**Inspired by design**

EdgeClips were developed for a luxury car. The cables needed to be routed precisely along an edge where neither drilling nor welding was permitted. The newly developed EdgeClip solved the problem so brilliantly that this smart cable routing solution was quickly applied to other models all over the world. We now offer around 90 different versions that are used in different industries.

**HellermannTyton**

## T 1.0 Technical Information

## 1.1 Cable Ties Inside Serrated

## 1.2 Cable Ties Outside Serrated

## 1.3 Cable Ties Without Serration

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## 1.4 Cable Ties, Releasable

## 1.5 Cable Ties, Stainless Steel

## 1.6 Cable Ties With Fixing Elements

## 1.7 Cable Tie Mounts

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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) | | • Corrosion resistant<br>• Antimagnetic | **RoHS** |
| **Chloroprene** | CR | -20 °C to +80 °C | Black (BK) | | • Weather-resistant<br>• High yield strength | **RoHS** |
| **Ethylene Tetrafluoroethylene (Tefzel®)** | E/TFE | -80 °C to +170 °C | Blue (BU) | UL 94 V0 | • Resistance to radioactivity<br>• UV- resistant, not moisture sensitive<br>• Good chemical resistance to: acids, bases, oxidizing agents | **RoHS** |
| **Polyacetal** | POM | -40 °C to +90 °C, (+110 °C, 500 h) | Natural (NA) | UL 94 HB | • Limited brittleness sensitivity<br>• Flexible at low temperature<br>• Not moisture sensitive<br>• Robust on impacts | **RoHS** |
| **Polyamide 11** | PA11 | -40 °C to +85 °C, (+105 °C, 500 h) | Black (BK) | UL 94 HB | • Bio-plastic, derived from vegetable oil<br>• Strong impact resistance at low temperature<br>• Very low moisture absorption<br>• Weather-resistant<br>• Good chemical resistanc | **HF** **RoHS** |
| **Polyamide 12** | PA12 | -40 °C to +85 °C, (+105 °C, 500 h) | Black (BK) | UL 94 HB | • Good chemical resistance to: acids, bases, oxidizing agents<br>• UV- resistant | **HF** **RoHS** |
| **Polyamide 4.6** | PA46 | -40 °C to +150 °C (5000 h), +195 °C (500 h) | Natural (NA), Grey (GY) | UL 94 V2 | • Resistance to high temperatures<br>• Very moisture sensitive<br>• Low smoke sensitiv | **HF** **LFH** **RoHS** |
| **Polyamide 6** | PA6 | -40 °C to +80 °C | Black (BK) | UL 94 V2 | • High yield strength | **RoHS** |
| **Polyamide 6,** high impact modified | PA6HIR | -40 °C to +80 °C | Black (BK) | UL 94 HB | • Limited brittleness sensitivity<br>• Higher flexibility at low temperature | **RoHS** |
| **Polyamide 6.6** | PA66 | -40 °C to +85 °C, (+105 °C, 500 h) | Black (BK), Natural (NA) | UL 94 V2 | • High yield strength | **HF** **RoHS** |
| **Polyamide 6.6,** glass-fibre reinforced | PA66GF13, PA66GF15 | -40 °C to +105 °C | Black (BK) | UL 94 HB | • Good resistance to: lubricants, vehicle fuel, salt water and a lot of solvent | **HF** **RoHS** |
| **Polyamide 6.6,** heat and UV stabilised | PA66HSW | -40 °C to +105 °C | Black (BK) | UL 94 V2 | • High yield strength<br>• Modified elevated max. temperature<br>• UV-resistant | **HF** **RoHS** |
| **Polyamide 6.6,** heat stabilised | PA66HS | -40 °C to +105 °C | Black (BK), Natural (NA) | UL 94 V2 | • High yield strength<br>• Modified elevated max. temperature | **HF** **RoHS** |
| **Polyamide 6.6,** high impact modified | PA66HIR | -40 °C to +80 °C, (+105 °C, 500 h) | Black (BK) | UL 94 HB | • Limited brittleness sensitivity<br>• Higher flexibility at low temperature | **RoHS** |
| **Polyamide 6.6,** high impact modified, heat and UV stabilised | PA66HIRHSW | -40 °C to +110 °C | Black (BK) | UL 94 HB | • Limited brittleness sensitivity<br>• Higher flexibility at low temperature<br>• Modified elevated max. temperature<br>• High yield strength, UV-resistant | **RoHS** |
| **Polyamide 6.6,** high impact modified, heat stabilised | PA66HIRHS | -40 °C to +105 °C | Black (BK) | UL 94 HB | • Limited brittleness sensitivity<br>• Higher flexibility at low temperature<br>• Modified elevated max. temperature | **RoHS** |
| **Polyamide 6.6,** high impact modified, ScanBlack | PA66HIR(S) | -40 °C to +80 °C, (+105 °C, 500 h) | Black (BK) | UL 94 HB | • Limited brittleness sensitivity<br>• Higher flexibility at low temperature | **RoHS** |
| **Polyamide 6.6,** UV-resistant | PA66W | -40 °C to +85 °C, (+105 °C, 500 h) | Black (BK) | UL 94 V2 | • High yield strength<br>• UV-resistant | **HF** **RoHS** |

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| MATERIAL | Material Shortcut | Operating Temperature | Colour** | Flammability | Material Properties* | Material Specifications |
|---|---|---|---|---|---|---|
| **Polyamide 6.6,** with metal particles | PA66MP | -40 °C to +85 °C, (+105 °C, 500 h) | Blue (BU) | UL 94 HB | • High yield strength<br>• Metal and X-Ray detectable | HF<br>RoHS |
| **Polyamide 6.6,** with metal particles | PA66MP+ | -40 °C to +85 °C | Blue (BU) | not flame retardant | • High yield strength<br>• Metal and x-ray detectable | HF<br>RoHS |
| **Polyamide 6.6 V0** | PA66V0 | -40 °C to +85 °C | White (WH) | UL 94 V0 | • High yield strength<br>• Low smoke emission | HF<br>LFH<br>RoHS |
| **Polyester** | SP | -50 °C to +150 °C | Black (BK) | halogen free | • UV-resistant<br>• Good chemical resistance to: most acids, alkaliks and oils | HF<br>LFH<br>RoHS |
| **Polyetheretherketone** | PEEK | -55 °C to +240 °C | Beige (BGE) | UL 94 V0 | • Resistance to radioactivity<br>• Not moisture sensitive<br>• Good chemical resistance to: acids, bases, oxidizing agents | HF<br>LFH<br>RoHS |
| **Polyethylene** | PE | -40 °C to +50 °C | Black (BK), Grey (GY) | UL 94 HB | • Low moisture absorption<br>• Good chemical oilsresistance to: most acids, alcohol and oils | HF<br>RoHS |
| **Polyolefin** | PO | -40 °C to +90 °C | Black (BK) | UL 94 V0 | • Low smoke emissions | HF<br>LFH<br>RoHS |
| **Polypropylene** | PP | -40 °C to +115 °C | Black (BK), Natural (NA) | UL 94 HB | • Floats in water<br>• Moderate yield strength<br>• Good chemical resistance to: organic acids | HF<br>RoHS |
| **Polypropylene, Ethylene-Propylene-Dien-Terpolymere-rubber** free of Nitrosamine | PP, EPDM | -20 °C to +95 °C | Black (BK) | UL 94 HB | • Good resistance to high temperatures<br>• Good chemical and abrasion resistance | HF<br>RoHS |
| **Polypropylene** with metal particles | PPMP | -40 °C to +115 °C | Blue (BU) | UL 94 HB | • Metal and X-Ray detectable<br>• Heat resistant<br>• Moderate yield strength<br>• Good chemical resistance | RoHS |
| **Polypropylene** with metal particles | PPMP+ | -40 °C to +85 °C | Blue (BU) | not flame retardant | • High yield strength<br>• Metal and x-ray detectable | HF<br>RoHS |
| **Polyvinylchloride** | PVC | -10 °C to +70 °C | Black (BK), Natural (NA) | UL 94 V0 | • Low moisture absorption<br>• Good chemical resistance to: acids, ethanol and oil | RoHS |
| **Stainless Steel** | SS304, SS316 | -80 °C to +538 °C | Natural (NA) | non-burning | • Corrosion resistant<br>• Antimagnetic<br>• Weather resistant<br>• Outstanding chemical resistance | HF<br>LFH<br>RoHS |
| **Thermoplastic Polyurethane** | TPU | -40 °C to +85 °C | Black (BK) | UL 94 HB | • High elastic<br>• Good chemical resistance to: acids, bases and oxidizing agents | HF<br>RoHS |

Tefzel® is a registered trademark of DuPont. General linguistic usage for cable ties made from raw material E/TFE is Tefzel®-Tie. In additon 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 not 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**

## Indoor applications

| Standard temperature up to +85 °C | |
| --- | --- |
| Cable tie series and length | Page |
| SOFTFIX-Family TPU, BK<br>Length 180–880 mm | 81 |
| SRT-Series Industrial quantities TPU, BK<br>Length 180–880 mm | 81 |

| Heat stabilised up to +105 °C | |
| --- | --- |
| Cable tie series and length | Page |
| T-Series PP, NA, BK<br>Length 100–390 mm | 52 |

| High temperature +150 °C and higher | |
| --- | --- |
| Cable tie series and length | Page |
| PEEK-Series, BGE<br>Length 145–250 mm | 69 |

yes

**very good chemical resistance**

no

| Standard temperature up to +85 °C | | | | | |
| --- | --- | --- | --- | --- | --- |
| Cable tie series and length | Page | Cable tie series and length | Page | Cable tie series and length | Page |
| CTT-Series PA66,<br>NA, BK<br>Length 101.6–205 mm | 62 | MCTRELK-Series PA66MP,<br>BU<br>Length 250 mm | 65 | RT250-Series PA66,<br>BK, NA<br>Length 563.3–1,030 mm | 78 |
| DH-Series PA66,<br>NA, BK<br>Length 210–395 mm | 63 | MCTS-Series PA66MP+,<br>MGN, MST, RUS, BU,<br>Length 100–301 mm | 66 | SpeedyTie PA66,<br>RD, YE<br>Length 752 mm | 83 |
| KR-Series PA66,<br>NA<br>Length 210–360 mm | 74 | OS-Series PA66V0<br>BK, NA, WH, GY<br>Length 100–385 mm | 68 | SpeedyTie PA66HIR(S),<br>BK<br>Length 752 mm | 83 |
| LK-Series PA66,<br>BK, NA<br>Length 270–535 mm | 54 | PE-Series PA66,<br>BU, YE, GN, RD<br>Length 400 mm | 71 | TEXTIE-Series PA66 and PP,<br>BK, RD, YE, GN, BU, WH<br>Length 150–25,000 mm | 84 |
| LK-Series PA66HIR(S),<br>BK<br>Length 270–535 mm | 54 | Q-Series PA66,<br>GN, RD, BK, NA, BU, YE<br>Length 105–520 mm | 57 | T-Series PA66,<br>GY, GN, RD, BK, NA, OG, SR, YE, BU, BN<br>Length 83–1,325 mm | 42 |
| LPH-Series PA66,<br>BK<br>Length 175 mm | 72 | REL-Series PA66,<br>BK, NA<br>Length 180–250 mm | 79 | T-Series PA66HIR(S),<br>BK<br>Length 200–760 mm | 48 |
| LPH-Series PA66HIR(S),<br>BK<br>Length 265–355 mm | 72 | RELK-Series to 200N PA66,<br>NA, BK<br>Length 200–350 mm | 77 | T-Series PA66V0,<br>WH<br>Length 100–387 mm | 49 |
| LR55-Series PA66,<br>GN, RD, BK, NA, BU, YE<br>Length 195 mm | 80 | REZ-Series PA66,<br>BK, FLPK, GN, OG<br>Length 200–305 mm | 82 | X-Series PA66HIR(S)<br>BK<br>Length 100-715 mm | 61 |
| MCT-Series PA66MP,<br>BU<br>Length 100–387 mm | 65 | RLT-Series to 670N PA66,<br>NA, BK<br>Length 340–770 mm | 77 | | |

| Heat stabilised up to +105 °C | | | |
| --- | --- | --- | --- |
| Cable tie series and length | Page | Cable tie series and length | Page |
| CTT-Series PA66HS, BK<br>Length 101.6–205 mm | 62 | OS-Series PA66HS, NA, BK<br>Length 100–385 mm | 68 |
| DH-Series PA66HS, BK<br>Length 210–395 mm | 63 | Q-Series PA66HS, NA, BK<br>Length 105–520 mm | 60 |
| KR-Series PA66HS, NA, BK<br>Length 210–426 mm | 74 | RLT-Series bis 670 N PA66HS, NA<br>Length 770 mm | 77 |
| LK-Series PA66HS, BK, NA<br>Length 270–535 mm | 54 | T-Series PA66HS, NA, BK<br>Length 100–1,095 mm | 47 |
| LR55-Series PA66HS, BK<br>Length 195 mm | 80 | V-Series PA66HS, NA<br>Length 102.5–150 mm | 70 |

| High temperature +150 °C and higher | |
| --- | --- |
| Cable tie series and length | Page |
| DH-Series PA46, GY<br>Length 210 mm | 63 |
| T-Series PA46, NA, GY<br>Length 100–390 mm | 50 |
| V-Series PA46, GY<br>Length 102.5–150 mm | 70 |

**Colours guide:** Beige (BGE), Black (BK), Blue (BU), Brown (BN), Fluorescent Pink (FLPK), Green (GN), Grey (GY), Mint Green (MGN), Metal (ML), Mustard (MST), Natural (NA), Orange (OG), Red (RD), Russet (RUS), Silver (SR), White (WH), Yellow (YE)

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## Outdoor applications

| Standard temperature up to +85 °C | |
|---|---|
| **Cable tie series and length** | **Page** |
| **EL-TY-Series POM,** BK<br>Length 15.8–53.3 mm | 76 |
| **Robusto-Series PA11,** BK<br>Length 123–355 mm | 73 |
| **RT250 PA66W,** BK<br>Length: 565.3 mm | 78 |
| **T-Series PA11,** BK<br>Length 100–200 mm | 53 |

| High temperature +150 °C and higher | |
|---|---|
| **Cable tie series and length** | **Page** |
| **MBT-FC-Series SS316,** BK<br>Length 362–1,245 mm | 90 |
| **MBT-Series SS304,** ML<br>Length 127–838 mm | 86 |
| **MBT-Series SS316,** ML<br>Length 127–838 mm | 87 |
| **MBTXHD-/MBTUHD-Series SS316,** ML<br>Length 681–1,524 mm | 89 |
| **MBTXHDFC-/MBTUHDFC-Series SS316,** ML<br>Length 681–1,524 mm | 92 |
| **MLT-Series, MLTC-Series SS316,** ML, BK<br>Length 230–630 mm | 94 |
| **MST-Series SS304,** ML<br>Length 207–700 mm | 93 |
| **T-Series E/TFE,** BU<br>Length 100–387 mm | 51 |

**yes**

**very good chemical resistance**

**no**
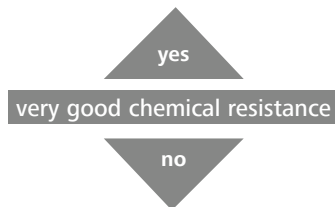
| Standard temperature up to +85 °C | |
|---|---|
| **Cable tie series and length** | **Page** |
| **DH-Series PA66W,** BK<br>Length 210–305 mm | 63 |
| **KR-Series PA66W,** BK<br>Length 210–360 mm | 74 |
| **LK-Series PA66W,** BK<br>Length 270–535 mm | 54 |
| **Q-Series PA66W,** BK<br>Length 105–520 mm | 59 |
| **REL-Series PA66W,** BK<br>Length 250 mm | 79 |
| **RLT-Series to 670 N PA66W,** BK<br>Length 770 mm | 77 |
| **T-Series PA66W,** BK<br>Length 100–1,325 mm | 44 |
| **X-Series PA66W,** BK<br>Length 100–715 mm | 61 |

| Heat stabilised up to +105 °C | |
|---|---|
| **Cable tie series and length** | **Page** |
| **RPE-Series PA66HSW,** BK<br>Length 275–350 mm | 71 |

**Colours Guide:** Beige (BGE), Black (BK), Blue (BU), Brown (BN), Fluorescent Pink (FLPK), Green (GN), Grey (GY), Mint Green (MGN), Metal (ML), Mustard (MST), Natural (NA), Orange (OG), Red (RD), Russet (RUS), Silver (SR), White (WH), Yellow (YE)

## Materials guide for cable ties series

**Polypropylene**
• -40 °C to 115 °C
• Chemical resistance

**Metal content ties (MCT, PPMP)**
• -40 °C to 115 °C
• X-ray and metal detectable (depending on equipment and application)

**PA66HIRHSW - impact, heat and UV resistant**
• -40 °C to 105 °C
• UV and vibration resistance

**PA12**
• -40 °C to 95 °C
• UV resistance, low moisture absorption

**POM/Polyacetal**
• -40 °C to 85 °C
• UV resistance with additives
• Hydrophobic, chemical resistance

**PA66W - UV resistant**
• -40 °C to 85 °C
• UV resistance

**PA66V0 - flame retardant**
• -40 °C to 85 °C
• Where UL94-V0 is required

**PA66**
• -40 °C to 85 °C
• UV resistant, flame retardant grades available

**Metal content ties (MCT, PA66MP)**
• -40 °C to 85 °C
• X-ray and metal detectable (depending on equipment and application)

**High Temperature (150 °C to 175 °C)**
**Moderate Temperature (125 °C to 150 °C)**
**Standard Temperature (125 °C or less)**

Scale values: 540, 240, 230, 220, 210, 200, 190, 180, 170, 160, 150, 140, 130, 120, 110, 100, 90, 80

°C

**Stainless steel**
• -80 °C to 538 °C
• 304 and 316 Grade
• Extreme conditions

**PEEK**
• -55 °C to 240 °C
• High strength and flame resistance

**E/TFE**
• -80 °C to 170 °C
• UV and chemical resistance

**PPS**
• -40 °C to 160 °C
• Impact and chemical resistance

**PVDF**
• -80 °C to 150 °C
• UV and chemical resistance

**PA46**
• -40 °C to 135 °C
• High performance Polyamide

**PA66HS - heat stabilised**
• -40 °C to 125 °C
• Heat and chemical resistance

**HellermannTyton**    Further information at **www.HellermannTyton.com/fixings**

## 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.

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.

