Feature, interconnectable

Offering a simple and secure method of attaching cables to panels. Originally designed for the automotive industry, these products are used in a wide range of applications with sheet metal panels across various industries.

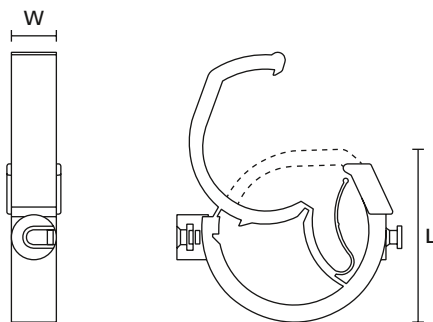
#### Features and Benefits

- Push and click closure
- Coupling elements of the IAHC variants allow parts to interconnect
- Clip is clicked into a specific hole
- IAHC( )T can only be connected with another IAHC element



IAHC( )AH in combination with an IAHC( )T.

#### IAHC-Series, Connectable



IAHC( )T



IAHC( )AH in combination with an IAHC( )T.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	Material	Colour	Article-No.
IAHC1T		10.0	23.0	13.0	PA66HIRHS	Black (BK)	151-00223
IAHC2T		10.0	30.0	20.0	PA66HIRHS	Black (BK)	151-00199
IAHC3T		10.0	40.0	28.0	PA66HIRHS	Black (BK)	151-00213
IAHC4T		13.5	47.0	36.0	PA66HIRHS	Black (BK)	151-00207
IAHC5T		13.5	57.0	45.0	PA66HIRHS	Black (BK)	151-00195

All dimensions in mm. Subject to technical changes.

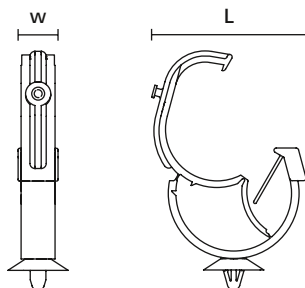


Material specification please see page 24.



### Fixing Elements for Tubes and Harnesses with Automatic Locking Feature, interconnectable

IAHC-Serie, Connectable, with Arrowhead



AHC()AH



Material specification please see page 24.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
IAHC3AH		13.5	40.0	28.0	6.2 - 6.7	0.7 - 2.7	PA66HIRHS	Black (BK)	151-00378
IAHC4AH		13.5	53.0	36.0	6.2 - 6.7	0.5 - 2.5	PA6HIRHS	Black (BK)	151-00211
		13.5	53.0	36.0	6.2 - 6.7	0.7 - 3.0	PA66HIRHS	Black (BK)	151-00382
IAHC5BH		13.5	57.0	45.0	6.2 x 12.2	0.7 - 3.0	PA66HIRHS	Black (BK)	151-00384
IAHC3CH		10.0	47.0	28.0	6.2 x 12.2	0.7 - 2.0	PA66HIRHS	Black (BK)	151-00381
IAHC4CH		13.5	53.0	36.0	6.2 x 12.2	0.7 - 2.0	PA6HIRHS	Black (BK)	151-00383
IAHC3EH		13.5	44.5	28.0	6.2 x 12.2	1.5 - 3.1	PA66HIRHS	Black (BK)	151-00489
IAHC5FH		13.5	61.5	45.0	6.2 x 12.2	1.5 - 3.0	PA66HIRHS	Black (BK)	151-00787

All dimensions in mm. Subject to technical changes.



### Fixing Elements for Tubes and Harnesses, for Edges

#### EdgeClip-Family

Edge Clips are used in the automotive and electrical industries for applications where it is impossible to drill holes or no other fixing points are available.

#### Features and Benefits

- Releasable fixing elements with EdgeClip
- Low-vibration routing of larger bundle diameters
- Can be easily pushed onto an edge by hand
- Can also be snapped together with one hand
- Bundles can be released at any time
- EC27: fixing element enables use of smaller bundle diameters
- EC41: for parallel guidance of two bundles



EdgeClip cable and tube clips are suitable for the low-vibration routing of cables and tubes with larger bundle diameters.

TYPE	Drawing	Panel Thickness	Attach to Ø	Material	Colour	Article-No.
EC27		1.0 - 3.0	15.0 - 22.0	PA66HIRHS	Black (BK)	151-00161
EC39		1.0 - 3.0	15.3 - 15.9	PA6HIR	Black (BK)	151-00174
EC41		3.0 - 6.0	2 x 8.0	PA66HIR	Black (BK)	151-00234
HCEC3.0SP-C		1.0 - 3.0	12.0 - 15.0	PA66HIRHS	Black (BK)	151-00610
HCEC3.0TPS		1.0 - 3.0	4.5 - 5.0	PA66HIRHS	Black (BK)	151-00645

All dimensions in mm. Subject to technical changes.



### Fixing Elements for Corrugated Tubing, with Fir Tree

#### CTC-Series

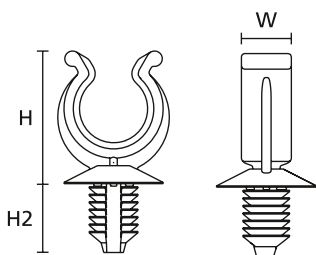
CTC clamps are used in the automotive, harness making and electrical industries and wherever corrugated tubing has to be quickly and firmly fixed.

#### Features and Benefits

- Available for a variety of nominal diameters
- Fir tree foot part can be used for a variety of panel thicknesses
- Suitable for use within threaded holes
- Tube is guided accurately, clipping into place
- Movement is prevented by the inside profile of the clamp



The tubing clips into the CTC clamp and is held firmly.



CTC10FT6LG



Material specification please see page 24.

TYPE	Width (W)	Height (H)	Height (H2)	Nominal Ø	Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
CTC4.5FT6LG	8.0	16.1	11.1	4.5	16.0	6.5 - 7.0	0.8 - 6.0	PA66HIRHS	Black (BK)	151-14314
CTC7.5FT6LG	8.0	18.6	11.1	7.5	16.0	6.5 - 7.0	0.8 - 6.0	PA66HIRHS	Black (BK)	151-14313
CTC7.5FT9	8.0	19.9	12.2	7.5	23.0	8.7 - 9.0	3.0 - 5.0	PA66HIRHS	Black (BK)	155-31602
CTC10FT6	8.0	21.4	7.5	10.0	16.0	6.5 - 7.0	0.8 - 3.0	PA66HIRHS	Black (BK)	151-14311
CTC10FT6LG	8.0	21.4	11.1	10.0	16.0	6.5 - 7.0	0.8 - 6.0	PA66HIRHS	Black (BK)	151-00018
CTC10FT9	8.0	22.7	12.2	10.0	23.0	8.7 - 9.0	3.0 - 5.0	PA66HIRHS	Black (BK)	155-17801
CTC13FT6	8.0	25.2	7.5	13.0	16.0	6.5 - 7.0	0.8 - 3.0	PA66HIRHS	Black (BK)	151-14312
CTC13FT6LG	8.0	25.2	11.1	13.0	16.0	6.5 - 7.0	0.8 - 6.0	PA66HIRHS	Black (BK)	151-00019
CTC22FT9	8.0	37.7	12.2	22.0	23.0	8.7 - 9.0	3.0 - 5.0	PA66HIRHS	Black (BK)	155-25201
CTCL4.5FT6LG	10.0	14.3	10.7	4.5	16.0	6.5 - 7.0	0.8 - 6.0	PA66HIRHS	Black (BK)	151-01115
CTCFT6	11.0	18.5	9.3	15.0	-	6.3 - 6.7	0.7 - 4.5	PA66HIRHS	Black (BK)	151-00783

All dimensions in mm. Subject to technical changes.



### Fixing Elements for Corrugated Tubing, for Weld Studs

#### CTC-Series for Weld Studs

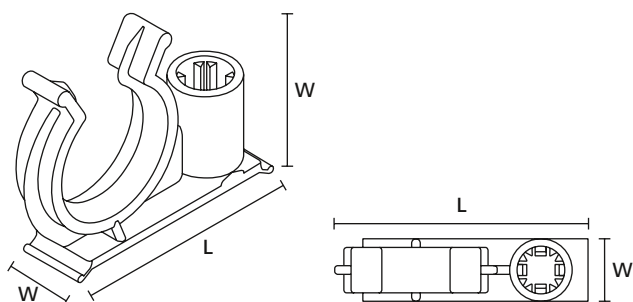
These holders are used in the automotive industry, in the production of cable harnesses and in the electrical industry. Their quick and easy mounting is the reason for their universal success wherever corrugated tubing and pipes have to be fixed quickly and securely.

#### Features and Benefits

- Fixing elements for corrugated tubing for nominal diameters from 4.5 - 17.0 mm
- For M6 weld studs
- Soft-Push mechanic for simple assembly without the need for a tool
- Tube is guided accurately, clipping into place
- Movement is prevented by the inside profile of the clamp
- Clamp can be unscrewed and removed from the weld stud



The tubing clips into the CTC clamp and is held firmly.



CTC(S)BS6

TYPE	Drawing	Width (W)	Length (L)	Height (H)	Nominal Ø	Stud Ø	Material	Colour	Article-No.
CTC4.5BS6		11.0	28.6	18.7	4.5	6.0	PA66HIRHS	Black (BK)	151-00700
CTC7.5BS6		11.0	31.8	19.4	7.5	6.0	PA66HIRHS	Black (BK)	151-00701
CTC10BS6		11.0	35.3	22.2	10.0	6.0	PA66HIRHS	Black (BK)	151-00702
CTC13BS6		11.0	37.0	26.5	13.0	6.0	PA66HIRHS	Black (BK)	151-00703
CTC17BS6		11.0	44.6	33.2	17.0	6.0	PA66HIRHS	Black (BK)	151-00010

All dimensions in mm. Subject to technical changes.





### Fixing Elements for Corrugated Tubing, with Arrowhead

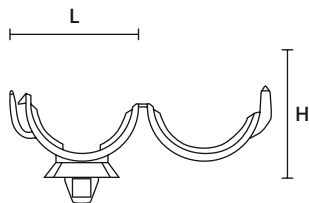
These holders are used in the automotive industry, in the production of cable harnesses and in the electrical industry. Their quick and easy mounting is the reason for their universal success wherever corrugated tubing and pipes have to be fixed quickly and securely.

#### Features and Benefits

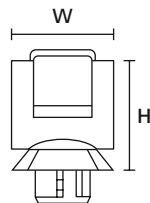
- Clamps for corrugated tubing for a variety of nominal diameters
- Arrowhead simply locks into place
- Tube is guided accurately, clipping into place
- Movement is prevented by the inside profile of the clamp
- CTCLPROFILE clamp can also fastened to a metal edge



Simple and secure installation of pipes or hoses to panels.



RCC D21, D24, D28



RCC D21, D24, D28



Material specification please see page 24.

TYPE	Drawing	Width (W)	Length (L)	Height (H)	Nominal Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
RCC D21		22.0	31.0	30.0	21.0	6.2 x 12.2	0.7 - 2.5	PA66HIRHS	Black (BK)	150-92300
RCC D24		22.0	33.0	33.0	24.0	6.2 x 12.2	0.7 - 2.5	PA66HIRHS	Black (BK)	155-04000
RCC D28		22.0	37.0	37.0	28.0	6.75 x 13.25	0.7 - 3.0	PA66HIRHS	Black (BK)	151-00598
CTCLPROFILE		12.0	64.5	59.5	31.2	7.8 - 8.2	2.3 - 2.7	PA66HIRHS	Black (BK)	151-00026

All dimensions in mm. Subject to technical changes.



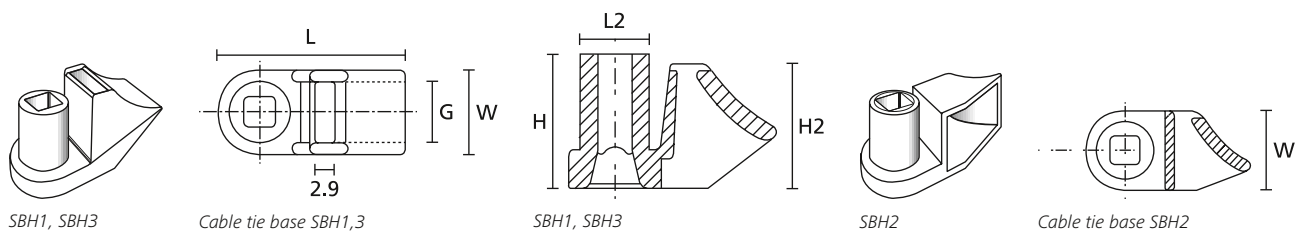
### Fixing Elements for Weld Studs

Many industries (but specifically the automotive market) use 'weld studs' as the standard method of attaching components. Simply hammered onto the stud, these parts provide ideal fixing bases for attaching cables, pipes or hoses. The use of weld studs avoids the problems associated with 'holes' (ingress of moisture, corrosion etc).

#### Features and Benefits

- Simple and quick method of fixing
- SBH types simply hammered onto the stud
- SBH1 and SBH3 allow cables to run across the panel
- SBH2 allow cables to run at 90° to the panel

#### SB-Series



SBH1, SBH3

Cable tie base SBH1,3

SBH1, SBH3

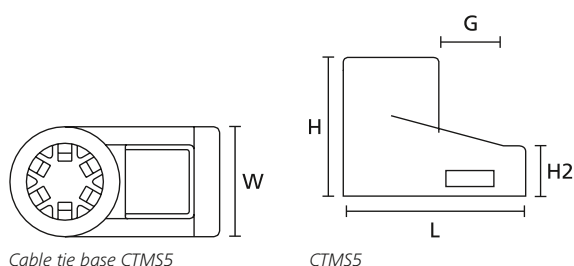
SBH2

Cable tie base SBH2

TYPE	Width (W)	Length (L)	Length (L2)	Height (H)	Height (H2)	Stud Ø	Strap Width max. (G)	Material	Colour	Article-No.
SBH1	12.5	26.8	9.0	13.9	15.9	5.0	8.5	PA66	Black (BK)	151-26150
SBH2	12.5	26.8	9.0	14.0	12.5	5.0	8.5	PA66	Black (BK)	151-26250
SBH3	12.5	26.8	9.0	18.0	15.9	5.0	8.5	PA66	Black (BK)	150-18900

All dimensions in mm. Subject to technical changes.

#### CT-Series



Cable tie base CTMS5

CTMS5

TYPE	Width (W)	Length (L)	Height (H)	Height (H2)	Stud Ø	Strap Width max. (G)	Material	Colour	Article-No.
CTMS5	10.0	19.0	14.5	5.3	5.0	5.0	PA66	Black (BK)	151-03301

All dimensions in mm. Subject to technical changes.



### Fixing Elements for Weld Studs

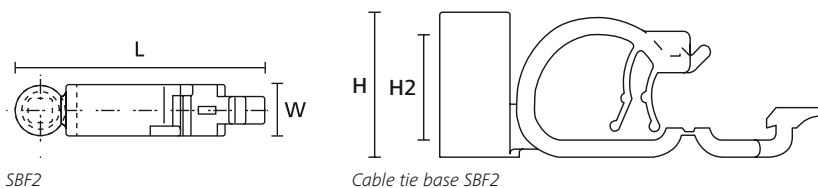
#### SBF-Clips

#### Features and Benefits

- Simple and quick method of fixing
- SBH types simply hammered onto the stud
- SBH1 and SBH3 allow cables to run across the panel
- SBH2 allow cables to run at 90° to the panel



**Material specification please see page 24.**

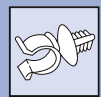


SBF2

Cable tie base SBF2

TYPE	Width (W)	Length (L)	Height (H)	Height (H2)	Stud Ø	Bundle Ø max.	Material	Colour	Article-No.
SBF2	10.0	47.7	18.2	13.5	5.0	13.5	PA66	Black (BK)	150-47700

All dimensions in mm. Subject to technical changes.