**i** **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:
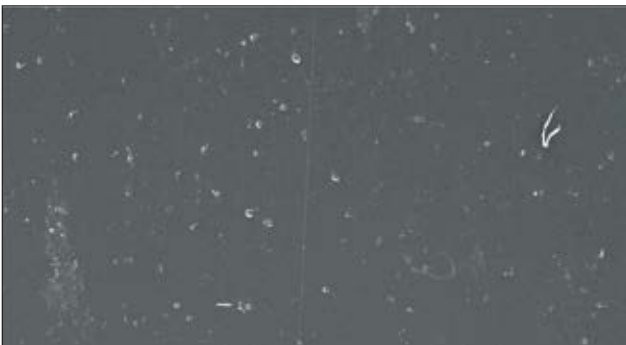


*The joint has only been altered at isolated points by the UV-radiation.*

---

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

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**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 PA11/PA12

Apart from PA66, there are polyamides which are less hygroscopic. These include PA11/PA12.

**PA11/PA12 have 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 PA11/PA12 ideal for use outdoors, in particularly when requirements may include impact resistance.

The water absorption of PA11/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).

**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

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## 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
- Continuous use temperature of +240 °C (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 UL94 V0 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, 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
O = not resistant

These values are only rough guides. They should not 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 | ▲ | O | | ▲ | ▲ | △ | ▲ | O | ▲ |
| Acetowne | 100 | 23 °C | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | O | ▲ |
| Allyl chloride | 100 | 23 °C | | | | ▲ | | ▲ | | O | |
| Aniline | 100 | 23 °C | ▲ | △ | △ | ▲ | △ | ▲ | ▲ | O | ▲ |
| Aromatic compounds | | | | | | | ▲ | O | ▲ | △ | ▲ |
| Benzaldehyde | | 23 °C | ▲ | △ | | ▲ | ▲ | ▲ | ▲ | O | ▲ |
| Benzine/Benzol mix | | 23 °C | ▲ | ▲ | ▲ | ▲ | ▲ | △ | ▲ | △ | ▲ |
| Benzol | 100 | 23 °C | ▲ | | ▲ | ▲ | △ | △ | ▲ | △ | ▲ |
| Bromine | | 23 °C | | O | O | O | | O | | O | |
| Carbon bisulphide | 100 | 23 °C | ▲ | O | ▲ | O | ▲ | O | ▲ | O | ▲ |
| Carbon tetrachloride | 100 | 23 °C | ▲ | ▲ | △ | O | ▲ | △ | ▲ | O | ▲ |
| CFC | | | | | | | | △ | | | |
| Chlorine, gaesous | 100 | 23 °C | O | | | O | | O | ▲ | △ | |
| Chlorine, liquefied | 100 | 23 °C | O | O | | O | | O | | | |
| Chlorobenzene | 100 | 23 °C | | | O | △ | △ | ▲ | | | |
| Chloroform | 100 | 23 °C | | O | O | ▲ | O | △ | | O | |
| Chromic acid 10 % | 10 | 23 °C | O | O | | O | O | ▲ | ▲ | O | ▲ |
| Chromic acid 20 % | 20 | 20 °C | O | O | | O | O | ▲ | ▲ | O | ▲ |
| Chromic acid 50 % | 50 | 20 °C | O | O | | O | O | ▲ | ▲ | O | ▲ |
| 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 | ▲ | ▲ | | ▲ | ▲ | ▲ | ▲ | | ▲ |
| Dioctyl phthalate | | 23 °C | ▲ | ▲ | | ▲ | ▲ | ▲ | ▲ | O | ▲ |
| Engine oil | 100 | 23 °C | | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| Ethanonic acid 10 % | 10 | 20 °C | O | △ | △ | ▲ | ▲ | ▲ | ▲ | | |
| Ethanonic acid 100 % | 100 | 23 °C | O | O | | ▲ | △ | ▲ | ▲ | | |
| Ethanonic acid 25 % | 25 | 20 °C | O | | | ▲ | △ | ▲ | ▲ | | |
| Ethanonic acid 50 % | 50 | 20 °C | O | | | ▲ | △ | ▲ | ▲ | | |
| Ethyl acetate | 100 | 23 °C | | ▲ | ▲ | ▲ | △ | △ | | △ | ▲ |
| Formic acid | 98 | 23 °C | O | | O | ▲ | O | ▲ | ▲ | O | △ |
| Freon | | 23 °C | | | | | | ▲ | | | ▲ |
| Heptane | 100 | 23 °C | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| Hydrogen peroxide 10 % | 10 | 20 °C | △ | | | ▲ | ▲ | ▲ | ▲ | △ | |
| Hydrogen peroxide 30 % | 30 | 23 °C | O | O | | ▲ | ▲ | ▲ | ▲ | △ | |
| Ketone | | | ▲ | ▲ | | ▲ | ▲ | ▲ | | | ▲ |
| MethyisobutyIketone | 100 | 23 °C | ▲ | | | ▲ | ▲ | ▲ | ▲ | | ▲ |
| MethylethyIketone | 100 | 23 °C | ▲ | ▲ | | ▲ | △ | ▲ | ▲ | O | ▲ |
| Nitric acid 10 % | 10 | 20 °C | O | | O | O | O | ▲ | ▲ | O | ▲ |
| Nitric acid 50 % | 50 | 23 °C | O | | O | O | O | O | ▲ | O | O |
| Nitrobenzene | 100 | 23 °C | ▲ | △ | | ▲ | ▲ | ▲ | ▲ | O | ▲ |
| Ordinary petrol | | 23 °C | | ▲ | | ▲ | ▲ | ▲ | ▲ | | ▲ |
| Paraffin oil | | 23 °C | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| Perchloroethylene | | 23 °C | ▲ | | ▲ | △ | ▲ | △ | ▲ | O | ▲ |
| Petroleum | | 23 °C | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| Phenol | 65 | 23 °C | O | O | O | O | O | ▲ | ▲ | O | |
| Potass. Permanganate | 6 | 23 °C | O | O | O | O | ▲ | ▲ | ▲ | △ | ▲ |
| Salad oil | | 23 °C | | △ | | ▲ | | ▲ | ▲ | | ▲ |
| Silicon oil | | 23 °C | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| Sulphuric acid 10 % | 10 | 20 °C | O | | △ | ▲ | O | ▲ | ▲ | O | △ |
| Sulphuric acid 50 % | 50 | 20 °C | O | | | | O | ▲ | ▲ | O | O |
| Sulphuric acid 96 % | 96 | 23 °C | O | O | | | O | O | ▲ | O | O |
| Toluol | 100 | 23 °C | ▲ | | ▲ | ▲ | ▲ | △ | ▲ | O | ▲ |
| Trichlorethylene | 100 | 23 °C | ▲ | △ | △ | △ | △ | △ | ▲ | O | ▲ |
| Water, cold | | | ▲ | | ▲ | ▲ | ▲ | | | ▲ | ▲ |
| Water, hot | | | | | | | ▲ | | ▲ | △ | ▲ |
| Xylene | 100 | 23 °C | ▲ | ▲ | ▲ | ▲ | ▲ | △ | ▲ | O | ▲ |

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

Date of issue: 10/2017

## 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 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

specimen

conductor plate

burner
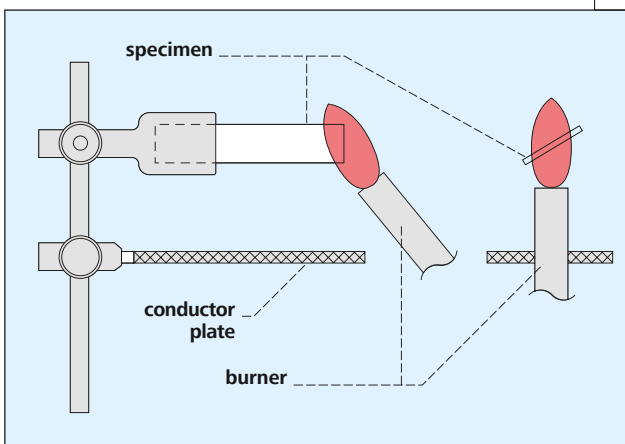
**Test criteria:**
• burning rate of specimen in mm/min.
**Classification:**
• according to HB

**UL94 V:**
Vertical burning test



2

specimen

burner

cotton cloth
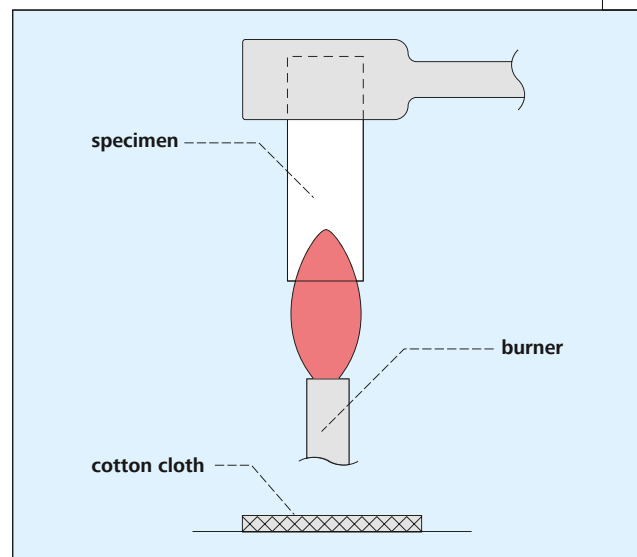
**Test criteria:**
• afterflame time of specimen

• 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.

| | Horizontal Test UL94 | | Vertical Test UL94 | | |
|---|---|---|---|---|---|
| **Classification** | 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

HellermannTyton is a global manufacturer of cable management products who specialise in high performance fastening, connecting, routing, protecting and identifying solutions to diverse markets. The extensive product portfolio reflects our long-standing industry expertise. HellermannTyton has provided outstanding product quality and has met the high requirements of various industries for 80 years.

Cable ties from the inside serrated (T-Series, Q-Series), the outside serrated (OS-Series) as well as our metal cable ties (MBT-Series and MST-Series) have been tested in accordance with the international cable tie standard IEC 62275 (Cable management systems - Cable ties for electrical installations).

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 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 (tissue paper) substrate
- 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 metallic 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-Seres, uncoated in SS304 material grade

i **Material specification please see page 26.**

**In addition to the IEC62275, we are proud to offer our customers products which have been certified by well known and independet laboratories such as:**



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

## Determination of minimum tensile strength

The minimum tensile strength is a critical selection criteria for cable ties. It expresses how much loading a cable tie can bear.

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

- Stabilisation to achieve equilibrium moisture content
- Set-up of the tensile test fixture
- Application of the tie on a split mandrel fixture
- Test speed
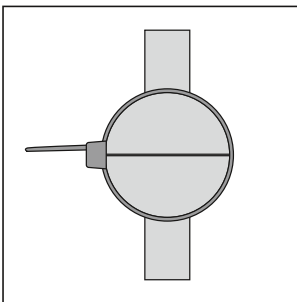
The cable tie is fixed onto a split mandrel fixture with the suitable cable tie application tool.
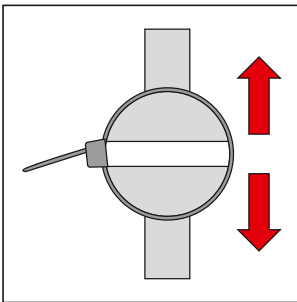
The mandrel is opened at a defined speed.
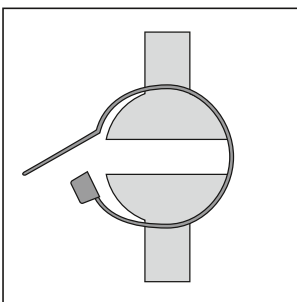
The loading at which the cable tie fails is determined. This value is stated in Newtons (N) and is recorded through a computer programme reading the tests. This programme produces graphs as outlined below.
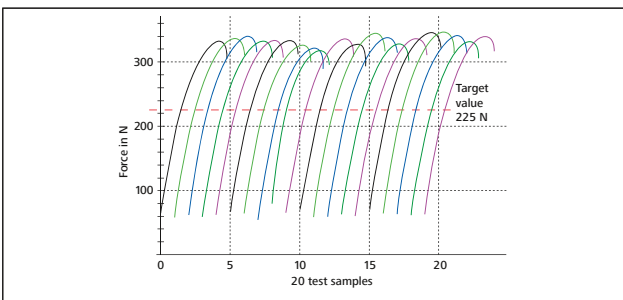
*Typical measurement protocol of a T50R made of PA66 with a minimum tensile strength of 225 N.*

## Explanation of minimum tensile strengths

**What does a minimum tensile strength of 225 N (50 lbs) 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:

**Mass = minimum tensile strength/acceleration due to gravity**

The acceleration due to gravity is 9.81 m/s²

**Mass = minimum tensile strength/$[kg * m/s^2]$/9.81 $[m/s^2]$**

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

**Mass = 225 $[kg * m/s^2]$/9.81 $[m/s^2]$**

The units m/s² cancel each other out, leaving the unit [kg] for the mass. Thus:

**Mass = 225/9.81 kg = 22.9 kg**

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

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

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

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

**Minimum tensile strength = [53 kg] * 9.81 $[m/s^2]$ = 520 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 (120 lbs).