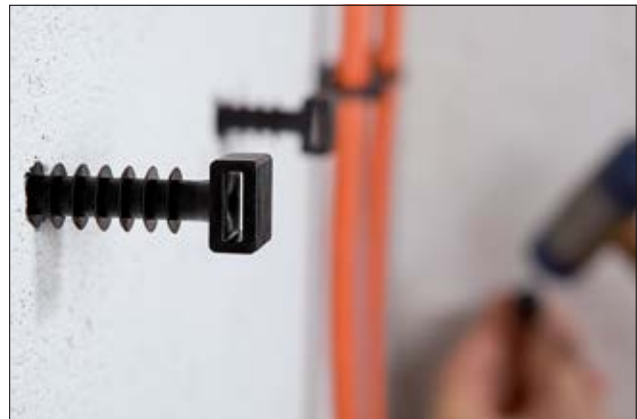
### Fixing Base

#### LOK-Series

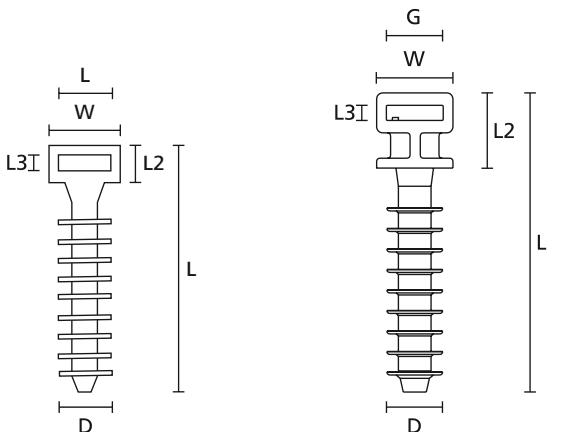
The LOK mounts, in conjunction with a cable tie, can be used either indoors or outdoors for a diverse range of applications from holding climbing plants, to securing cables running between buildings.

#### Features and Benefits

- LOK01 - LOK05 usable with any cable ties up to 9 mm wide
- Suitable for a wide range of materials, including concrete, brick, block and wood
- Installed by knocking into 7 mm or 8 mm diameter hole
- LOK01B is designed for soft brickwork and 6 mm holes
- Elongated head of LOK05 for setting bundles at a distance from brickwork



LOK01 fixing bases for indoor and outdoor use.



LOK01 fixing base (front view)

LOK05 fixing base (front view)



The whole LOK-Series can ideally be combined with cable ties up to 9 mm cable tie width.

TYPE	Width (W)	Length (L)	Length (L2)	Length (L3)	Ø D	Strap Width max. (G)	Hole Ø (FH)	Material	Colour	Article-No.
LOK01B	12.0	30.0	6.5	2.5	7.2	9.0	6.0	PA6HIR	Black (BK)	151-80500
LOK01S	12.0	34.0	6.5	2.5	9.2	9.0	7.0 - 8.0	PA6HIR	Black (BK)	151-80600
LOK01	12.0	44.0	6.5	2.5	9.2	9.0	7.0 - 8.0	PA6HIR	Black (BK)	151-80110
LOK05	12.0	49.0	12.5	2.5	9.2	9.0	7.0 - 8.0	PA6HIR	Black (BK)	151-80700

All dimensions in mm. Subject to technical changes.



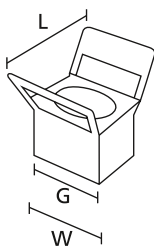
### Fixing Base

#### LOK02

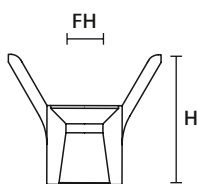
Designed specifically for holding heavier cable bundles, these mounting bases can be used in many industries from agriculture to truck manufacturing. They offer a very secure fixing and can be used with a wide variety of cable ties up to 9 mm wide.

#### Features and Benefits

- Special design of fixing base gives additional support to cables
- Simple to install with a screw or bolt
- Excellent security, particularly in areas of high vibration



LOK02 Fixing Base



LOK02 Fixing Base (front view)



LOK02 fixing base application.

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Article-No.
LOK02	14.0	21.0	18.0	5.1	9.0	PA6HIR	Black (BK)	151-80210

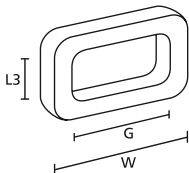
All dimensions in mm. Subject to technical changes.

#### LOK04

Whenever there is a need of running two or more cables in parallel, the LOK04 fixing base provides an ideal and simple solution.

#### Features and Benefits

- LOK04 for running bundles with a distance in parallel
- Can be used with cable ties up to 9 mm wide



LOK04



LOK04 - for parallel routing.



Material specification please see page 24.

TYPE	Width (W)	Length (L3)	Strap Width max. (G)	Material	Colour	Article-No.
LOK04	16.0	4.0	9.0	PA66	Black (BK)	151-80400

All dimensions in mm. Subject to technical changes.



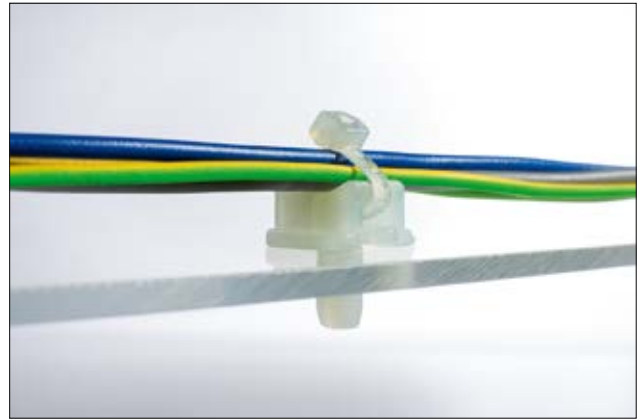
### Rivet Mount

#### TY5-Series

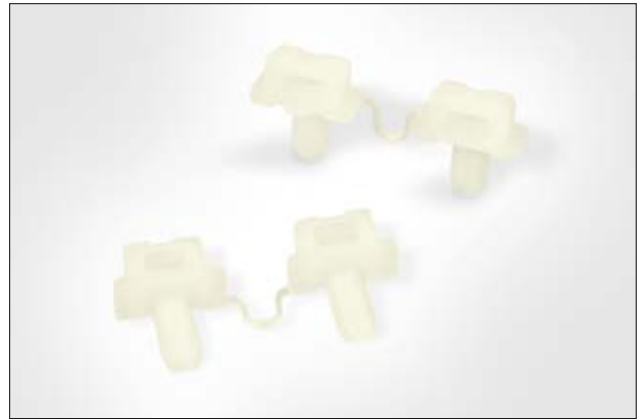
The TY Fixings are ideal for use where a high pull out force is required (eg. in the aircraft industry). The two piece 'wedge' ensures that once installed the mounts will not come away from the panel. Particularly designed for areas with restricted access.

#### Features and Benefits

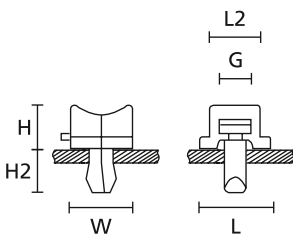
- Quick installation
- Two-piece wedge
- Easy insertion
- Firmly fixes wide variety of cable ties



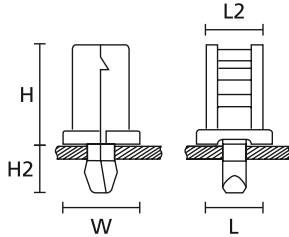
TY5 Wedge Base Socket.



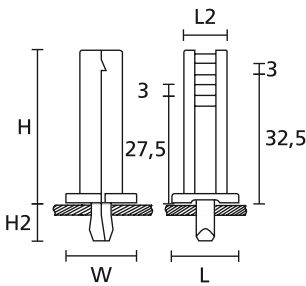
TY5 Wedge Base Socket.



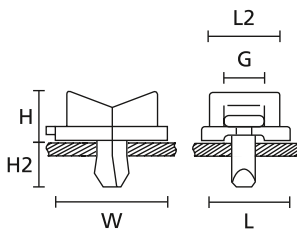
TY5K2 Rivet Mount



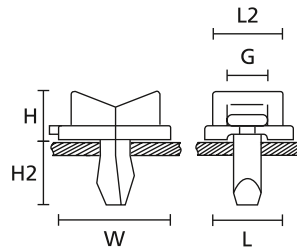
TY5K1 Rivet Mount



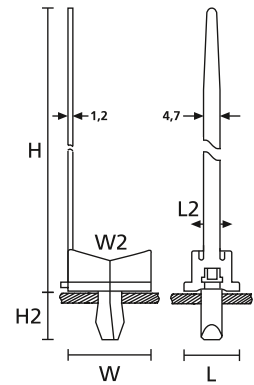
TY5K5 Rivet Mount



TY5K3/5 Rivet Mount



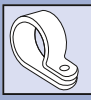
TY5K3 Rivet Mount



TY5K4 Rivet Mount

TYPE	Width (W)	Length (L)	Length (L2)	Height (H)	Height (H2)	Strap Width max. (G)	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
TY5K2	12.0	14.0	10.0	7.8	9.5	5.5	4.9 - 5.3	1.0 - 5.0	PA66HS	Natural (NA)	152-11209
TY5K1	14.8	15.0	11.0	18.3	9.5	5.4	5.0 - 5.3	1.0 - 3.0	PA66HS	Natural (NA)	152-51059
TY5K5	17.8	18.0	11.0	38.3	9.5	5.8	5.0 - 5.3	1.0 - 3.0	PA66HS	Natural (NA)	152-55059
TY5K4	22.0	14.0	10.0	175.0	12.5	-	5.9 - 6.4	2.0 - 8.0	PA66HS	Natural (NA)	152-11409
TY5K3/5	22.0	18.0	14.0	10.0	9.5	9.3	4.9 - 5.3	1.0 - 5.0	PA66HS	Natural (NA)	152-11359
TY5K3	22.0	18.0	14.0	10.0	12.5	9.3	5.9 - 6.4	2.0 - 8.0	PA66HS	Natural (NA)	152-11309

All dimensions in mm. Subject to technical changes.



## Blind Plugs

These products were developed especially for the automotive industry for application in trunks, doors, wheel housing and dash panels. Parts are even used for optical applications.

### Features and Benefits

- Easy assembly without the need of a tool
- Disc of the part covers the hole and minimises ingress of dust, dirt and water
- Standard geometry, e.g. fir tree or arrowhead



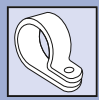
Blind plugs are available in different shapes and material.



**Material specification  
please see page 24.**

TYPE	Drawing	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
TRIM PLUG 5		5.0	4.0	PA66HIR	Natural (NA)	151-00333
PLUG11		11.0	4.0 - 6.0	PA66HIRHS	Natural (NA)	151-00485
		11.0	6.0 - 8.0	POM	Black (BK)	151-00360
PLUG5.5		5.0 - 5.5	2.5 - 26.0	PA6HIR	Black (BK)	151-00399
		5.0 - 5.5	2.5 - 26.0	PA6HIR	Grey (GY)	151-00401
PLUG SQ8x8		7.6 - 8.0	1.0 - 3.0	PA66HIR	Black (BK)	151-00415
PLUG5 WITH OPENING		5.05 - 5.25	4.8 - 5.2	PA66HIRHS	Black (BK)	151-00419
PLUG10		10.2	2.0 - 12.0	PE	Black (BK)	151-00426
		10.2	2.0 - 12.0	PE	Grey (GY)	151-00488
PLUGFT6XL		6.5 - 7.0	0.7 - 18.0	PA46	Brown (BN)	151-00428
		6.5 - 7.0	0.7 - 18.0	PA66HIR	Black (BK)	241-00002
		6.5 - 7.0	0.7 - 18.0	PA66HIR	Grey (GY)	241-00001
PLUGFT7		7.05 - 7.25	2.5 - 8.0	PA6HIR	Black (BK)	151-00414

All dimensions in mm. Subject to technical changes.



### Self Adhesive Clips

#### RA-Series with round design

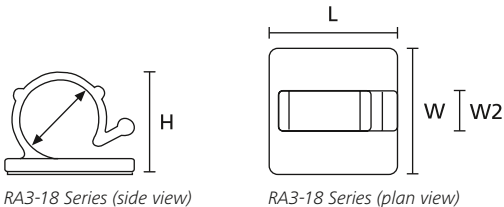
These clips are ideal for use in applications which are difficult to access, or for areas where self adhesive is the only possible fixing method (for example, where fixing 'holes' would be unacceptable).

#### Features and Benefits

- One-piece self-adhesive fixing clips for quick and easy installation
- Designed to hold wires, cables or hoses without a cable tie
- Different sizes for various bundle diameters



Self-adhesive one piece fixing clips RA6 (l) and RB5 (r).



RA3-18 Series (side view)

RA3-18 Series (plan view)



The RB-Series can be found on the following catalogue page.

TYPE	Width (W)	Width (W2)	Length (L)	Height (H)	Bundle Ø max.	Material	Colour	Adhesive	Article-No.
RA3	13.0	5.0	13.0	5.0	3.0	PA66	Natural (NA)	Synthetic rubber T60	151-13018
RA6	19.0	5.0	19.0	9.0	6.0	PA66	Natural (NA)	Synthetic rubber T60	151-13019
RA9	19.0	7.5	19.0	12.5	9.0	PA66	Natural (NA)	Synthetic rubber T60	151-13020
RA13	25.0	10.0	25.0	16.5	13.0	PA66	Natural (NA)	Synthetic rubber T60	151-13021
RA18	28.5	10.0	28.5	23.0	18.0	PA66	Natural (NA)	Synthetic rubber T60	151-13119

All dimensions in mm. Subject to technical changes.





### Self Adhesive Clips

#### RB-Series with flat design

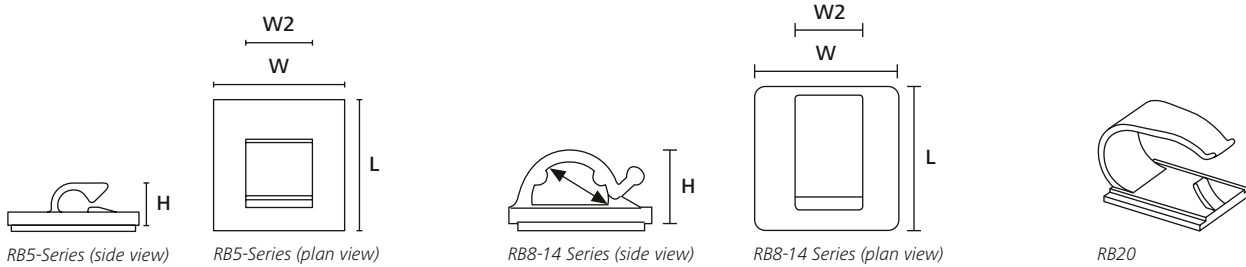
These clips are ideal for use in applications which are difficult to access, or for areas where self adhesive is the only possible fixing method (for example where fixing 'holes' would be unacceptable).

#### Features and Benefits

- One-piece self-adhesive fixing clips for quick and easy installation
- Designed to hold wires, cables or hoses without a cable tie
- Flat design for use in applications with limited space
- Different sizes for various bundle diameters
- Cost effective with easy application on smooth, clean surfaces



Self-adhesive one piece fixing clips RB20 (l) and RB14 (r).



TYPE	Width (W)	Width (W2)	Length (L)	Height (H)	Bundle Ø max.	Material	Colour	Adhesive	Article-No.
RB5	19.0	9.7	19.0	6.0	5.0	PA66	Black (BK)	Synthetic rubber T60	151-14000
	19.0	9.7	19.0	6.0	5.0	PA66	Natural (NA)	Synthetic rubber T60	151-14059
RB8	25.0	12.7	25.0	11.5	8.0	PA66	Black (BK)	Synthetic rubber T60	151-13601
	25.0	12.7	25.0	11.5	8.0	PA66	Natural (NA)	Synthetic rubber T60	151-13606
RB20	27.0	18.0	33.0	25.0	20.0	PA66HIRHS	Black (BK)	Synthetic rubber T60	151-00831
RB14	27.4	23.0	33.2	16.0	14.0	PA66	Black (BK)	Synthetic rubber T60	151-00502
	27.4	23.0	33.2	16.0	14.0	PA66	Natural (NA)	Synthetic rubber T60	151-00505

All dimensions in mm. Subject to technical changes.



**For more information on the types of adhesive please see page 129.**



### Self Adhesive Clips

#### SAC with flexible flat design

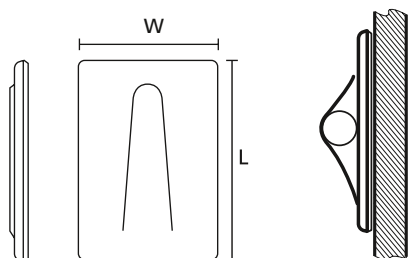
These clips are ideal for use in applications which are difficult to access, or for areas where a self adhesive solution is the only possible fixing method (for example 'holes' would be unacceptable). Typically applications include domestic appliances and trailers.