**225 N/9.81 = 22.9 kg**

**53 kg * 9.81 = 520 N**

= **Minimum Loop Tensile Strength for Cable Ties (Newton)**

## 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 locking technology takes advantage of the excellent deformation properties of polyamide (PA). Here, the glass fibre-reinforced 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 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 an appropriate application tool like our MK9SST 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 having a flush cut off at the end of the strap. This retraction cannot be ensured when bundling around inflexible materials such as metal pipes. The force by cutting the cable tie might end up in a rebound that could allow the ball moving back slightly. For rigid objects we therefore recommend a protective channel (LFPC) to be laid between strap and bundled object in order to compensate the rebound. The MBT locking technology allows for minimum tensile strengths of up to 7,000 Newton.
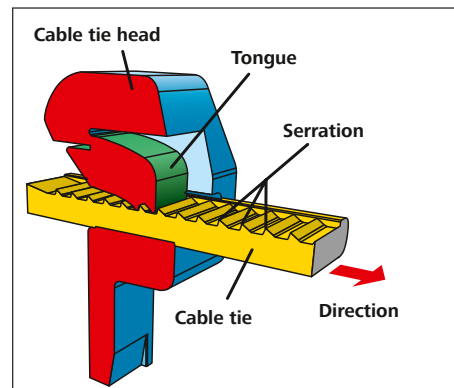


*Locking technology of an outside serrated tie.*
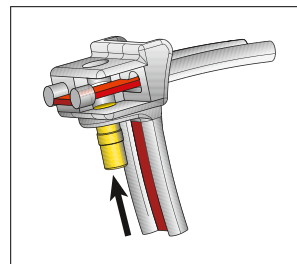


*The unlocked head of a KR-tie.*
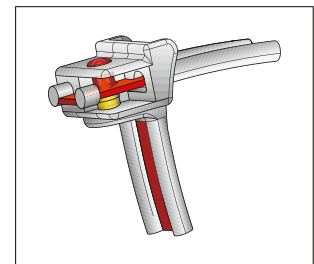


*The cable tie (red) is locked into place with the pin.*





Date of issue: 10/2017
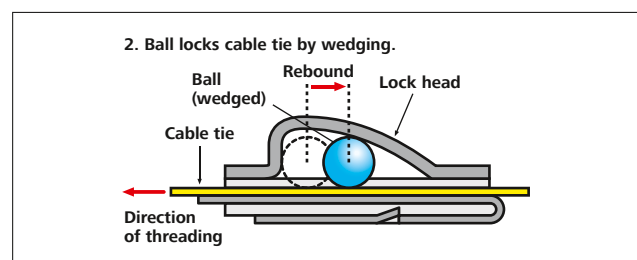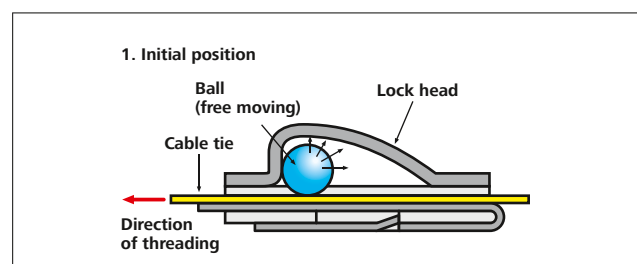
## Introduction to the main locking technologies used for cable ties

### MST series cable ties

MST cable ties are made of stainless steel 304. They offer similar features to MBT products but with a different head design and closure. Where space is tight the flat head allows for space savings. MST cable ties are not only weather-resistant but also highly resistant to heat, fire, and radiation. It can be used in challenging environments including indoor, outdoor and underground installations.

### Locking technology

The punch-locking mechanism keeps the lock tight even in challenging areas with very high vibration such as on trains. Our MST application tools (MST6/MST9) have been specifically developed for tightening and cutting MST cable ties. This tool is mandatory to apply and lock these stainless steel cable ties properly.

**Cable tie**

**Punch**

**Application tool**
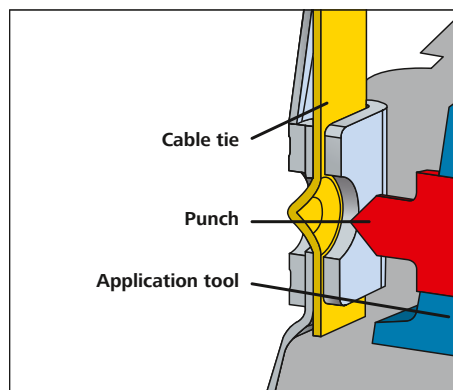
*Punch-locking mechanism of the MST-Series.*

## 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.

3. Do not expose the product to direct sunlight.

4. Do not store the product in sunlight; for example, on the windowsill.

5. Store the product away from direct sources of heat.

6. Avoid contact with heat: for example, do not place on the radiators.
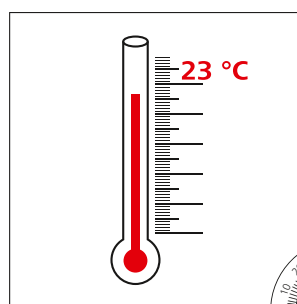
7. The ideal storage conditions are those of the central European standard climate: 23 °C
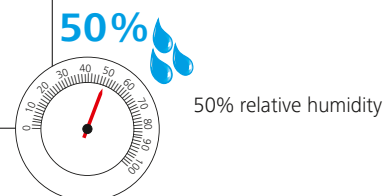
**23 °C**

**50%**

50% relative humidity

## Cable Ties Polyamide 6.6 standard

### T-Series in PA66 natural and black

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

**Features and benefits**
- Available in a wide range of materials and sizes
- High tensile strength with very low insertion force
- Only high quality plastic is used meeting recycling targets
- Inside serrated cable ties for a strong hold onto bundles
- Ergonomic bent tail offers quick and simple installation
- Easy application either manually or with an application tool

*Standard T-Series cable ties – for almost any type of application (PA66).*
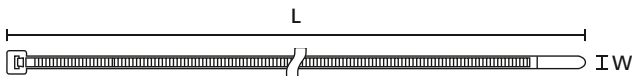
T-Series

| 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**

L

I W

*T-Series*
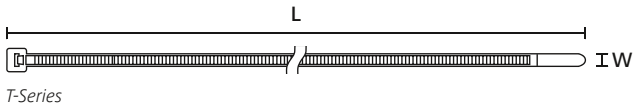
📄 **Material specification please see page 26.**

| 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 MK20 | 3 MK21 | 4 MK3SP | 5 MK3PNSP2 | 6 EVO7 | 7 MK7HT | 8 MK7P | 9 MK6 | 10 EVO9 | 11 EVO9HT | 12 MK9P |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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**

Coloured T-Series cable ties are ideally suited for marking purposes. They can be used to secure and/or identify different kind of bundles at the same time.

**Features and benefits**

- Avaliable in a wide range of colours and sizes
- Strong cable tie to permanently mark or identify bundles
- Easy application either manually or with a processing tool
- Coloured T-Series cable ties provide an inside serration



*T-Series cable ties – ideally suited for colour coding.*
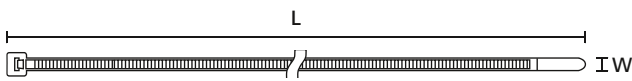
*T-Series*

| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|------|-----------|------------|---------------|-----|----------|--------|-----------|-------|-------------|
| **T18R** | 2.5 | 100.0 | 22.0 | 80 | 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 |

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.

Date of issue: 10/2017

## Cable Ties Polyamide 6.6 standard

**T-Series in PA66 coloured**

L

IW
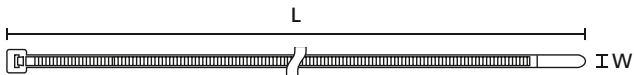
*T-Series*

**Material specification please see page 26.**

| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|
| **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 |
| **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 | EVO9 | EVO9HT | MK9P |
| | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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**

These inside serrated cable ties are made of UV resistant Polyamide 6.6 (PA66W) and thus suitable for outdoor applications. UV stabilised cable ties resist UV radiation for a considerably longer period compared to standard PA66 cable ties. They can easily be used for bundling and securing cables, pipes and hoses especially in outdoor areas.

### Features and benefits
- UV 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 onto bundles
- Easy application either manually or with a processing tool
- Simply to insert due to bent tail

UV-resistant T-Series cable ties (PA66W).
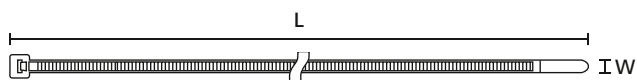
T-Series
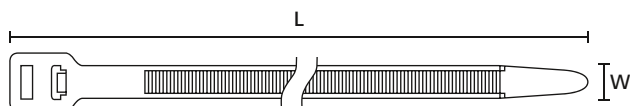
T250-series

**i** **Specific part numbers according to EN45545 available on request.**

**Material specification please see page 26.**

| 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 |

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.

Date of issue: 10/2017

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

**T-Series in PA66W black**



*T-Series*



*T250-series*
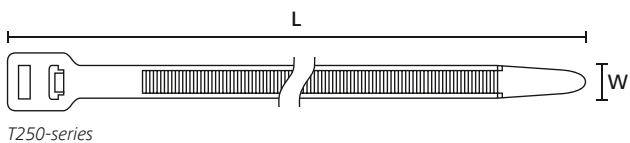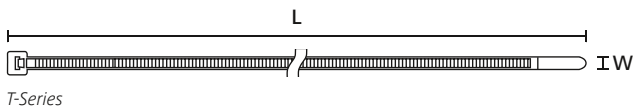
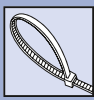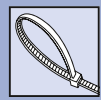| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|
| T120R(E) | 7.6 | 387.0 | 100.0 | 535 | PA66W | Black (BK) | 100 pcs. | 3;9-12 | 111-12060 |
| T120M | 7.6 | 460.0 | 125.0 | 535 | PA66W | Black (BK) | 100 pcs. | 3;9-12 | 111-12660 |
| 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 | EVO9 | EVO9HT | MK9P |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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**

These inside serrated cable ties are made from heat stabilised Polyamide 6.6 (PA66HS). They can be applied in environments with continuous temperatures up to +105 °C. T-Series cable ties can be easily installed by hand or using an application tool to ensure consistency of installation.

### Features and benefits

- Heat stabilised cable ties (PA66HS) for temperatures up to +105 °C
- Available in a wide range of sizes to cover almost every application
- Inside serration provides a strong hold onto bundles
- Manual and/or pneumatic tools available for greater process reliability
- Commonly offered in natural and black, other colours available on request



*Heat stabilised T-Series cable ties up to +105 °C.*
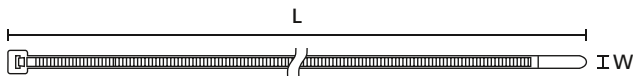


*T-Series*

| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|------|-----------|------------|---------------|-----|----------|--------|------------|-------|-------------|
| T18R | 2.5 | 100.0 | 22.0 | 80 | 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**

L

I W
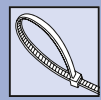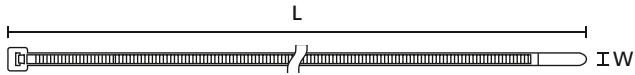
*T-Series*

📄 **Material specification please see page 26.**

| 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 | EVO9 | EVO9HT | MK9P |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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**

Impact resistance T-Series cable ties are manufactured from PA66HIR(S) – an impact modified material formulation. This high performance material offers limited brittleness sensitivity and a higher flexibility even at low temperatures. PA66HIR(S) cable ties meet increasing requirements like in the chemical, medical and/or automotive industry.

**Features and benefits**
- Impact resistant cable tie in black colour
- For bundling and securing cables, pipes and hoses
- Available in different sizes
- Higher flexibility especially in cold environments
- Limited brittleness sensitivity

*Impact resistant T-Series cable tie (PA66HIR(S)).*
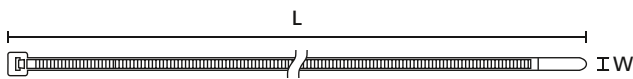
L

W

*T-Series*

📄 **Material specification please see page 26.**

| 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 | EVO9 | EVO9HT | MK9P |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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 application especially where safety regulations are high and the reduction of smoke and dangerous gases is required. PA66V0 products are most critically used within public sector areas – particularly in the rail, construction and defence industry.

### Features and benefits

- White cable tie for higher fire-protection
- Conform to low smoke generation requirements (UL94 V0)
- Low evolution of toxic gases and corrosive acids in event of a fire
- PA66V0 cable ties are available in different sizes
- High safety rating due to low fire hazard

*White T-Series cable ties for higher fire protection (PA66V0).*
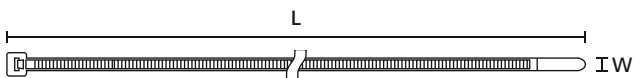
*T-Series*

| 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 |
| T50L | 4.7 | 390.0 | 110.0 | 225 | PA66V0 | White (WH) | 100 pcs. | 2-10 | 111-05438 |
| 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 | EVO9 | EVO9HT | MK9P |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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

**EN 45545-2**   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**

These inside serrated cable ties are made from Polyamide 4.6 (PA46). They can be applied in environments with continuous temperatures up to +150 °C which makes them suitable for applications where a broader temperature range is required. Polyamide 4.6 is a well known material in the automotive, railway or white goods area. An application tool is recommended to ensure greater process reliability while installing cable ties.

### Features and benefits

- Cable tie for high temperature applications up to +150 °C
- Available in different sizes to cover various bundle diameters
- Low smoke generation in the event of a fire
- PA46 is a moisture sensitive material
- Inside serrated cable tie offers strong hold around bundles
- Easy application either manually or with an application tool



*T-Series cable ties – higher temperature resistance up to +150 °C (PA46).*

**Material specification please see page 26.**
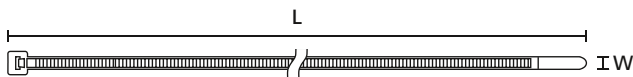
L

W

*T-Series*

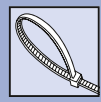| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|------|-----------|------------|---------------|-----|----------|--------|------------|-------|-------------|
| **T18R** | 2.5 | 100.0 | 22.0 | 80 | PA46 | Natural (NA) | 1,000 pcs. | 2;4-6 | 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 | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | EVO9 | EVO9HT | MK9P |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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

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

Date of issue: 10/2017

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

### T-Series in E/TFE (Tefzel®) blue

E/TFE or Tefzel® cable ties are used when higher chemical resistance and/or temperatures up to +170 °C are required. These ties are most likely chosen for challenging applications in industries like food and beverage, aerospace, automotive or railway.

### Features and benefits

- Blue cable tie offering high chemical resistance
- Suitable for applications with temperatures up to 170 °C
- Resistant to radioactivity and UV light
- E/TFE is a non hydroscopic material, no moisture absorption
- Complying with UL94 V0 requirements

*T-Series E/TFE cable ties – for higher chemical resistance up to +170 °C.*

📄 **For more information on E/TFE mounts please refer to KR-Series on page 148.**
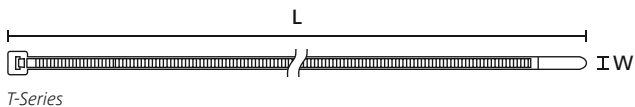
*T-Series*

| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|------|-----------|------------|---------------|---|----------|--------|------------|-------|-------------|
| T18R | 2.5 | 100.0 | 22.0 | 80 | 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 additon 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 | EVO9 | EVO9HT | MK9P |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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

DNV·GL  UL®  For product specific approvals and specifications please refer to the Appendix.

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

### T-Series in PP natural and black

T-Series cable ties made from Polypropylene (PP) are less hydroscopic and offer a higher chemical resistance and temperature range compared to a standard Polyamide 6.6 (PA66) material. Cable ties from Polypropylene can withstand continuous operating temperatures up to +115 °C. These cable ties are used to bundle and secure cables, pipes and/or hoses.

### Features and benefits

- Polypropylene cable ties for higher chemical reistance
- Can withstand continuous operating temperatures up to 115 °C
- Different sizes available in black and natural colour
- Due to its low density PP cable ties can float on water
- Less hydroscopic material, almost no water absorbtion

*T-Series cable ties for higher chemical resistance and temperatures up to +115 °C (PP).*

**Material specification please see page 26.**

*T-Series*

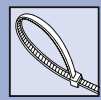| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|------|-----------|------------|---------------|-----|----------|--------|------------|-------|-------------|
| T18R | 2.5 | 100.0 | 22.0 | 36 | PP | Black (BK) | 100 | 2;4-6 | 111-01917 |
|  | 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 | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | EVO9 | EVO9HT | MK9P |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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

## Cable Ties made from sustainable bioplastic

**T-Series in PA11 black**

T-Series cable ties manufactured from PA11 have many technical features making them suitable for use in a variety of applications to fix and support cables, pipes and other elements. They offer an excellent resistance to chemicals in most challenging environments like offshore or on oil rigs and construction vehicles. In addition the very good UV resistance makes it a perfect choice for solar panel cable installations.