#### Features and Benefits

- Bendable metal 'tongue' for any shape or configuration of wires or cables
- Cost effective with easy application on smooth, clean surfaces



Malleable tongue allows for a variety of sizes per clip.



SAC-Series Self Adhesive Clip

SAC-Series in application



For more information on the types of adhesive please see page 129.



Material specification please see page 24.

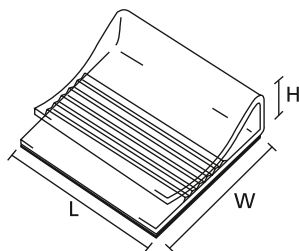
TYPE	Width (W)	Length (L)	Bundle Ø max.	Material	Colour	Adhesive	Article-No.
SAC0	15.0	20.0	3.0	ST	White (WH)	Acrylate	151-00033
SAC1	20.0	30.0	4.0	ST	White (WH)	Acrylate	151-00100
SAC2	25.0	35.0	8.0	ST	White (WH)	Acrylate	151-00200
SAC3	31.0	43.0	12.0	ST	White (WH)	Acrylate	151-00300
SAC4	38.0	51.0	16.0	ST	White (WH)	Acrylate	151-00400

All dimensions in mm. Subject to technical changes.

#### 130100 for Flat Ribbon Cables

#### Features and Benefits

- Self-adhesive clip with integrated clamp for holding flat cables
- Manufactured from PVC



130100 Self Adhesive Clip



130100 Self Adhesive Clip for flat cables.

TYPE	Width (W)	Length (L)	Height (H)	Material	Colour	Adhesive	Article-No.
130100	25.0	25.0	9.1	PVC	White (WH)	Acrylate	154-01119

All dimensions in mm. Subject to technical changes.



### Flat Ribbon Clips

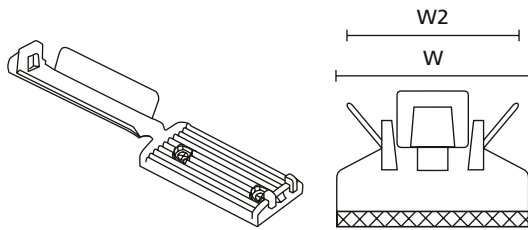
These clips are ideal for use in applications which are difficult to access, or for areas where a self adhesive solution is the only possible fixing method (for example 'holes' would be unacceptable). The FKH clips are designed to retain flat ribbon cables - ideal for use in computer equipment, gaming machines and domestic appliances. Available as a self-adhesive mount or screw mount.

#### Features and Benefits

- One-piece fixing clips for flat ribbon cables
- Quick and easy installation
- Easily releasable and re-usable

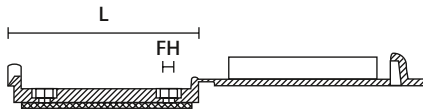


Based on extremely soft wings any flat cable is gently fastened.



Fixing can be realised with M3 screws or acrylic adhesive backing

Flat Ribbon Cable Mount (front view)



Flat Ribbon Cable Mount (side view)



The flat ribbon cables are available in 4 different sizes.



For more information on the types of adhesive please see page 129.

#### FKH-Series, Self Adhesive, Screw Fixing

TYPE	Width (W)	Length (L)	Width (W2)	Hole Ø (FH)	Material	Colour	Adhesive	Article-No.
FKH25A	25.0	31.0	22.0	3.1	PA66HIR	Black (BK)	Acrylate	151-15250
FKH30A	25.0	35.0	22.0	3.1	PA66HIR	Black (BK)	Acrylate	151-15300
FKH50A	25.0	56.5	22.0	3.1	PA66HIR	Black (BK)	Acrylate	151-15500
FKH80A	25.0	86.0	22.0	3.1	PA66HIR	Black (BK)	Acrylate	151-15800

All dimensions in mm. Subject to technical changes.

#### FKH-Series, Screw Fixing

TYPE	Width (W)	Length (L)	Width (W2)	Hole Ø (FH)	Material	Colour	Article-No.
FKH25	25.0	31.0	22.0	3.1	PA66HIR	Black (BK)	151-16250
FKH30	25.0	35.0	22.0	3.1	PA66HIR	Black (BK)	151-16300
FKH50	25.0	56.5	22.0	3.1	PA66HIR	Black (BK)	151-16500
FKH80	25.0	86.0	22.0	3.1	PA66HIR	Black (BK)	151-16800

All dimensions in mm. Subject to technical changes.



### Wire Push In Clips

#### WPC-Series

With the increased complexity of electronic and electrical installations, the use of the WPC clips enable cables to be installed using the minimum amount of space. Typical applications can be seen in the frames/rails of control cabinets or within the white goods industry.

#### Features and Benefits

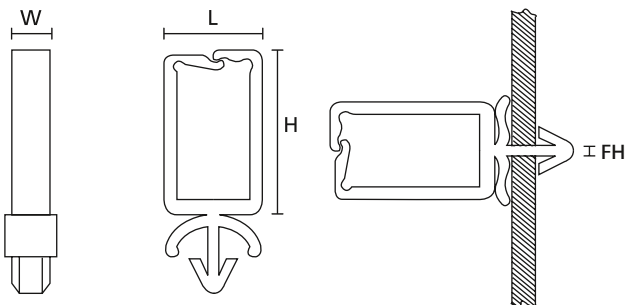
- Accepts single or multiple wires
- Simply push wires into place
- Self-locking to prevent accidental removal
- Arrowhead design for simple and secure installation
- Access to panel from one side



WPC – Wire Push In Clip.



**Material specification please see page 24.**



WPC Wire Push In Clip (side view, front view, in application)

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
WPC5	5.3	15.0	12.7	4.7	0.8 - 4.0	PA66	Natural (NA)	151-75059
WPC10	5.3	15.0	17.7	4.7	0.8 - 4.0	PA66	Natural (NA)	151-75109
WPC15	5.3	15.0	22.7	4.7	0.8 - 4.0	PA66	Natural (NA)	151-75159
WPC20	5.3	15.0	27.7	4.7	0.8 - 4.0	PA66	Natural (NA)	151-75209

All dimensions in mm. Subject to technical changes.



### Snapper Hose Clips for Tubes and Harnesses

#### SNP-Series

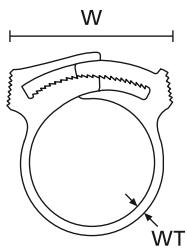
SNP range may replace metal hose clamps. Snapper hose clips can be used in markets as diverse as automotive, agriculture, white goods, venting systems, pumps and hydraulic systems to medical engineering.

#### Features and Benefits

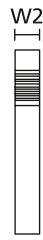
- Releasable and reusable plastic hose clamps
- Self-locking
- Releasable by giving a lateral movement to the 'head'
- Installation by hand possible
- Installation with processing tool for secure tensing
- For higher operating temperatures: Glass Filled PA66



SNP - Snapper Hose Clips range.



SNP - Snapper Hose Clip (front view)



SNP Clip (side view)

**i** SNP Snapper are also available on request in material PA66HS and PA46.

 Snapper tools please see page 527.