**Features and benefits**
- Made of Polyamide 11 – a sustainable bioplastic from vegetable oil
- Very good UV resistance and durability in outdoor applications
- Stable technical performance even at very low temperatures
- High resistance to chemicals including chlorides
- Low water absorption rate offers consistent technical performance

*A sustainable T-Series cable tie with high resistance to chemicals and UV light.*

L

IW

*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 |
| T50M | 4.6 | 245.0 | 65.0 | 225 | PA11 | Black (BK) | 100 pcs. | 2-10 | 111-02218 |
| T50I | 4.6 | 300.0 | 85.0 | 225 | PA11 | Black (BK) | 100 pcs. | 2-10 | 111-02217 |

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 MK20 | 3 MK21 | 4 MK3SP | 5 MK3PNSP2 | 6 EVO7 | 7 MK7HT | 8 MK7P | 9 MK6 | 10 EVO9 |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

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, hoses and other elements. These cable ties can be used for a countless number of applications. The LK-Series is similar to T-Series but offers in-between sizes to fit individual customer needs.

**Features and benefits**

- Inside serrated cable ties for a strong hold around bundles
- Various materials and sizes are available
- High tensile strength with very low insertion force
- Easy application either manually or with an application tool



*LK-Series – in-between size to T-Series.*

📄 **Material specification please see page 26.**
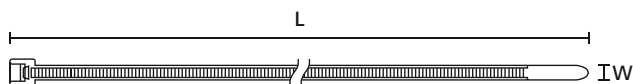


*LK-Series*

| 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 MK20 | 3 MK21 | 4 MK3SP | 5 MK3PNSP2 | 6 EVO7 | 7 MK7HT | 8 MK7P | 9 MK6 | 10 EVO9 | 11 EVO9HT | 12 MK9P |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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

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

Date of issue: 10/2017

## 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 in applications when working with gloves is necessary or for blind applications with a limited view of the work.
The new Q-tie allowing for a quick and simple installation, even with work gloves and restricted view.
Features for quick and easy application:
• Large curved tail with easy-grip ribs
• Open head with easy detectable slot
This saves time and trouble!

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

This saves material and time!

Application video:
Q-Series



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

📄 **Please find more Q-Series products for your system solution on page 137, 147 and 492.**

## Application Method:



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

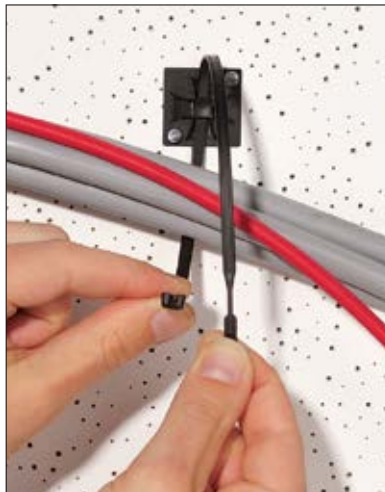*2. Pull the tie through the head until the bundle is fixed.*

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

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



*1. Insert tail into lock head and push tail partly in the head.*

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

*3. If installation is finished, 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.*
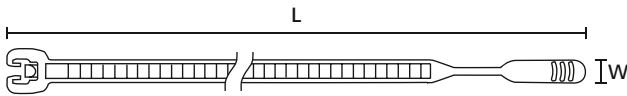
L

W

*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;8 | 109-00039 |
| | 3.6 | 160.0 | 38.0 | 130 | PA66 | Natural (NA) | 100 pcs. | 2;4-6;8 | 109-00010 |
| **Q30L** | 3.6 | 200.0 | 50.0 | 130 | PA66 | Black (BK) | 100 pcs. | 2;4-6;8 | 109-00041 |
| | 3.6 | 200.0 | 50.0 | 130 | PA66 | Natural (NA) | 100 pcs. | 2;4-6;8 | 109-00012 |
| **Q30LR** | 3.6 | 250.0 | 65.0 | 130 | PA66 | Black (BK) | 100 pcs. | 2;4-6;8 | 109-00043 |
| | 3.6 | 250.0 | 65.0 | 130 | PA66 | Natural (NA) | 100 pcs. | 2;4-6;8 | 109-00014 |
| **Q50R** | 4.7 | 210.0 | 50.0 | 220 | PA66 | Black (BK) | 100 pcs. | 2-12;15 | 109-00047 |
| | 4.7 | 210.0 | 50.0 | 220 | PA66 | Natural (NA) | 100 pcs. | 2-12;15 | 109-00018 |
| **Q50I** | 4.7 | 290.0 | 75.0 | 220 | PA66 | Black (BK) | 100 pcs. | 2-12;15 | 109-00049 |
| | 4.7 | 290.0 | 75.0 | 220 | PA66 | Natural (NA) | 100 pcs. | 2-12;15 | 109-00020 |
| **Q50L** | 4.7 | 410.0 | 110.0 | 220 | PA66 | Black (BK) | 100 pcs. | 2-12;15 | 109-00051 |
| | 4.7 | 410.0 | 110.0 | 220 | PA66 | Natural (NA) | 100 pcs. | 2-12;15 | 109-00022 |
| **Q120I** | 7.7 | 300.0 | 70.0 | 530 | PA66 | Black (BK) | 100 pcs. | 3;9-12;15 | 109-00053 |
| | 7.7 | 300.0 | 70.0 | 530 | PA66 | Natural (NA) | 100 pcs. | 3;9-12;15 | 109-00024 |
| **Q120R** | 7.7 | 420.0 | 110.0 | 530 | PA66 | Black (BK) | 100 pcs. | 3;9-12;15 | 109-00055 |
| | 7.7 | 420.0 | 110.0 | 530 | PA66 | Natural (NA) | 100 pcs. | 3;9-12;15 | 109-00026 |
| **Q120M** | 7.7 | 520.0 | 130.0 | 530 | PA66 | Black (BK) | 100 pcs. | 3;9-12;15 | 109-00057 |
| | 7.7 | 520.0 | 130.0 | 530 | PA66 | Natural (NA) | 100 pcs. | 3;9-12;15 | 109-00028 |

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 | 15 |
| | MK20 | MK21 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | EVO9 | EVO9HT | MK9P | MK9SST |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 | 560 |

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

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

Date of issue: 10/2017

## 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

*Application video:*
*Q-Series*

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

📄 **Material specification please see page 26.**

📄 **Please find more Q-Series products for your system solution on page 137, 147 and 492.**

L

W

*Q-Series*

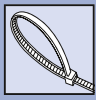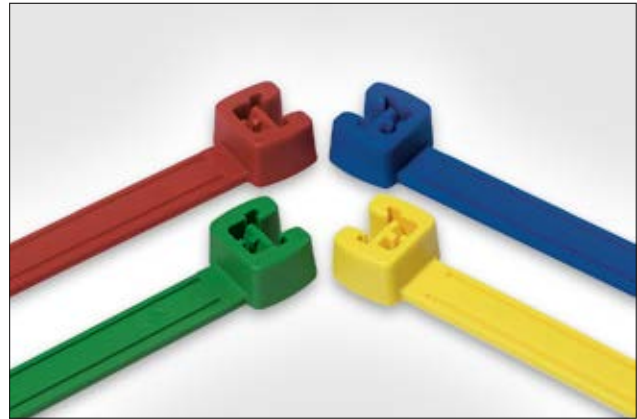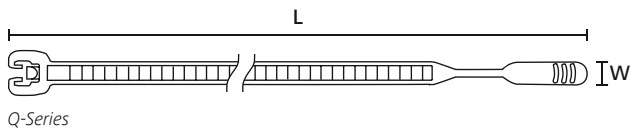| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|------|-----------|------------|---------------|-----|----------|--------|------------|-------|-------------|
| **Q18R** | 2.6 | 105.0 | 24.0 | 80 | PA66 | Blue (BU) | 100 pcs. | 2;4-6 | 109-00147 |
| | 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 | 15 |
| | MK20 | MK21 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | EVO9 | EVO9HT | MK9P | MK9SST |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 | 560 |

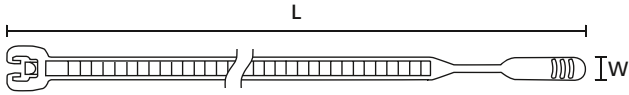For more information on toolings please refer to the Application Tooling chapter.

c(UL)us    For product specific approvals and specifications please refer to the Appendix.

Date of issue: 10/2017

## Cable Ties with open head Polyamide 6.6 standard

**Q-Series in PA66 coloured**

L

W

*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;8 | 109-00162 |
| | 3.6 | 160.0 | 38.0 | 130 | PA66 | Green (GN) | 100 pcs. | 2;4-6;8 | 109-00163 |
| | 3.6 | 160.0 | 38.0 | 130 | PA66 | Red (RD) | 100 pcs. | 2;4-6;8 | 109-00164 |
| | 3.6 | 160.0 | 38.0 | 130 | PA66 | Yellow (YE) | 100 pcs. | 2;4-6;8 | 109-00165 |
| **Q30L** | 3.6 | 200.0 | 50.0 | 130 | PA66 | Blue (BU) | 100 pcs. | 2;4-6;8 | 109-00167 |
| | 3.6 | 200.0 | 50.0 | 130 | PA66 | Green (GN) | 100 pcs. | 2;4-6;8 | 109-00168 |
| | 3.6 | 200.0 | 50.0 | 130 | PA66 | Red (RD) | 100 pcs. | 2;4-6;8 | 109-00169 |
| | 3.6 | 200.0 | 50.0 | 130 | PA66 | Yellow (YE) | 100 pcs. | 2;4-6;8 | 109-00170 |
| **Q30LR** | 3.6 | 250.0 | 65.0 | 130 | PA66 | Blue (BU) | 100 pcs. | 2;4-6;8 | 109-00172 |
| | 3.6 | 250.0 | 65.0 | 130 | PA66 | Green (GN) | 100 pcs. | 2;4-6;8 | 109-00173 |
| | 3.6 | 250.0 | 65.0 | 130 | PA66 | Red (RD) | 100 pcs. | 2;4-6;8 | 109-00174 |
| | 3.6 | 250.0 | 65.0 | 130 | PA66 | Yellow (YE) | 100 pcs. | 2;4-6;8 | 109-00175 |
| **Q50R** | 4.7 | 210.0 | 50.0 | 220 | PA66 | Blue (BU) | 100 pcs. | 2-12;15 | 109-00182 |
| | 4.7 | 210.0 | 50.0 | 220 | PA66 | Green (GN) | 100 pcs. | 2-12;15 | 109-00183 |
| | 4.7 | 210.0 | 50.0 | 220 | PA66 | Red (RD) | 100 pcs. | 2-12;15 | 109-00184 |
| | 4.7 | 210.0 | 50.0 | 220 | PA66 | Yellow (YE) | 100 pcs. | 2-12;15 | 109-00185 |
| **Q50I** | 4.7 | 290.0 | 75.0 | 220 | PA66 | Blue (BU) | 100 pcs. | 2-12;15 | 109-00187 |
| | 4.7 | 290.0 | 75.0 | 220 | PA66 | Green (GN) | 100 pcs. | 2-12;15 | 109-00188 |
| | 4.7 | 290.0 | 75.0 | 220 | PA66 | Red (RD) | 100 pcs. | 2-12;15 | 109-00189 |
| | 4.7 | 290.0 | 75.0 | 220 | PA66 | Yellow (YE) | 100 pcs. | 2-12;15 | 109-00190 |
| **Q50L** | 4.7 | 410.0 | 110.0 | 220 | PA66 | Blue (BU) | 100 pcs. | 2-12;15 | 109-00192 |
| | 4.7 | 410.0 | 110.0 | 220 | PA66 | Green (GN) | 100 pcs. | 2-12;15 | 109-00193 |
| | 4.7 | 410.0 | 110.0 | 220 | PA66 | Red (RD) | 100 pcs. | 2-12;15 | 109-00194 |
| | 4.7 | 410.0 | 110.0 | 220 | PA66 | Yellow (YE) | 100 pcs. | 2-12;15 | 109-00195 |
| **Q120I** | 7.7 | 300.0 | 70.0 | 530 | PA66 | Blue (BU) | 100 pcs. | 3;9-12;15 | 109-00197 |
| | 7.7 | 300.0 | 70.0 | 530 | PA66 | Green (GN) | 100 pcs. | 3;9-12;15 | 109-00198 |
| | 7.7 | 300.0 | 70.0 | 530 | PA66 | Red (RD) | 100 pcs. | 3;9-12;15 | 109-00199 |
| | 7.7 | 300.0 | 70.0 | 530 | PA66 | Yellow (YE) | 100 pcs. | 3;9-12;15 | 109-00200 |
| **Q120R** | 7.7 | 420.0 | 110.0 | 530 | PA66 | Blue (BU) | 100 pcs. | 3;9-12;15 | 109-00202 |
| | 7.7 | 420.0 | 110.0 | 530 | PA66 | Green (GN) | 100 pcs. | 3;9-12;15 | 109-00203 |
| | 7.7 | 420.0 | 110.0 | 530 | PA66 | Red (RD) | 100 pcs. | 3;9-12;15 | 109-00204 |
| | 7.7 | 420.0 | 110.0 | 530 | PA66 | Yellow (YE) | 100 pcs. | 3;9-12;15 | 109-00205 |
| **Q120M** | 7.7 | 520.0 | 130.0 | 530 | PA66 | Blue (BU) | 100 pcs. | 3;9-12;15 | 109-00207 |
| | 7.7 | 520.0 | 130.0 | 530 | PA66 | Green (GN) | 100 pcs. | 3;9-12;15 | 109-00208 |
| | 7.7 | 520.0 | 130.0 | 530 | PA66 | Red (RD) | 100 pcs. | 3;9-12;15 | 109-00209 |
| | 7.7 | 520.0 | 130.0 | 530 | PA66 | Yellow (YE) | 100 pcs. | 3;9-12;15 | 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.

c UL us    For product specific approvals and specifications please refer to the Appendix.
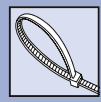
## Cable Ties with open head for outdoor use (UV-resistant)

**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
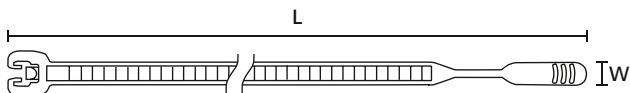- Easy application either manually or with a processing tool
- UV-resistant

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

**Material specification please see page 26.**

**Please find more Q-Series products for your system solution on page 137, 147 and 492.**

*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;8 | 109-00068 |
| Q30L | 3.6 | 200.0 | 50.0 | 130 | PA66W | Black (BK) | 100 pcs. | 2;4-6;8 | 109-00070 |
| Q30LR | 3.6 | 250.0 | 65.0 | 130 | PA66W | Black (BK) | 100 pcs. | 2;4-6;8 | 109-00072 |
| Q50R | 4.7 | 210.0 | 50.0 | 220 | PA66W | Black (BK) | 100 pcs. | 2-12;15 | 109-00076 |
| Q50I | 4.7 | 290.0 | 75.0 | 220 | PA66W | Black (BK) | 100 pcs. | 2-12;15 | 109-00078 |
| Q50L | 4.7 | 410.0 | 110.0 | 220 | PA66W | Black (BK) | 100 pcs. | 2-12;15 | 109-00080 |
| Q120I | 7.7 | 300.0 | 70.0 | 530 | PA66W | Black (BK) | 100 pcs. | 3;9-12;15 | 109-00082 |
| Q120R | 7.7 | 420.0 | 110.0 | 530 | PA66W | Black (BK) | 100 pcs. | 3;9-12;15 | 109-00084 |
| Q120M | 7.7 | 520.0 | 130.0 | 530 | PA66W | Black (BK) | 100 pcs. | 3;9-12;15 | 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 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MK20 | MK21 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | EVO9 | EVO9HT | MK9P | MK9SST |
| | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 | 560 |

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.*
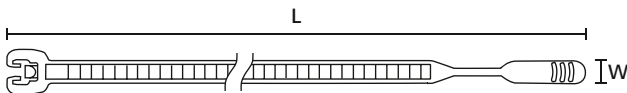
*Q-Series*

| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|------|-----------|------------|---------------|-----|----------|--------|------------|-------|-------------|
| Q18R | 2.6 | 105.0 | 24.0 | 80 | 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;8 | 109-00097 |
|      | 3.6 | 160.0 | 38.0 | 130 | PA66HS | Natural (NA) | 100 pcs. | 2;4-6;8 | 109-00126 |
| Q30L | 3.6 | 200.0 | 50.0 | 130 | PA66HS | Black (BK) | 100 pcs. | 2;4-6;8 | 109-00099 |
|      | 3.6 | 200.0 | 50.0 | 130 | PA66HS | Natural (NA) | 100 pcs. | 2;4-6;8 | 109-00128 |
| Q30LR | 3.6 | 250.0 | 65.0 | 130 | PA66HS | Black (BK) | 100 pcs. | 2;4-6;8 | 109-00101 |
|      | 3.6 | 250.0 | 65.0 | 130 | PA66HS | Natural (NA) | 100 pcs. | 2;4-6;8 | 109-00130 |
| Q50R | 4.7 | 210.0 | 50.0 | 220 | PA66HS | Black (BK) | 100 pcs. | 2-12;15 | 109-00105 |
|      | 4.7 | 210.0 | 50.0 | 220 | PA66HS | Natural (NA) | 100 pcs. | 2-12;15 | 109-00134 |
| Q50I | 4.7 | 290.0 | 75.0 | 220 | PA66HS | Black (BK) | 100 pcs. | 2-12;15 | 109-00107 |
|      | 4.7 | 290.0 | 75.0 | 220 | PA66HS | Natural (NA) | 100 pcs. | 2-12;15 | 109-00136 |
| Q50L | 4.7 | 410.0 | 110.0 | 220 | PA66HS | Black (BK) | 100 pcs. | 2-12;15 | 109-00109 |
|      | 4.7 | 410.0 | 110.0 | 220 | PA66HS | Natural (NA) | 100 pcs. | 2-12;15 | 109-00138 |
| Q120I | 7.7 | 300.0 | 70.0 | 530 | PA66HS | Black (BK) | 100 pcs. | 3;9-12;15 | 109-00111 |
|      | 7.7 | 300.0 | 70.0 | 530 | PA66HS | Natural (NA) | 100 pcs. | 3;9-12;15 | 109-00140 |
| Q120R | 7.7 | 420.0 | 110.0 | 530 | PA66HS | Black (BK) | 100 pcs. | 3;9-12;15 | 109-00113 |
|      | 7.7 | 420.0 | 110.0 | 530 | PA66HS | Natural (NA) | 100 pcs. | 3;9-12;15 | 109-00142 |
| Q120M | 7.7 | 520.0 | 130.0 | 530 | PA66HS | Black (BK) | 100 pcs. | 3;9-12;15 | 109-00115 |
|      | 7.7 | 520.0 | 130.0 | 530 | PA66HS | Natural (NA) | 100 pcs. | 3;9-12;15 | 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 | 15 |
| | MK20 | MK21 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | EVO9 | EVO9HT | MK9P | MK9SST |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 | 560 |

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

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

Date of issue: 10/2017

## Cable Ties with smart design

### X-Series

The X-series range of cable ties provides a new and improved design compared with standard cable ties, delivering a range of benefits and enhanced performance. With a new streamlined design and smaller head, the X-Series cable ties provide a superior fixing solution for tight applications, whilst also benefiting from a better grip around the bundle. This professional cable tie range is available in weather resistant and high impact / heat stabilised materials, ensuring these fixings consistently perform well at both high temperatures and in cold environments.

### Features and benefits

- Inside serrated cable tie
- High tensile strength around cable bundles
- Smooth, rounded head design
- Space saving solution
- Improved ergonomic design
- Provides a secure fastening with no lateral movement

*X-series provides a superior fixing solution for tight applications.*
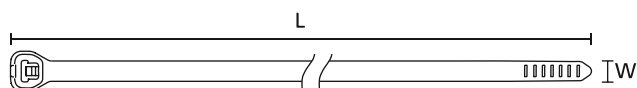
**Material specification please see page 26.**

*X-series*

| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|
| X20R | 2.5 | 100.0 | 20.0 | 90 | PA66HIRHS | Black (BK) | 100 pcs. | 2;4-6 | 108-00066 |
| | 2.5 | 100.0 | 20.0 | 90 | PA66W | Black (BK) | 100 pcs. | 2;4-6 | 108-00072 |
| X80S | 4.7 | 150.0 | 35.0 | 355 | PA66HIRHS | Black (BK) | 100 pcs. | 2-12 | 108-00001 |
| | 4.7 | 150.0 | 35.0 | 355 | PA66W | Black (BK) | 100 pcs. | 2-12 | 108-00003 |
| X80R | 4.7 | 200.0 | 50.0 | 355 | PA66HIRHS | Black (BK) | 100 pcs. | 2-12 | 108-00004 |
| | 4.7 | 200.0 | 50.0 | 355 | PA66W | Black (BK) | 100 pcs. | 2-12 | 108-00010 |
| X80I | 4.7 | 300.0 | 84.0 | 355 | PA66HIRHS | Black (BK) | 100 pcs. | 2-12 | 108-00018 |
| | 4.7 | 300.0 | 84.0 | 355 | PA66W | Black (BK) | 100 pcs. | 2-12 | 108-00024 |
| X80L | 4.7 | 385.0 | 110.0 | 355 | PA66HIRHS | Black (BK) | 100 pcs. | 2-12 | 108-00028 |
| | 4.7 | 385.0 | 110.0 | 355 | PA66W | Black (BK) | 100 pcs. | 2-12 | 108-00034 |
| X120R | 7.7 | 369.0 | 100.0 | 535 | PA66HIRHS | Black (BK) | 100 pcs. | 3;9-12 | 108-00040 |
| | 7.7 | 369.0 | 100.0 | 535 | PA66W | Black (BK) | 100 pcs. | 3;9-12 | 108-00042 |
| X250R | 13.0 | 535.0 | 150.0 | 1,115 | PA66HIRHS | Black (BK) | 50 pcs. | 11-12 | 108-00050 |
| | 13.0 | 535.0 | 150.0 | 1,115 | PA66W | Black (BK) | 50 pcs. | 11-12 | 108-00052 |
| X250I | 13.0 | 715.0 | 205.0 | 1,115 | PA66HIRHS | Black (BK) | 50 pcs. | 11-12 | 108-00045 |
| | 13.0 | 715.0 | 205.0 | 1,115 | PA66W | Black (BK) | 50 pcs. | 11-12 | 108-00047 |

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 | EVO9 | EVO9HT | MK9P |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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

## Cable Ties for hose and gaiter

**CTT-Series natural and black**

CTT is designed to secure pipes, hoses and gaiters where low pressures are being secured. These ties can be used in many different industries including automotive, white goods manufacturing, medical, medical industry and construction.
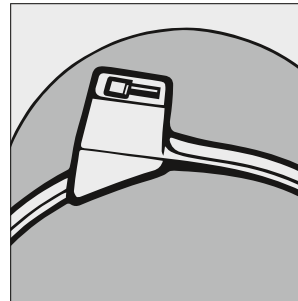
**Features and benefits**

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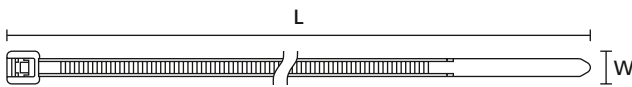- Inside serration for a strong hold onto bundles
- Easy application either manually or with a processing tool

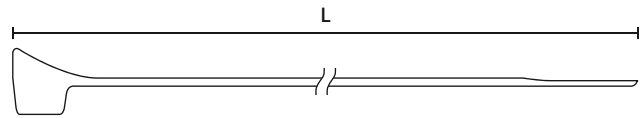*CTT ties installed on flexible gaiters.*

**Material specification please see page 26.**

*For secure fixing of round and solid shapes.*

*CTT series*

*CTT Hose Ties*

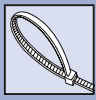| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|
| **CTT20R** | 2.5 | 101.6 | 13.0 | 90 | PA66 | Natural (NA) | 100 pcs. | 2;4-6 | 112-51919 |
| | 2.5 | 101.6 | 13.0 | 90 | PA66HS | Black (BK) | 1,000 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 | EVO9 | EVO9HT | MK9P |
| | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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

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

Date of issue: 10/2017

## Cable Ties for parallel routing

**DH-Series**

Double loop head ties are ideal for separation of two cable runs without the need for additional cable ties. Additionally these ties are 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**
- Possibility to separate bundles with only one cable tie
- Cable tie with two heads creating an inside and outside serrated loop
- Available in a wide range of materials
- Bundles can be of different diameter
- Maximum bundle diameter is a maximum combined bundle
- Easy application either manually or with a processing tool

*DH-Series cable ties for parallel routing.*
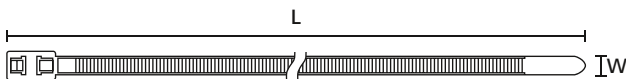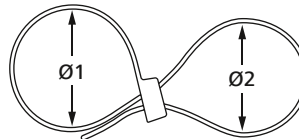
*DH-Series*

*DH-Series maximum combined bundle diameter*

| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Min. Tensile Strength 2nd loop | Material | Colour | Pack Cont. | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|
| **T50RDH** | 4.7 | 210.0 | 38.0 | 225 | 180 N | PA46 | Grey (GY) | 100 pcs. | 2;4-6;8 | 117-05168 |
| | 4.7 | 210.0 | 38.0 | 225 | 180 N | PA66 | Black (BK) | 100 pcs. | 2;4-6;8 | 117-05000 |
| | 4.7 | 210.0 | 38.0 | 225 | 180 N | PA66 | Natural (NA) | 100 pcs. | 2;4-6;8 | 117-05002 |
| | 4.7 | 210.0 | 38.0 | 225 | 180 N | PA66HS | Black (BK) | 100 pcs. | 2;4-6;8 | 117-05050 |
| | 4.7 | 210.0 | 38.0 | 225 | 180 N | PA66W | Black (BK) | 500 pcs. | 2;4-6;8 | 117-05060 |
| **T50IDH** | 4.7 | 305.0 | 76.0 | 225 | 180 N | PA66 | Natural (NA) | 1,000 pcs. | 2;4-6;8 | 117-05303 |
| | 4.7 | 305.0 | 76.0 | 225 | 180 N | PA66HS | Black (BK) | 1,000 pcs. | 2;4-6;8 | 117-05350 |
| | 4.7 | 305.0 | 76.0 | 225 | 180 N | PA66W | Black (BK) | 100 pcs. | 2;4-6;8 | 117-05360 |
| **T50LDH** | 4.7 | 395.0 | 100.0 | 225 | 180 N | PA66 | Natural (NA) | 1,000 pcs. | 2;4-6;8 | 117-05461 |
| | 4.7 | 395.0 | 100.0 | 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 |
| 📄 | 551 | 552 | 552 | 554 | 556 |

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 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 installaton of cabling in and around the manufacturing process.

### Features and benefits
- Total metal dispersion throughout the tie
- Can support quality assurance in the production of food stuffs, for example HACCP
- Blue colour for easy visual detection
- Greatly reduces risk of contamination
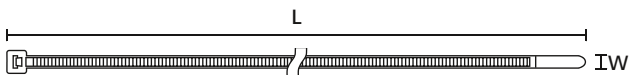- Magnetic and X-Ray detectable (detection level depending on specific application and equipment)

*Our detectable MCT(S) cable ties used in the food and pharmaceutical industry.*

**Material specification please see page 26.**

*One Step to the Web!*

**Can support quality assurance in the production of food stuffs, for example HACCP.**

### MCT-Series, PA66MP

*MCT(S)*

| 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;4-6 | 111-01225 |
| MCT30R | 3.5 | 150.0 | 35.0 | 135 | PA66MP | Blue (BU) | 100 pcs. | 2;4-6 | 111-00829 |
| MCT50R | 4.6 | 202.0 | 50.0 | 225 | PA66MP | Blue (BU) | 100 pcs. | 2-10 | 111-00830 |
| MCT50L | 4.7 | 380.0 | 110.0 | 225 | PA66MP | Blue (BU) | 100 pcs. | 2-12 | 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.

### Recommended Tools

| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MK20 | MK21 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | EVO9 | EVO9HT | MK9P |
| | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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

### MCT-Series releasable, PA66MP

| 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.

Date of issue: 10/2017

## Cable ties for food industry, detectable, corrosion resistant

### MCTS-Series, PA66MP+

Our MCTS cable ties have been specifically developed to be used in the food and beverage as well as in the pharmaceutical industry. A unique manufacturing process in combination with a unique material formulation is offering outstanding perfomance in line with high corrosion resistance. This makes the MCTS an ideal product even for very humid environments. In addition the MCTS ties manufactured from a polypropylene base material are offering very good chemical resistance.

### Features and benefits
- Total metal dispersion throughout the tie
- Can support quality assurance in the production of food stuffs, for example HACCP
- Blue colour for easy visual detection
- Greatly reduces risk of contamination
- Magnetic and X-Ray detectable (detection level depending on specific application and equipment)
- MCTS ties have very good corrosion resistance

*Our detectable MCT(S) cable ties used in the food and pharmaceutical industry.*

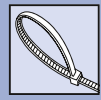**i** **Can support quality assurance in the production of food stuffs, for example HACCP.**

L

IW

*MCT(S)*

| 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;4-6 | 111-01341 |
| | 2.5 | 100.0 | 22.0 | 60 | PA66MP+ | Mint Green (MGN) | 100 pcs. | 2;4-6 | 111-01377 |
| | 2.5 | 100.0 | 22.0 | 60 | PA66MP+ | Mustard (MST) | 100 pcs. | 2;4-6 | 111-01380 |
| | 2.5 | 100.0 | 22.0 | 60 | PA66MP+ | Russet (RUS) | 100 pcs. | 2;4-6 | 111-01383 |
| **MCTS150** | 3.5 | 153.0 | 36.0 | 110 | PA66MP+ | Blue (BU) | 100 pcs. | 2;4-6 | 111-01342 |
| | 3.5 | 153.0 | 36.0 | 110 | PA66MP+ | Mint Green (MGN) | 100 pcs. | 2;4-6 | 111-01378 |
| | 3.5 | 153.0 | 36.0 | 110 | PA66MP+ | Mustard (MST) | 100 pcs. | 2;4-6 | 111-01381 |
| | 3.5 | 153.0 | 36.0 | 110 | PA66MP+ | Russet (RUS) | 100 pcs. | 2;4-6 | 111-01384 |
| **MCTS200** | 4.7 | 203.0 | 50.0 | 150 | PA66MP+ | Blue (BU) | 100 pcs. | 2-10 | 111-01343 |
| | 4.7 | 203.0 | 50.0 | 150 | PA66MP+ | Mint Green (MGN) | 100 pcs. | 2-10 | 111-01379 |
| | 4.7 | 203.0 | 50.0 | 150 | PA66MP+ | Mustard (MST) | 100 pcs. | 2-10 | 111-01382 |
| | 4.7 | 203.0 | 50.0 | 150 | PA66MP+ | Russet (RUS) | 100 pcs. | 2-10 | 111-01385 |
| **MCTS300** | 4.8 | 301.0 | 80.0 | 150 | PA66MP+ | Blue (BU) | 100 pcs. | 2-10 | 111-01399 |
| | 4.8 | 301.0 | 80.0 | 150 | PA66MP+ | Mint Green (MGN) | 100 pcs. | 2-10 | 111-01400 |
| | 4.8 | 301.0 | 80.0 | 150 | PA66MP+ | Mustard (MST) | 100 pcs. | 2-10 | 111-01401 |
| | 4.8 | 301.0 | 80.0 | 150 | PA66MP+ | Russet (RUS) | 100 pcs. | 2-10 | 111-01402 |

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 MK20 | 3 MK21 | 4 MK3SP | 5 MK3PNSP2 | 6 EVO7 | 7 MK7HT | 8 MK7P | 9 MK6 | 10 EVO9 |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

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

Date of issue: 10/2017

## 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 installaton of cabling in and around the manufacturing process.

### Features and benefits

- Manufactured from metal content Polypropylene
- High chemical and temperature resistance
- Blue color for easy visual detection
- Greatly reduces risk of contamination
- Magnetic and X-Ray detectable (detection level depending on specific application and equipment)
- MCTS ties have very good corrosion resistance
- Can support quality assurance in the production of food stuffs, for example HACCP
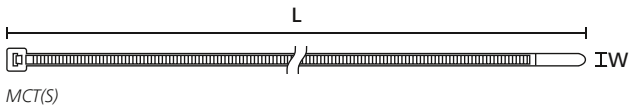
*MCTPP ties have a high chemical and temperature resistance.*

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IW

*MCT(S)*

**The MCT ties made of PA66MP are the ideal complement for MCMB mounts on page 146.**

**Can support quality assurance in the production of food stuffs, for example HACCP.**

### MCT-Series / MCTS-Series PPMP

| 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;4-6 | 111-01664 |
| MCTPP30R | 3.5 | 150.0 | 35.0 | 130 | PPMP | Blue (BU) | 100 pcs. | 2;4-6 | 111-01665 |
| MCTPP50R | 4.6 | 200.0 | 50.0 | 150 | PPMP | Blue (BU) | 100 pcs. | 2-10 | 111-01666 |
| MCTPP50L | 4.6 | 390.0 | 110.0 | 150 | PPMP | Blue (BU) | 100 pcs. | 2-12 | 111-01667 |
| 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.