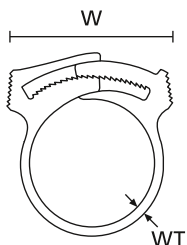
TYPE	Bundle Ø min.	Bundle Ø max.	Width (W) min.	Width (W) max.	Width (W2)	Wall (WT)	Material	Colour	Article-No.
SNP1	6.0	6.5	8.33	11.73	3.8	1.00	POM	White (WH)	190-00022
	6.0	6.8	8.56	11.79	3.8	1.00	PA66GF13	Black (BK)	192-10010
SNP1.25	7.1	7.7	10.57	12.62	3.8	1.10	PA66GF13	Black (BK)	190-00029
SNP1.5	7.8	9.2	13.00	17.00	3.7	1.40	PA66GF15	Black (BK)	193-00150
SNP2(E)	8.7	10.0	17.00	21.00	6.0	1.50	POM	Natural (NA)	191-10029
SNP2	9.3	10.5	12.22	17.48	5.9	1.70	PA66GF13	Black (BK)	192-10020
SNP3(E)	10.0	11.4	19.00	25.00	6.0	1.80	POM	Natural (NA)	191-10039
SNP4	10.4	11.7	13.39	19.15	5.9	1.70	PA66GF13	Black (BK)	192-10040
SNP4(E)	10.8	12.3	19.00	23.00	6.0	1.80	POM	Natural (NA)	191-10049
SNP7	11.4	13.7	18.62	28.73	5.9	1.70	PA66GF13	Black (BK)	192-10070
SNP6	11.7	13.3	14.71	21.54	5.9	1.70	PA66GF13	Black (BK)	192-10060
SNP6(E)	12.0	13.7	19.00	24.00	6.0	1.80	POM	Natural (NA)	191-10069
SNP8	13.1	15.0	16.69	24.89	5.7	1.70	PA66GF13	Black (BK)	192-10080
SNP8(E)	13.7	15.3	19.00	24.00	6.0	1.80	POM	Natural (NA)	191-10089
SNP10	14.5	16.6	17.60	26.90	5.9	1.80	PA66GF13	Black (BK)	192-10100
SNP10(E)	15.0	16.8	19.00	24.00	6.0	1.80	POM	Natural (NA)	191-10109
SNP12A	15.9	18.2	20.96	29.90	5.9	1.80	PA66GF13	Black (BK)	190-00254
SNP12(E)	16.8	18.4	19.00	24.00	6.0	1.80	POM	Natural (NA)	191-10129
SNP14(E)	18.1	19.9	19.00	24.00	6.0	1.80	POM	Natural (NA)	191-10149
SNP14A	18.5	21.0	20.90	30.10	5.9	1.80	PA66GF13	Black (BK)	190-00300
SNP16	19.1	21.7	19.89	30.81	5.8	1.50	PA66GF13	Black (BK)	192-10160
SNP16(E)	19.9	21.7	19.00	24.00	6.0	1.90	POM	Natural (NA)	191-10169
SNP18A	20.0	23.1	24.03	35.51	5.9	1.80	PA66GF13	Black (BK)	190-00258
SNP18(E)	21.4	23.0	16.00	22.00	6.0	1.90	POM	Natural (NA)	191-10189
SNP19	22.3	25.3	22.30	36.09	5.9	1.80	PA66GF13	Black (BK)	190-00090

All dimensions in mm. Subject to technical changes.



### Snapper Hose Clips for Tubes and Harnesses

#### SNP-Series



SNP - Snapper Hose Clip (front view)



SNP Clip (side view)



Material specification please see page 24.

TYPE	Bundle Ø min.	Bundle Ø max.	Width (W) min.	Width (W) max.	Width (W2)	Wall (WT)	Material	Colour	Article-No.
SNP20(E)	22.7	24.7	20.00	26.00	6.0	1.80	POM	Natural (NA)	191-10209
SNP22	23.7	27.4	23.90	37.69	6.0	1.80	PA66GF13	Black (BK)	192-10220
SNP22(E)	25.3	27.3	20.00	26.00	6.0	1.60	POM	Natural (NA)	191-10229
SNP24	25.8	29.2	26.49	39.40	7.4	1.70	PA66GF13	Black (BK)	192-10240
SNP24(E)	26.5	28.6	26.50	39.40	7.4	2.50	POM	Natural (NA)	191-10249
SNP28	29.1	33.6	25.91	41.81	7.3	1.70	PA66GF13	Black (BK)	190-00127
SNP32(E)	30.3	33.1	27.00	34.00	7.5	2.00	POM	Natural (NA)	191-10329
SNP32	31.2	35.8	27.33	44.40	7.3	1.80	PA66GF13	Black (BK)	192-10320
SNP34(E)	32.5	35.1	27.00	34.00	7.5	2.00	POM	Natural (NA)	191-10349
SNP36(E)	34.8	37.1	27.00	34.00	7.5	2.00	POM	Natural (NA)	191-10369
SNP38(E)	36.7	38.9	27.00	34.00	7.5	2.00	POM	Natural (NA)	191-10389
SNP36	37.8	44.0	32.41	43.99	7.3	1.70	PA66GF13	Black (BK)	192-10360
SNP42(E)	41.0	44.2	32.00	45.00	7.5	2.00	POM	Natural (NA)	191-10429
SNP38	41.0	48.1	35.61	57.51	7.3	1.80	PA66GF13	Black (BK)	192-10380
SNP42N	44.5	52.2	35.10	58.93	7.3	1.70	PA66GF13	Black (BK)	191-00005
SNP50(E)	48.8	52.0	32.00	45.00	7.5	2.00	POM	Natural (NA)	191-10509
SNP50	52.2	58.6	36.50	60.40	7.5	1.70	PA66GF13	Black (BK)	192-10500
SNP58(E)	56.7	59.2	31.00	39.00	7.5	2.00	POM	Natural (NA)	191-10589

All dimensions in mm. Subject to technical changes.



### Aluminium P-Clips

#### Alu-P-Clip with / without chloroprene Insert

Manufactured from a high quality aluminium, these P-Clips provide flexibility whilst providing a permanent fixing in the most arduous of environments. The addition of a Chloroprene insert provides the cable or pipe bundle with a high degree of protection against vibration, reducing noise and also providing electrical isolation.

#### Features and Benefits

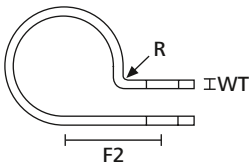
- Simple, secure pipe or cable fixing (e. g. caravan construction)
- Combine with chloroprene insert for vibration resistance (e. g. retain capacitors on PCB)
- Ideal for use in high temperatures
- Suitable for applications needing strength of metal components



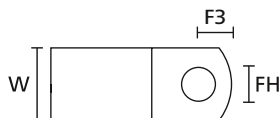
P-Clips manufactured in polyamide, aluminium or aluminium with a chloroprene insert.



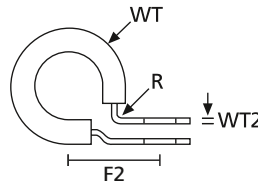
**Material specification please see page 24.**



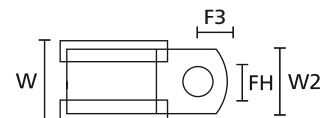
Alu P-Clip (side view)



Alu P-Clip (plan view)



Alu P-Clip with chloroprene insert (side view)



Alu P-Clip with chloroprene insert (plan view)

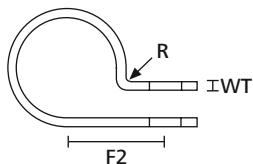
TYPE	Width (W)	Width (W2)	Wall (WT)	Wall (WT2)	Hole Ø (FH)	Fixing Hole Centres (F2)	Fixing Hole Centres (F3)	Bundle Ø max.	Radius (R)	Material	Colour	Article-No.
ALU4	12.7	-	0.80	-	5.2	11.6	5.5	6.4	1.6	AL	Natural (NA)	211-10040
ALU5	12.7	-	0.80	-	5.2	12.6	5.5	8.0	1.6	AL	Natural (NA)	211-10050
ALU6	12.7	-	0.80	-	5.2	13.4	5.5	9.5	1.6	AL	Natural (NA)	211-10060
ALU7	12.7	-	0.80	-	5.2	14.2	5.5	11.1	1.6	AL	Natural (NA)	211-10070
ALU8	12.7	-	0.80	-	5.2	15.0	5.5	12.7	1.6	AL	Natural (NA)	211-10080
ALU10	12.7	-	0.80	-	5.2	16.6	5.5	15.9	1.6	AL	Natural (NA)	211-10100
ALU11	12.7	-	1.30	-	5.2	19.1	5.5	17.5	2.8	AL	Natural (NA)	211-10110
ALU12	12.7	-	1.30	-	5.2	19.9	5.5	19.1	2.8	AL	Natural (NA)	211-10120
ALU13	12.7	-	1.30	-	5.2	20.7	5.5	20.6	2.8	AL	Natural (NA)	211-10130
ALU4C	16.3	12.7	3.70	0.8	5.2	11.6	5.5	3.2	1.6	AL, CR	Black (BK)	211-15040
ALU5C	16.3	12.7	3.70	0.8	5.2	12.6	5.5	4.8	1.6	AL, CR	Black (BK)	211-15050
ALU6C	16.3	12.7	3.70	0.8	5.2	13.4	5.5	6.4	1.6	AL, CR	Black (BK)	211-15060
ALU7C	16.3	12.7	3.70	0.8	5.2	14.2	5.5	8.0	1.6	AL, CR	Black (BK)	211-15070
ALU8C	16.3	12.7	3.70	0.8	5.2	15.0	5.5	9.5	1.6	AL, CR	Black (BK)	211-15080
ALU9C	16.3	12.7	3.70	0.8	5.2	15.8	5.5	11.1	1.6	AL, CR	Black (BK)	211-15090
ALU10C	16.3	12.7	3.70	0.8	5.2	16.6	5.5	12.7	1.6	AL, CR	Black (BK)	211-15100

All dimensions in mm. Subject to technical changes.