### MCTS-Series, PPMP+

| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|------|-----------|------------|---------------|---|----------|--------|-----------|-------|-------------|
| MCTS200 | 4.7 | 201.0 | 50.0 | 140 | PPMP+ | Blue (BU) | 100 pcs. | 2-10 | 111-01386 |

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 | EVO9 | EVO9HT | MK9P |
| | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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

## 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 cable are being installed, for instance automotive and aircraft industry. OS ties manufactured from PA66V0 material are suitable for applications where safety regulations require 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 design
- Easy insertion combined with high tensile strength
- PA46 material for higher temperatures up to +150 °C
- PA66V0 cable ties fulfill Limited Fire Hazard requirements
- Easy application either manually or with a processing tool

*Outside serrated OS-Series cable tie with smooth surface to the bundle.*
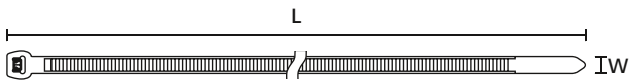
*OS-Series*

*The curved head design of the OS-Series*

**Material specification please see page 26.**

| TYPE | Width (W) | Length (L) | Bundle Ø min. | Bundle Ø max. | N | 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 | White (WH) | 100 pcs. | 2;4-6 | 118-00079 |
| | 2.5 | 100.0 | 1.6 | 20.0 | 80 | PA66W | Black (BK) | 100 pcs. | 2;4-6 | 118-00125 |
| **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 | White (WH) | 100 pcs. | 2;4-6 | 118-00080 |
| | 3.4 | 200.0 | 1.6 | 50.0 | 135 | PA66W | Black (BK) | 100 pcs. | 2;4-6 | 118-00126 |
| | 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 |
| | 4.6 | 200.0 | 1.6 | 50.0 | 225 | PA66V0 | White (WH) | 100 pcs. | 2;4-8 | 118-00065 |
| | 4.6 | 200.0 | 1.6 | 50.0 | 225 | PA66W | Black (BK) | 100 pcs. | 2;4-8 | 118-00127 |
| **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 | White (WH) | 100 pcs. | 2;4-8 | 118-00081 |
| | 4.6 | 245.0 | 1.6 | 66.0 | 225 | PA66W | Black (BK) | 100 pcs. | 2;4-8 | 118-00128 |
| **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 | White (WH) | 100 pcs. | 3;9-12 | 118-00082 |
| | 7.6 | 385.0 | 5.0 | 105.0 | 535 | PA66W | Black (BK) | 100 pcs. | 3;9-12 | 118-00130 |

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

**EN 45545-2**  For product specific approvals and specifications please refer to the Appendix.

Date of issue: 10/2017
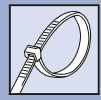
## Cable Ties for high temperature applications up to +240 °C

PEEK Ties have been designed for the use in hazardous environment. Their suitablility 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 curved head design
- Combines the performance of a metal tie with the ease of use of a polyamide cable tie
- Manual and/or pneumatic tools available for greater process reliability

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

📄 **Please find more PEEK products for your system solutions: Foot Part P1SFT65, see page 108. Screw Mount CTAM, see page 149.**
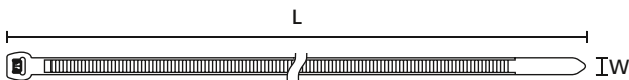
*PEEK-Series*

*One Step to the Web!*

### PEEK Ties, outside serrated

| TYPE | Width (W) | Length (L) | Bundle Ø min. | Bundle Ø max. | N | 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. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|
| PT220 | 4.7 | 220.0 | 8.0 | 56.0 | 380 | PEEK | Beige (BGE) | 100 pcs. | 8;12;15 | 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 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 15 |
| | MK20 | MK21 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | EVO9 | EVO9HT | MK9P | MK9SST |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 | 560 |

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

DNV·GL   DVE   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, alarm 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
- The 90° angled head perfectly fits onto the bundle
- Rounded head design minimises the risk of damage to insulation, especially of parallel routed bundles
- Low profile head takes up less space above the bundle
- Easy insertion and high tensile strength
- Easy application either manually or with a processing tool
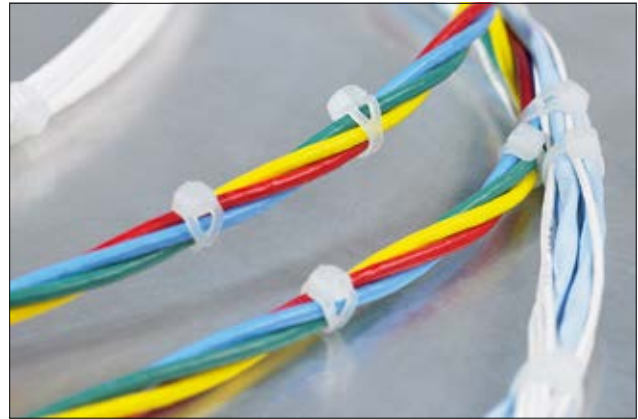
*V-Series is perfect for parallel bundles.*

### Material specification please see page 26.
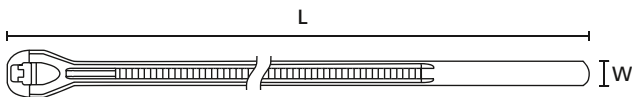
*V-Series*
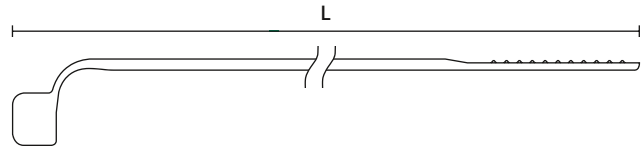
| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|
| **V100R** | 2.5 | 102.5 | 20.0 | 100 | PA46 | Grey (GY) | 1,000 pcs. | 2;4-6 | 118-00109 |
| | 2.5 | 102.5 | 20.0 | 100 | PA66HS | Natural (NA) | 1,000 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 |
| 📄 | 551 | 552 | 552 | 554 | 556 |

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

Date of issue: 10/2017
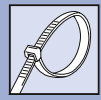
## Cable ties with low profile head

Designed primarily for use within the electrical supply industry these ties are particularly useful in areas with limited space. In addition the low profile head ensures there are no sharp edges. Coloured low profile cable ties are ideal for securing foam padding to playgroud equipment or for any identification purpose.
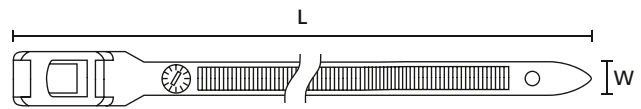
### Features and benefits
- Outside serrated cable tie with a smooth surface to bundle
- Coloured cable ties can be used for identification
- Broad contact area with cable, minimising risk of damage
- Low profile head for use in restricted area
- Parallel entry for enhanced fit around circular bundles

*Low profile cable ties, RPE- and PE-Series.*
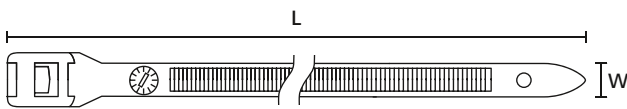
*PE-Series*

*RPE-Series*

### PE-Series coloured

| 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 |
| 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 |
| 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

| 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 MK10-SB | 3 MK21 | 9 MK6 | 10 EVO9 | 11 EVO9HT | 12 MK9P |
| 📄 | 551 | 551 | 557 | 554 | 554 | 558 |

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

**LPH-Series**

LPH cable ties are made of Polyamide 6.6 materials. The design with its serration on the outside provides a smooth surface to the cable bundle. Any damage to the insulation can be avoided. The flat head design offers additional benefit in areas with restricted space. They are mainly used within the electrical supply industry but perfectly suited for construction, heavy duty applications or the automotive industry.

**Features and benefits**

- For more flexibility high impact modifed cable ties are available
- Good tensile strength with a single or a double bridged head
- Outside serration allows for a smooth surface to bundle
- Design protects against damage to cable insulation
- Low profile head for optimized use especially in restricted areas
- Strap is threaded parallel through the low profile head

*Low profile cable tie, LPH-Series.*

**Material specification please see page 26.**

LPH175
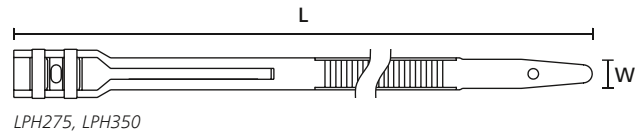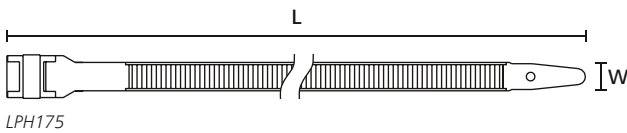
LPH275, LPH350

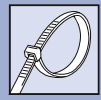| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|------|-----------|------------|---------------|---|----------|--------|------------|-------|-------------|
| **LPH175** | 9.0 | 175.0 | 40.0 | 310 | PA66 | Black (BK) | 100 pcs. | 1;3;9-12 | 112-00203 |
| **LPH275** | 9.0 | 265.0 | 62.0 | 480 | PA66HIR(S) | Black (BK) | 100 pcs. | 1;3;9-12 | 112-00303 |
| **LPH350** | 9.0 | 355.0 | 92.0 | 480 | PA66HIR(S) | Black (BK) | 100 pcs. | 1;3;9-12 | 112-00403 |
| **LPH500** | 9.0 | 505.0 | 140.0 | 540 | PA66HIR(S) | Black (BK) | 100 pcs. | 1;3;9-12 | 112-00033 |
| **LPH750** | 9.0 | 752.0 | 220.0 | 540 | PA66HIR(S) | Black (BK) | 100 pcs. | 1;3;9-12 | 112-00034 |

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<br>MK10-SB | 3<br>MK21 | 9<br>MK6 | 10<br>EVO9 | 11<br>EVO9HT | 12<br>MK9P |
| 📄 | 551 | 551 | 557 | 554 | 554 | 558 |

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

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

Date of issue: 10/2017

## Cable ties with low profile head

### Robusto-Series

Robusto cable ties manufactured from PA11 have many technical features making them suitable for use in a variety of applications to fix and support cables, pipes and other elements. They offer an excellent resistance to chemicals in most challenging environments like offshore or on oil rigs and construction vehicles. In addition the very good UV resistance makes it a perfect choice for solar panel cable installations.

**Features and benefits**

- Made of Polyamide 11 – a sustainable bioplastic from vegetable oil
- Outside serrated cable tie with an innovative rounded head design
- Low insertion force for tool-free application
- High tensile strength with a single or a double bridged head
- Soft material for easy handling without damaging cables
- Very good UV resistance and durability in outdoor applications
- 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
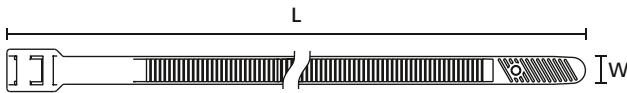- Prelocking function by simply pushing the strap through the eyelet provided

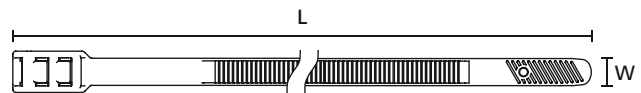*Flat head cable tie from sustainable bioplastic, Robusto-Series.*

*Application video: Robusto*
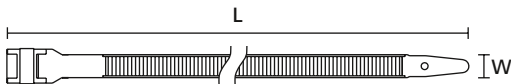
*Robusto (LPH922)*

*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 | EVO9 | EVO9HT | MK9P |
| 📄 | 551 | 551 | 557 | 554 | 554 | 558 |

For more information on toolings please refer to the Application Tooling chapter.
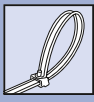
## Cable Tie locked by glass fibre pin

This cable tie is distinguished by its smooth strap and unique locking mechanism. The chamfered head of the KR-Series allows for a firm fit around the bundled element. Due to its special design KR-Series cable ties can be used as a safety method to bundle any cable and to also secure bellows on steering racks, water hoses or vacuum lines. The endless strap version is fairly flexible and can be cut to any length required. Separate heads are available to fix the strap.

### Features and benefits
• Cable tie without serration to avoid any damage to cables
• Strap is locked into place with a glass-fibre reinforced pin
• Very secure and vibration resistant fixing
• Available in various materials, colours and almost every length
• Cable ties from PA12 are highly resistant to chemicals, impact and UV light
• KR-ties up to 426 mm are made as one piece
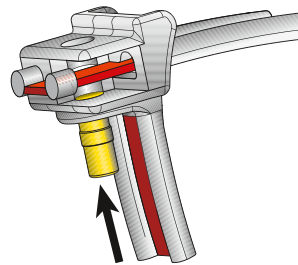• For assembly a special KR-tool is needed


The KR-Series has been repeatedly proven in high vibration applications.
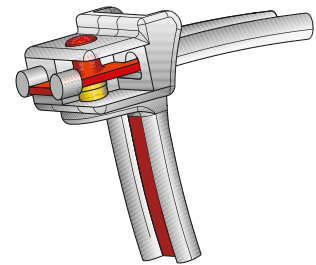
ℹ **Specific part numbers according to EN45545 available on request.**

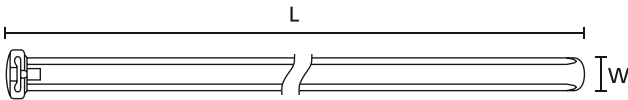📄 **Material specification please see page 26.**


The unlocked head of a KR-tie.


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

### KR-Series, 1-Piece


Cable tie 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.
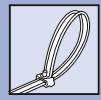
| Recommended Tools | | |
|---|---|---|
| | 13 | 14 |
| | KR6/8 | KR8PNSE |
| 📄 | 559 | 559 |

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

EN 45545-2    DNV·GL    For product specific approvals and specifications please refer to the Appendix.

Date of issue: 10/2017

## Cable Tie locked by glass fibre pin

**KR-Series, 1-Piece**
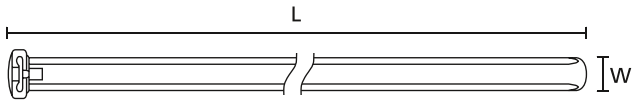


*Cable tie KR-Series*

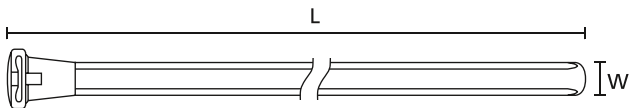| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material | Colour | Pack Cont. | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|
| KR8/33 | 8.0 | 337.0 | 86.0 | 390 | PA12 | Black (BK) | 50 pcs. | 13-14 | 121-83380 |
| | 8.0 | 337.0 | 86.0 | 785 | PA66 | Natural (NA) | 50 pcs. | 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.

**EN 45545-2**  DNV·GL    For product specific approvals and specifications please refer to the Appendix.

**KR-Series, ultrasonic welded**



*Cable tie KR-Series, ultrasonic welded*

ℹ **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**
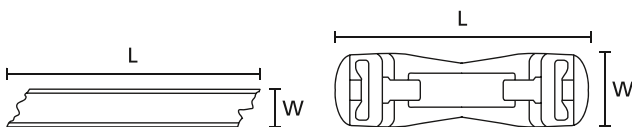


*Cable tie KR8S1*                    *Double-head KR8C5*

| 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 | 13-14 | 121-98151 |
| | 8.0 | 50.0 m | 785 | PA66W | Black (BK) | 50.0 m | 13-14 | 121-98160 |
| KR8/C5 | 11.7 | 38.0 | - | PA66HS | Natural (NA) | 200 pcs. | 13-14 | 121-58551 |
| | 11.7 | 38.0 | - | PA66W | Black (BK) | 200 pcs. | 13-14 | 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.
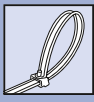
## Endless cable ties with separate head and spacer

**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 and cables they are now used in many industries from the building sector, through to the chemical industry, to the installation of signs for traffic management. Separate spacers allow for a defined distance when bundling in parallel.