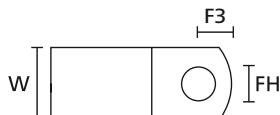


### Aluminium P-Clips

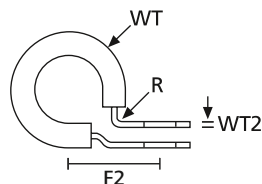
#### Alu-P-Clip with / without chloroprene Insert



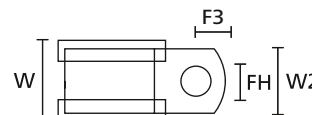
Alu P-Clip (side view)



Alu P-Clip (plan view)



Alu P-Clip with chloroprene insert (side view)

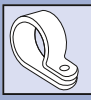


Alu P-Clip with chloroprene insert (plan view)

TYPE	Width (W)	Width (W2)	Wall (WT)	Wall (WT2)	Hole Ø (FH)	Fixing Hole Centres (F2)	Fixing Hole Centres (F3)	Bundle Ø max.	Radius (R)	Material	Colour	Article-No.
ALU11C	16.3	12.7	4.50	1.3	5.2	19.1	5.5	14.3	2.8	AL, CR	Black (BK)	211-15110
ALU12C	16.3	12.7	4.50	1.3	5.2	19.9	5.5	15.9	2.8	AL, CR	Black (BK)	211-15120
ALU13C	16.3	12.7	4.50	1.3	5.2	20.7	5.5	17.5	2.8	AL, CR	Black (BK)	211-15130
ALU14C	16.3	12.7	4.50	1.3	5.2	21.5	5.5	19.1	2.8	AL, CR	Black (BK)	211-15140
ALU15C	16.3	12.7	4.50	1.3	5.2	22.3	5.5	20.6	2.8	AL, CR	Black (BK)	211-15150
ALU16C	16.3	12.7	4.50	1.3	5.2	23.1	5.5	22.2	2.8	AL, CR	Black (BK)	211-15160
ALU17C	16.3	12.7	4.50	1.3	5.2	23.9	5.5	23.8	2.8	AL, CR	Black (BK)	211-15170
ALU18C	16.3	12.7	4.50	1.3	5.2	24.6	5.5	25.4	2.8	AL, CR	Black (BK)	211-15180
ALU19C	16.3	12.7	4.50	1.3	5.2	25.5	5.5	27.0	2.8	AL, CR	Black (BK)	211-15190
ALU20C	16.3	12.7	4.50	1.6	5.2	27.0	5.5	28.6	3.2	AL, CR	Black (BK)	211-15200
ALU22C	16.3	12.7	4.50	1.6	5.2	28.6	5.5	31.8	3.2	AL, CR	Black (BK)	211-15220
ALU23C	16.3	12.7	4.50	1.6	5.2	29.4	5.5	33.3	3.2	AL, CR	Black (BK)	211-15230
ALU24C	16.3	12.7	4.50	1.6	5.2	30.2	5.5	34.9	3.2	AL, CR	Black (BK)	211-15240
ALU25C	16.3	12.7	4.50	1.6	5.2	30.8	5.5	36.5	3.2	AL, CR	Black (BK)	211-15250
ALU26C	16.3	12.7	4.50	1.6	5.2	31.7	5.5	38.1	3.2	AL, CR	Black (BK)	211-15260
ALU28C	16.3	12.7	4.50	1.6	5.2	33.3	5.5	41.3	3.2	AL, CR	Black (BK)	211-15280
ALU29C	16.3	12.7	4.50	1.6	5.2	34.1	5.5	42.9	3.2	AL, CR	Black (BK)	211-15290
ALU30C	16.3	12.7	4.50	1.6	5.2	34.9	5.5	44.5	3.2	AL, CR	Black (BK)	211-15300
ALU34C	16.3	12.7	4.50	1.6	5.2	38.1	5.5	50.8	3.2	AL, CR	Black (BK)	211-15340

All dimensions in mm. Subject to technical changes.





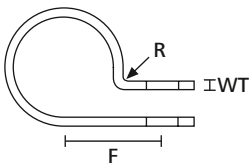
## Plastic P-Clips

### HP-Series

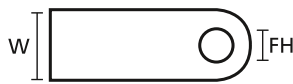
For permanent or semi-permanent cable fixings, this range of P-Clips can be used in a variety of industries. Their light weight form makes them particularly suitable for use in the aerospace industry where minimising weight, but retaining a strong fixing, is vitally important.

#### Features and Benefits

- Manufactured from Polyamide
- Good temperature resistance and high strength
- Wide range of sizes for every application



P-Clip H1P - H18P (side view)



P-Clip H1P - H18P (plan view)



P-Clips H1P - H18P in different dimensions.

TYPE	Width (W)	Wall (WT)	Hole Ø (FH)	Bundle Ø max.	Fixing Hole Centres (F)	Radius (R)	Material	Colour	Article-No.
H1P	10.0	0.80	4.2	3.2	8.5	0.5	PA66	Natural (NA)	211-60019
	10.0	0.80	4.2	3.2	8.5	0.5	PA66HS	Black (BK)	211-60000
H2P	10.0	1.00	4.2	5.0	9.5	1.0	PA66	Natural (NA)	211-60029
	10.0	1.00	4.2	5.0	9.5	1.0	PA66HS	Black (BK)	211-60001
H3P	10.0	1.00	4.2	6.5	10.0	1.0	PA66	Natural (NA)	211-60039
	10.0	1.00	4.2	6.5	10.0	1.0	PA66HS	Black (BK)	211-60002
H4P	10.0	1.20	4.2	8.0	10.0	1.0	PA66	Natural (NA)	211-60049
	10.0	1.20	4.2	8.0	10.0	1.0	PA66HS	Black (BK)	211-60003
H5P	10.0	1.20	4.2	9.5	11.0	1.0	PA66	Natural (NA)	211-60059
	10.0	1.20	4.2	9.5	11.0	1.0	PA66HS	Black (BK)	211-60004
H6P	10.0	1.20	4.2	11.0	13.0	1.0	PA66	Natural (NA)	211-60069
	10.0	1.20	4.2	11.0	13.0	1.0	PA66HS	Black (BK)	211-60005
H7P	10.0	1.20	4.2	12.5	14.0	1.5	PA66	Natural (NA)	211-60079
	10.0	1.20	4.2	12.5	14.0	1.5	PA66HS	Black (BK)	211-60006
H8P	10.0	1.50	4.2	14.0	15.0	1.5	PA66	Natural (NA)	211-60089
	10.0	1.50	4.2	14.0	15.0	1.5	PA66HS	Black (BK)	211-60007
H9P	10.0	1.50	4.2	16.0	16.0	1.5	PA66	Natural (NA)	211-60099
	10.0	1.50	4.2	16.0	16.0	1.5	PA66HS	Black (BK)	211-60008
H10P	10.0	1.50	4.2	17.5	17.0	1.5	PA66	Natural (NA)	211-60109
	10.0	1.50	4.2	17.5	17.0	1.5	PA66HS	Black (BK)	211-60009
H11P	10.0	1.50	4.2	19.0	18.0	2.0	PA66	Natural (NA)	211-60119
H12P	10.0	1.50	4.2	20.5	19.0	2.0	PA66	Natural (NA)	211-60129
H13P	12.0	1.50	5.2	22.0	20.5	2.0	PA66	Natural (NA)	211-60139
H14P	12.0	1.50	5.2	24.0	21.5	2.0	PA66	Natural (NA)	211-60149
H15P	12.0	1.50	5.2	25.5	23.0	2.5	PA66	Natural (NA)	211-60159
H16P	12.0	1.50	5.2	28.5	24.0	2.5	PA66	Natural (NA)	211-60169
H17P	12.0	1.50	5.2	31.5	26.0	2.5	PA66	Natural (NA)	211-60179
H18P	12.0	1.50	5.2	35.0	27.5	2.5	PA66	Natural (NA)	211-60189

All dimensions in mm. Subject to technical changes.