### Features and benefits
• Made of very strong Polyacetal (POM)
• System consists of endless strap, spacers and heads
• Head includes stainless steel pawls for a proper fixation
• Very secure fixing and good resistance to ageing and UV light
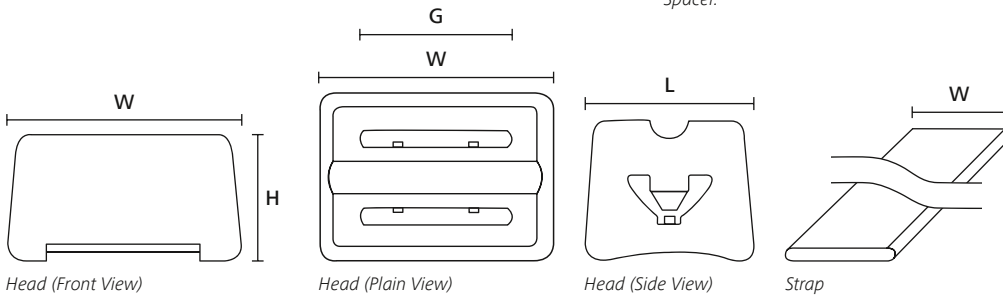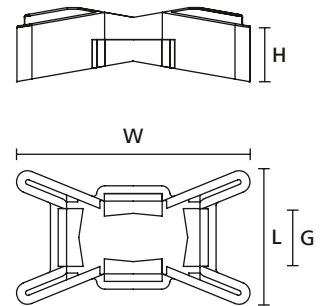• Suits any bundle diameter and reduces inventory



*The EL-TY strap can be cut to suit any bundle.*

**Material specification please see page 26.**



*Spacer.*



*Head (Front View)*    *Head (Plain View)*    *Head (Side View)*    *Strap*

| TYPE | Width (W) | Length (L) | Height (H) | N | Strap Width max. (G) | Material | Colour | Content | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|
| EL-TY (TELS1) | 12.7 | 15.2 m | - | 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) | 53.3 | 30.5 | 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 |
| | EVO9HT |
| 📄 | 554 |

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 changes are anticipated. This includes temporary installation and the addition or removal of elements. These releasable cable ties are commonly used to fix stage equipment, for cable management at outdoor events or prototype harnessing work. The extended pawl is simply pushed down with a finger to release the strap.

**Features and benefits**

- Releasable and reusable cable tie
- Multiple grades of PA66 for indoors, outdoors or at high temperatures
- Available in black and natural colour
- Extended trigger for simple and quick release of ties
- Inside serrated cable tie
- Different lengths available

*RELK releasable cable ties for temporary bundling.*
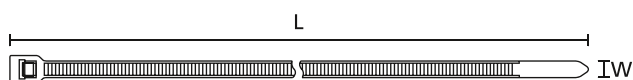
*RELK-, RLT-Series*

*Application video: RELK*

### 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

The RT250 is a releasable cable tie. Due to its minimum loop tensile strength of 1,115 N the cable tie is perfectly suited to fix larger and/or heavier bundles. RT250 can be opened and re-used. UV resistant cable ties manufactured from PA66W are recommended for outdoor applications. For shorter lengths REL250-Series can be offered.

### Features and benefits
- Releasable and reusable cable tie
- Suitable for larger and/or heavier bundles
- Eyelet allows excess tail to be tucked neatly away
- Available in black and natural colour
- Extended trigger for simple and quick release of ties
- Protected trigger to avoid accidental release
- RT250 cable ties are inside serrated

*Ideal for larger or heavier bundles these ties can be opened and reused.*
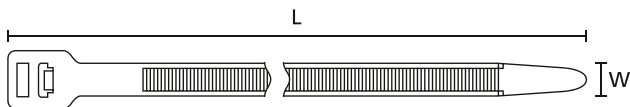
*RT250-Series*

### 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 | PA66W | 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.
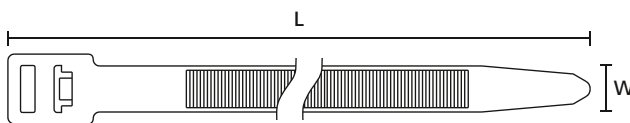
*Releasable cable tie REL250-Series*

### 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.

Date of issue: 10/2017

## Cable Ties inside serrated with kickdown lever

### REL-Series

The REL-Series is ideally used in applications where changes are anticipated and a tie need to be opened and closed repeatedly. The release mechanism of an REL cable tie allows simple and quick opening with only one hand. UV resistant cable ties manufactured from PA66W are recommended for outdoor applications.
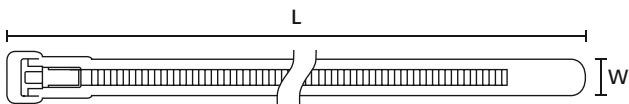
### Features and benefits

- Releasable and reusable cable tie for medium-weight loads
- Extremely easy-to-operate release mechanism
- Opens simply and quickly with only one hand
- Also available in PA66W for outdoor applications
- REL cable ties have their serration on the inside

*Releasable and reusable cable tie, REL-Series.*

### Material specification please see page 26.

*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.

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

## Cable Ties outside serrated for marking

### LR55-Series

Releasable cable ties of our LR55-Series offer some extra benefits. Their serration is on the outside of the cable tie. This will minimise the risk of damage to cables or other elements. Additionally LR55 cable ties are available in different colours – optimally suited for temporary identification within logistic, packaging, cable harness production or for testing purposes. The strap is released when pushing the extended pawl upwards. The risk of opening the cable tie accidentally is minimised.

**Features and benefits**
- Releasable and reusable cable tie
- Various colours for applications needing colour coding
- Extended trigger for simple and quick release of ties
- Risk of accidental release is minimised
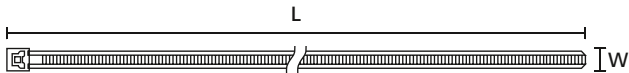- Outside serration prevents damage to cable insulation
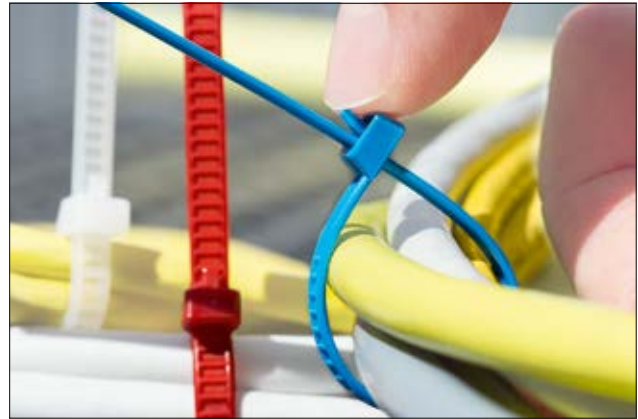


*Releasable and outside serrated LR55 cable ties are ideal suited for colour coding.*

*Application video: LR55*

**Material specification please see page 26.**

*LR55-Series*

| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | 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.

## Cable Ties without serration in flexible TPU

The soft, flexible material makes these ties particulary suitable for use on sensible wires for instance fibre-optic cables. Additionally they are suitable for moving elements and vibrating applications. The double slotted head allows for parallel bundling.

### Features and benefits
- Elastic and flexible cable ties with rounded and smooth edges
- Releasable and reusable
- Double slotted head with fixation pawl
- Flexibility ensures steady and evenly distributed pressure
- Tight fixation even in vertical position: prevent sliding down or loosing bundle
- Suitable for moving elements and vibrating applications like windmills, machines, robotics, pulsating tubing and conduits
- Ideal use for temporarily fixation for presentations, concerts, theatres, exhibitions
- Long lifetime when used indoor
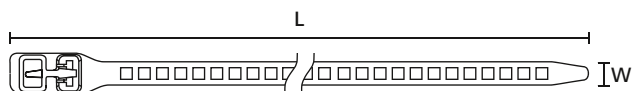- Remains flexible even at cold temperatures (-20°C)

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

*Application video: SOFTFIX*

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

*SOFTFIX ties available in small packaging units.*

*SRT- and SOFTFIX-Series*

### SRT-Series for industry quantities

| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | 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. | N | 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 |
| SOFTFIX XXL | 28.0 | 880.0 | 240.0 | 360 | TPU | Black (BK) | 3 pcs. | 115-28898 |

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 as a bag closure where access to part of the bag content may be needed but the bag need to be re-sealed later. Something that often occurs for instance in the catering or service industry. In addition the cable tie can be opened easily with only two fingers by simply pushing the wings of the unique head.
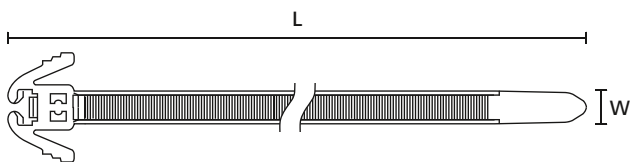
**Features and benefits**

• REZ-Series can be released and reused
• Unique head design for simple and rapid use
• Quick-release mechanism for one-hand operation
• Cable tie can be opened even when under tension
• Can still be released when working with gloves



*The REZ ties have a one-hand, simple release mechanism.*

> ### Material specification please see page 26.



*Application video:
REZ*



*REZ-Series*

| 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 |
| | 4.7 | 200.0 | 50.0 | 135 | PA66 | Fluorescent Pink (FLPK) | 100 pcs. | 115-00147 |
| | 4.7 | 200.0 | 50.0 | 135 | PA66 | Green (GN) | 100 pcs. | 115-00106 |
| | 4.7 | 200.0 | 50.0 | 135 | PA66 | Orange (OG) | 100 pcs. | 115-00132 |
| **REZ300** | 4.7 | 305.0 | 80.0 | 135 | PA66 | Black (BK) | 100 pcs. | 115-40300 |
| | 4.7 | 305.0 | 80.0 | 135 | PA66 | Fluorescent Pink (FLPK) | 100 pcs. | 115-00138 |

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 Tie with quick release mechanism

**SpeedyTie**

The versatility of the SpeedyTie means that it is suitable for a multitude of applications like electro installations, heating and ventilation, construction, exhibitions and trade fairs. Whether it is used for permanent or temporarily solutions the SpeedyTie is a very strong helping hand in every situation.

**Features and benefits**

- Releasable and reusable cable tie
- Bears loads of up to 888 N (approx. 90 kg)
- 750 mm long for use in a wide variety of applications
- Can be used for parallel bundling
- Easy to handle when wearing work gloves
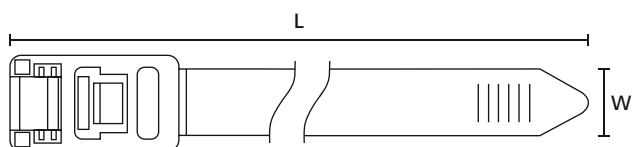- Available in signal yellow and in black
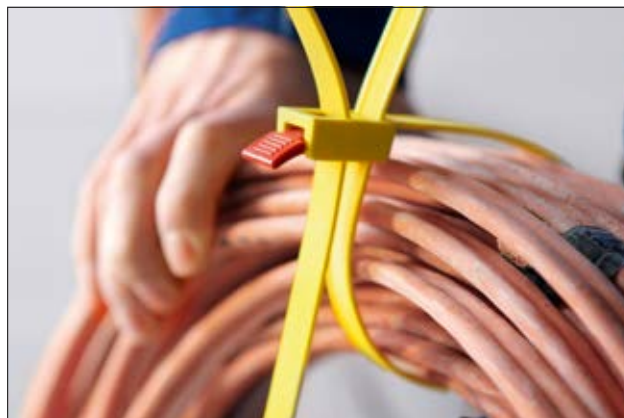
*Excess tails can be neatly tucked away.*

**Patented**

*Application video: SpeedyTie*

*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**

The TEXTIE-Series offers a soft bundling method and is ideal for use on telephone cables, optical fibre and network cables. These cable ties can be reopened and reused up to 400 times. A perfect solution for temporary installations and cable management for stage equipment, at outdoor events or for prototype harnessing. Maybe it is simply used in private or office applications. TEXTIE cable ties are available in various colours and can be used to colour-code cables and/or wires.

### Features and benefits
- Quick and simple to use without tools
- Re-usable up to 400 times
- Various colours for easy identification
- For indoor and outdoor use
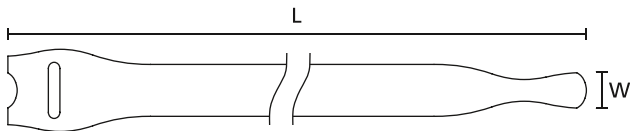- Can be attached to the bundle permanently
- Resistant to ageing, no corrosion


*Application video: TEXTIE*


*Due to the functional cable tie design the TEXTIE is fixed on the cable and cannot get lost.*


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

*L*

*W*

*TEXTIE-Series*

**Material specification please see page 26.**

| 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 6.6 (PA66) | Polypropylene (PP) | Black (BK) | 1 pc. | 130-00020 |
| TEXTIE 25M | 13.0 | 25,000.0 | - | Polyamide 6.6 (PA66) | Polypropylene (PP) | Black (BK) | 1 pc. | 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.

Date of issue: 10/2017

## 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 Scandinavian Association for Testing of Electric Power Equipment (SATS) – 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 scenario (see drawing below).

### 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 mm²) and Ø 13 mm (50 mm²), 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:

- Suitable for indoor and outdoor environments
- Very good heat and chemical resistance
- Due to the range of strap lengths and widths it is easy to choose a solution for every application
- Only one cable tie 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 circuit currents.
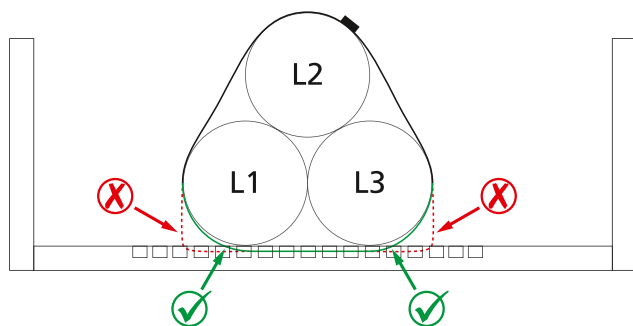
**The stainless steel cable ties from HellermannTyton are a time saving solution with a low price and low installation cost.**



*Double wrap stainless steel cable ties, uncoated, MBT_UHD.*



*AMT Ties with and without protective profile.*
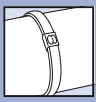


*One Step to the Web!*



*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, 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
- Cable ties MBT, made from stainless steel 304
- Non-releasable locking feature
- Corrosion resistant
- Weather resistant
- Outstanding chemical resistance
- High temperature resistant
- Non-burning


*Stainless steel cable ties, uncoated, MBT_SS, MBT_HS.*
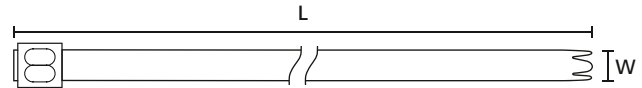

*Stainless Steel Cable Ties, uncoated, MBT_XHS.*

**i** **Can support quality assurance in the production of food stuffs, for example HACCP.**

**i** **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 160.**
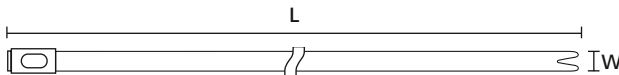

*MBT-Series 4.6 mm and 7.9 mm width*


*MBT-Series 12.3 mm width*

| TYPE | Width (W) | Length (L) | Bundle Ø min. | Bundle Ø max. | N | 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 MK9SST | 16 MK9PSST | 17 HDT16 | 18 KST-STG200 |
| 📄 | 560 | 560 | 561 | 561 |

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

Date of issue: 10/2017

## Cable ties with ball-lock

**MBT-Series, stainless steel 316**

Metal ties are predestined for all areas with requirements for high holding force, reliability and fire resistance. The MBT range of stainless steel cable ties can be used in chemical industry and on oil platform as well as in mass transit, shipbuilding and mining industry. MBT ties are also suitable for machine building, apparatus construction and in the outside area of radio technology. Additionally MBT ties are a good solution to fix lighting in theatres and exhibition halls.