### Plastic Rivets

#### TY-Series

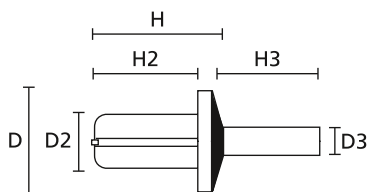
These simple to use plastic rivets are ideal for improving productivity in the working environment, saving time and money over more conventional jointing methods. Ideal for joining panels, or components to panels in a wide range of industries from automotive to panel building.

#### Features and Benefits

- One Piece
- Simply push pin into body of rivet
- TY3P1 and TY8P1 pins inserted using rivet placement tool
- TY8P2 has 'mushroom' head so pin is simply hammered in
- TY8P2 consists of two unattached parts



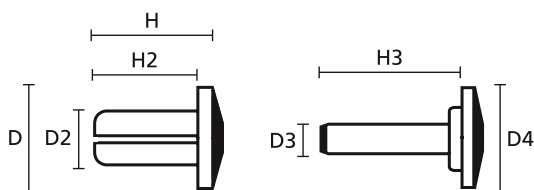
Plastic Rivet TY8P1 in application.



Plastic Rivets TY3P1/8P1



Material specification please see page 24.



Plastic Rivet TY8P2, 1st piece

TY8P2 pin, 2nd piece

TYPE	Height (H)	Height (H2)	Height (H3)	Ø D	Ø D2	Ø D3	Ø D4	Material	Colour	Article-No.
TY3P1	7.5	6.0	5.3	6.0	3.0	1.7	-	PA66	Black (BK)	241-11310
	7.5	6.0	5.3	6.0	3.0	1.7	-	PA66	Natural (NA)	241-11319
TY8P1	10.0	8.0	7.5	8.0	4.0	2.6	-	PA66	Black (BK)	241-11810
	10.0	8.0	7.5	8.0	4.0	2.6	-	PA66	Natural (NA)	241-11819
TY8P2	10.0	8.0	11.5	8.0	4.0	2.6	8.0	PA66	Black (BK)	241-11820
	10.0	8.0	11.5	8.0	4.0	2.6	8.0	PA66	Natural (NA)	241-11829

All dimensions in mm. Subject to technical changes.



#### Clips with elasticated loop

##### Cradle Clip

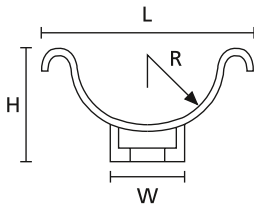
A simple, versatile method of bundling cables - the clamp consists of two parts, the 'clip base' for mounting onto a panel, and the elasticated 'loop'.

##### Features and Benefits

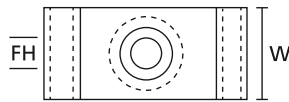
- 2-piece fixing part
- Suitable for pre-assembly and prototyping
- Useful for applications requiring the addition or removal of cables
- Simply stretch loop over clip for simple and quick cable containment



2-Piece fixing Cradle Clip.



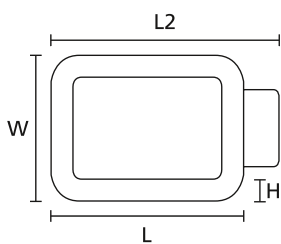
Cradle Clip (front view)



Cradle Clip (plan view)

TYPE	Width (W)	Length (L)	Height (H)	Radius (R)	Hole Ø (FH)	Material	Colour	Article-No.
C1	12.7	25.0	14.0	6.3	4.8	PA66	Black (BK)	201-10010
C2	12.7	35.0	18.0	11.0	4.8	PA66	Black (BK)	201-10020
C3	12.7	48.0	25.0	17.5	4.8	PA66	Black (BK)	201-10030

All dimensions in mm. Subject to technical changes.



Retaining Ring R1 - 3

TYPE	Width (W)	Length (L)	Length (L2)	Height (H)	Material	Colour	Article-No.
R1	23.8	16.0	22.0	3.2	PVC	Black (BK)	201-20010
R2	23.8	22.0	29.0	3.2	PVC	Black (BK)	201-20020
R3	23.8	33.0	39.0	3.2	PVC	Black (BK)	201-20030

All dimensions in mm. Subject to technical changes.



### Strain Relief Clips

#### Klam-Klip (KK)

Strain relief clips for gripping cables up to 8.5 mm bundle diameter. The strain relief clip is simply attached to the mounting surface with an M4 fixing screw.

#### Features and Benefits

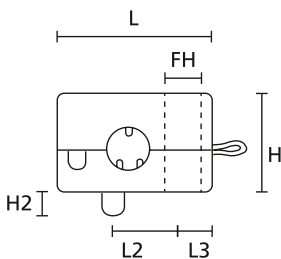
- Simple 1-screw fixing to guide and secure leads
- Two halves of the clip are linked to ensure no loss of parts during re-wiring
- Anti-rotation pin prevents leads from twisting



Strain relief Klam-Klip in application.



Klam-Klips KK1 - 4.



Klam-Klip (side view)



Klam-Klip Cable Restraints (plan view)



Material specification please see page 24.

TYPE	Width (W)	Length (L)	Height (H)	Height (H2)	Hole Ø (FH)	Bundle Ø min.	Bundle Ø max.	Material	Colour	Article-No.
KK1	8.8	22.0	14.0	3.5	5.0	4.5	5.7	PA6HIR	Black (BK)	234-10100
KK2	8.8	22.0	14.0	3.5	5.0	5.5	6.7	PA6HIR	Black (BK)	234-10200
KK3	8.8	22.0	14.0	3.5	5.0	6.5	7.7	PA6HIR	Black (BK)	234-10300
KK4	8.8	22.0	14.0	3.5	5.0	7.5	8.5	PA6HIR	Black (BK)	234-10400

All dimensions in mm. Subject to technical changes.



### Maintenance Kit

#### BMS-100

Ideal for use by electrical installers, maintenance engineers or laboratories.

#### Features and Benefits

- Practical 195-piece kit with snapper hose clips, aluminium and plastic P-Clips
- Variety of cable tie mounting bases and self adhesive clips



195-piece fixings kit, BMS-100.

Description	Drawing	Type	Content	Article-No.	Page
<b>Maintenance Kit</b>		<b>BMS-100</b>	-	<b>151-00000</b>	
Aluminium P-Clips		ALU8C	5	211-15080	176
Clips with elasticated loop		C1	8	201-10010	180
		R2	8	201-20020	180
Plastic P-Clips		H8P	7	211-60007	178
Rivet Mount		TY5K2	10	152-11209	167
Screw Fixing Mounts		CL8	10	151-26860	141
		CTAM2	40	151-31203	139
		KR6G5	20	151-24660	138
		LKC	10	151-27019	137

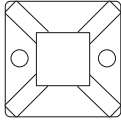
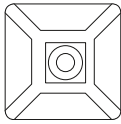
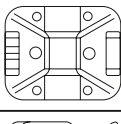



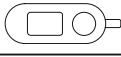
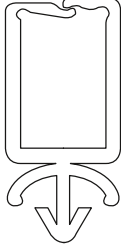
Subject to technical changes.





### Maintenance Kit

**BMS-100**

Description	Drawing	Type	Content	Article-No.	Page
Self Adhesive, Screw Fixing Cable Tie Mounts		MB3A	10	151-28349	131
		MB4CA	7	151-28459	131
		TY8G1S	10	151-11819	133
Self Adhesive / Screw Clips		TY8H1S	10	151-12819	–
Self Adhesive Clips		RA13	5	151-13021	169
Snapper Hose Clips for Tubes and Harnesses		SNP10(E)	10	191-10109	174
Strain Relief Clips		KK2	10	234-10200	181
Wire Push In Clips		WPC15	15	151-75159	173



Subject to technical changes.