**Features and benefits**
- MBT cable ties made from stainless steel 316
- Non-releasable locking feature
- Corrosion resistant
- Weather resistant
- Outstanding chemical resistance
- Antimagnetic
- High temperature resistant
- Non-burning

**Material specification please see page 26.**

*MBT-Series 4.6 mm and 7.9 mm width*

*Stainless steel cable ties, uncoated, MBT_S, MBT_H.*

**i** **Can support quality assurance in the production of food stuffs, for example HACCP.**

**i** **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 160.**
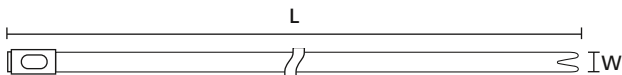
| TYPE | Width (W) | Length (L) | Bundle Ø min. | Bundle Ø max. | N | Material | Pack Cont. | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|
| MBT5S | 4.6 | 127.0 | 12.0 | 25.0 | 900 | SS316 | 100 pcs. | 15-18 | 111-93059 |
| MBT8S | 4.6 | 201.0 | 12.0 | 50.0 | 900 | SS316 | 100 pcs. | 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 |
| 📄 | 560 | 560 | 561 | 561 |

For more information on toolings please refer to the Application Tooling chapter.
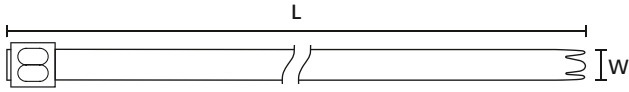
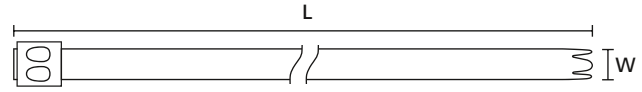For product specific approvals and specifications please refer to the Appendix.

## Cable ties with ball-lock

**MBT-Series, stainless steel 316**

*MBT-Series 12.3 mm width*

*MBT-Series 16.0 mm width*

| TYPE | Width (W) | Length (L) | Bundle Ø min. | Bundle Ø max. | [N] | 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 |
| 📄 | 560 | 560 | 561 | 561 |

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

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

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## 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
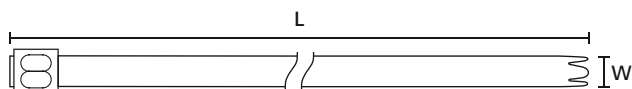- Head with two locking balls
- Resistant to arduous conditions and environments

**i** **Can support quality assurance in the production of food stuffs, for example HACCP.**

**Material specification please see page 26.**



*Double wrap stainless steel cable ties, uncoated, MBT_UHD.*
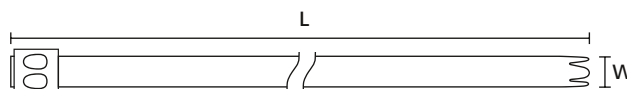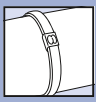
L · W

*MBT-Series 12.3 mm width*

L · W

*MBT-Series 16.0 mm width*

| TYPE | Width (W) | Length (L) | Bundle Ø min. | Bundle Ø max. | N | 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 |
| 📄 | 560 | 560 | 561 | 561 |

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 industries from mass transit, ship building, oil rigs, mining and chemical industry, 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. Fully coated ties can also be used to avoid any reflection. An important consideration for instance in the defence industry.

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

> **i** **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 160.**
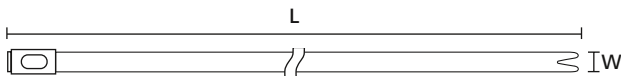
> **Material specification please see page 26.**



*Stainless steel cable ties, coated, MBT_SFC, MBT_HFC.*



*Stainless steel cable ties, coated, MBT_XHFC.*

*MBT-Series 4.6 mm and 7.9 mm width*

| TYPE | Width (W) | Length (L) | Bundle Ø min. | Bundle Ø max. | N | 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.
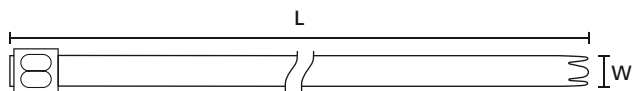
| Recommended Tools | | | | |
|---|---|---|---|---|
| | 15 | 16 | 17 | 18 |
| | MK9SST | MK9PSST | HDT16 | KST-STG200 |
| 📄 | 560 | 560 | 561 | 561 |

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

**HellermannTyton** Further information at **www.HellermannTyton.com/fixings**
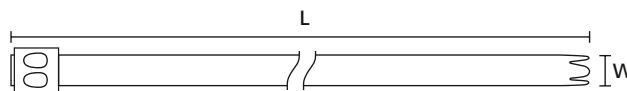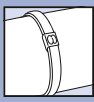
Date of issue: 10/2017

## 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*

| TYPE | Width (W) | Length (L) | Bundle Ø min. | Bundle Ø max. | N | 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 |
| 560 | 560 | 561 | 561 |

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 industries from mass transit, ship building, oil rigs, mining and chemical industry, 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. Fully coated ties can also be used to avoid any reflection. An important consideration for instance in the defence industry.

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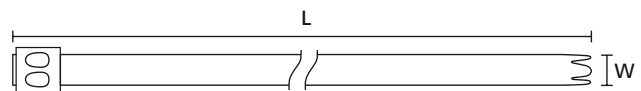- Antimagnetic
- High temperature resistant
- Non-burning

*Stainless Steel Cable Ties, coated, MBT_UHDFC.*

📄 **Material specification please see page 26.**
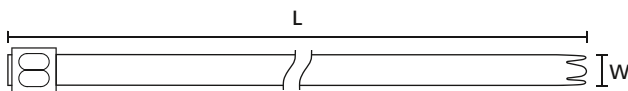
*MBT-Series 12.3 mm width*

*MBT-Series 16.0 mm width*

| TYPE | Width (W) | Length (L) | Bundle Ø min. | Bundle Ø max. | N | 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 |
| 560 | 560 | 561 | 561 |

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

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## 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

*Application video: MST-Series*



*Stainless Steel Cable Ties MST-Series.*
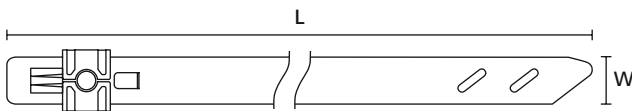
> **ℹ** **The MST-Series (up to 8.9 mm) can be used in combination with the stainless steel P-Mount. The mount is simple to install with a screw or bolt and ensures a durable fixing solution. Please see page 160.**

> **ℹ** **Can support quality assurance in the production of food stuffs, for example HACCP.**

*MST tie*

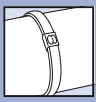| TYPE | Width (W) | Length (L) | Bundle Ø min. | Bundle Ø max. | N | Material | Pack Cont. | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|
| **MST200S** | 5.9 | 207.0 | 5.0 | 50.0 | 900 | SS304 | 100 pcs. | 19 | 111-01549 |
| **MST360S** | 5.9 | 360.0 | 5.0 | 100.0 | 900 | SS304 | 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 |
| 📄 | 562 | 562 |

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

**DNV·GL**  For product specific approvals and specifications please refer to the Appendix.

Date of issue: 10/2017

## 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 industries from mass transit, ship building, oil rigs, mining and chemical industry, 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
- Heavy duty type in stainless steel 316
- 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.
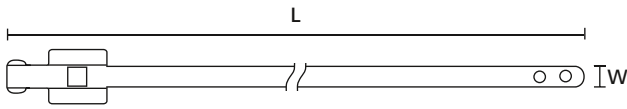
MLT tie

**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 160.

### MLT-Series, stainless steel 316

| TYPE | Width (W) | Length (L) | Bundle Ø min. | Bundle Ø max. | N | 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. | N | 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.

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

### Recommended Tools

| | 17 | 21 |
|---|-----|-----|
| | HDT16 | MTT4 |
| 📄 | 561 | 563 |

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

## Protective channel for stainless steel ties

**LFPC-Series**

When used in conjunction with the MBT, MST, MLT 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-, MLT- and AMT-Series
- Smooth surface protects bundle against chafing caused by vibrations and shocks
- Can be cut from roll to any length
- Halogenfree
- Flame retardant

*Protective channel LFPC, polyolefin, black.*

📄 **Material specification please see page 26.**

ℹ️ **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*   W
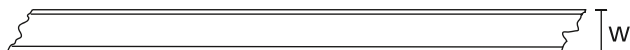
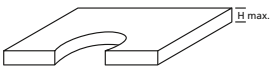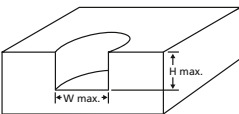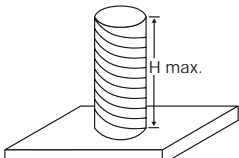| TYPE | Width (W) | For Ties | Material | Pack Cont. | Article-No. |
|------|-----------|----------|----------|------------|-------------|
| LFPC70 | 7.0 | MBTS | PO | 25 m | 111-93000 |
| LFPC83 | 8.3 | MBTH | PO | 25 m | 111-00257 |
| LFPC103 | 10.3 | MBTH | PO | 25 m | 111-94000 |
| LFPC129 | 12.9 | 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.

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

## Selection 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.

**HellermannTyton**  Further information at **www.HellermannTyton.com/fixings**

## 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.

## 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. Theses 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.

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## 1-Piece Fixing Ties 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 Disc at the head of the T50SOSSFT6.5E protects the bore against dirt and splashes.*

### Material specification please see page 26.

### 1-Piece Fixing Ties with Arrowhead, with Disc, for round holes
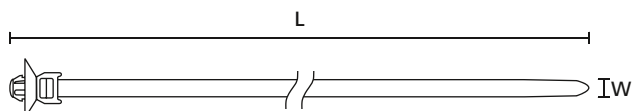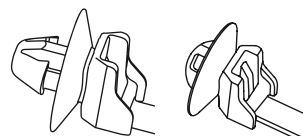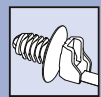
T50SOSKSFT5.4E        T50SOSSFT6.5E        T50SOSKSFT6.5E

| 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 |
| T30SOS-AS-SFT6.5-E | 3.5 | 126.4 | 25.0 | 200 | 16 | 6.5 - 7.0 | 0.8 - 1.5 | PA66HS | Black (BK) | 2;4-6 | 126-00255 |
| 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 |
| T50SOSKSFT5SE | 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 |
| T50SOSKSFT6.5E | 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 | 225 | 16.0 | 6.3 - 6.7 | 1.9 - 2.5 | PA66HS | Black (BK) | 2-10 | 126-03102 |
| T50SL8 | 4.6 | 165.0 | 35.0 | 225 | 20.0 | 8.0 | 0.8 - 1.5 | PA66 | Black (BK) | 2;4-6;8 | 126-01900 |
| 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 |
| T50SST5 | 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 | 200 | 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 |

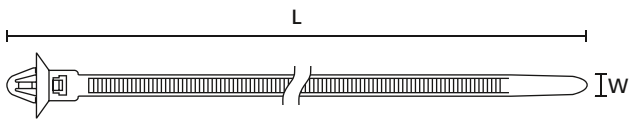All dimensions in mm. Subject to technical changes.

| Recommended Tools | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | MK20 | MK21 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | EVO9 |
| | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

For more information on toolings please refer to the Application Tooling chapter.
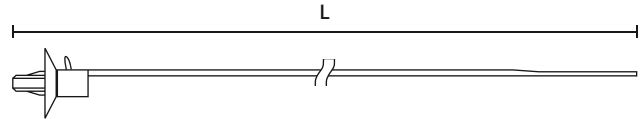
Date of issue: 10/2017

## 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. | N | Disc Ø | Hole Ø (FH) | Panel Thickness | Material | Colour | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RT50SD6** | 5.0 | 160.0 | 31.0 | 225 | 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 | EVO9 |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

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

## 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
- Made from PA66 heat-stabilised material
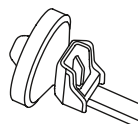- Cellular rubber disc minimises access of dust, dirt and water

*The additional seal protects against the ingress of moisture.*

### Fixing Ties, sealed, for Round Holes
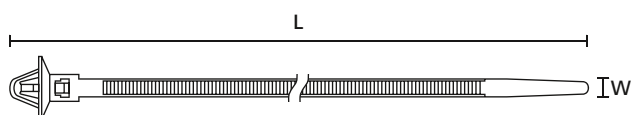
*One piece fixing tie with arrowhead and disc, standard design*

*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 | 225 | 16.0 | 6.3 - 6.7 | 0.6 - 1.8 | PA66HS | Green (GN) | 2-10 | 126-03100 |
| | 4.6 | 158.8 | 30.0 | 225 | 16.0 | 6.3 - 6.7 | 0.6 - 1.8 | PA66HS | Black (BK) | 2-10 | 156-00264 |
| | 4.6 | 158.8 | 30.0 | 225 | 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. 6.1 - 6.6 (hexagonal) | 0.7 - 1.6 | PA66HS | Natural (NA) | 2-10 | 126-00065 |
| **T50XROSSFT6.5-E-MDL** | 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
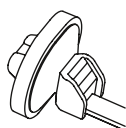
*T60SOSSFT6.5x130E-MD*

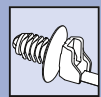📄 **Material specification please see page 26.**

| TYPE | Width (W) | Length (L) | Bundle Ø max. | Disc Ø | Hole Ø (FH) | Panel Thickness | Material | Colour | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|
| **T60XSOSSFT62X122EMD** | 5.5 | 133.6 | 25.0 | 16.0 x 22.0 | 6.2 x 12.2 | 0.7 - 2.0 | PA66HS | Black (BK) | 2-12 | 126-00256 |
| **T60SOSSFT62x122-E-MD** | 5.5 | 157.5 | 30.0 | 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 | 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 | 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 | EVO9 | EVO9HT | MK9P |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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**
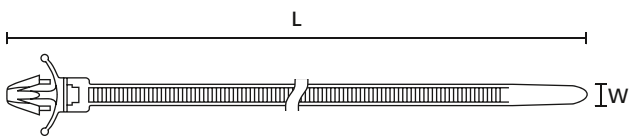
*T50SSL5*

| 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 |
| | | 2.5 | 100.0 | 16.0 | 80 | 4.6 - 4.8 | 1.0 - 3.0 | PA46 | Grey (GY) | 2;4-6 | 126-00275 |
| **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-MOD** | | 4.6 | 165.0 | 34.0 | 225 | 6.1 | 0.5 - 2.7 | PA66HIRHS | Black (BK) | 2-10 | 126-00293 |
| **T50SL6** | | 4.6 | 165.0 | 34.0 | 225 | 6.3 - 7.5 | 0.5 - 2.5 | PA66HS | Black (BK) | 2-10 | 111-85360 |
| **T50SL7** | | 4.6 | 165.0 | 34.0 | 225 | 6.9 - 7.1 | 0.8 - 2.5 | PA66 | Natural (NA) | 2-10 | 111-85479 |
| **T50SSFM** | | 4.6 | 160.0 | 35.0 | 222 | 6.0 - 6.6 | 0.7 - 3.0 | PA66 | Natural (NA) | 2-10 | 111-85739 |
| | | 4.6 | 160.0 | 35.0 | 222 | 6.0 - 6.6 | 0.7 - 3.0 | PA66HS | Black (BK) | 2-10 | 126-00032 |
| | | 4.6 | 160.0 | 35.0 | 222 | 6.0 - 6.6 | 0.7 - 3.0 | PA66HS | Natural (NA) | 2-10 | 126-01104 |
| **T50RSFM** | | 4.6 | 205.0 | 45.0 | 225 | 6.0 - 6.6 | 0.7 - 3.0 | PA66 | Natural (NA) | 2-10 | 111-85729 |
| **OS130** | | 5.0 | 130.0 | 20.0 | 147 | 6.8 - 7.2 | 0.6 - 2.6 | PA66W | Black (BK) | 2-10 | 126-00060 |
| **T50SAH** | | 4.6 | 160.0 | 25.0 | 225 | 6.0 - 6.6 | 0.7 - 3.0 | PA66HS | Natural (NA) | 2-10 | 155-41102 |
| | | 4.6 | 160.0 | 25.0 | 225 | 6.0 - 6.6 | 0.7 - 3.0 | PA66HS | Black (BK) | 2-10 | 126-00163 |

All dimensions in mm. Subject to technical changes.
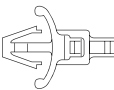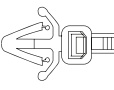
| Recommended Tools | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | MK20 | MK21 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | EVO9 |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

For more information on toolings please refer to the Application Tooling chapter.
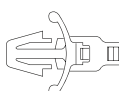
## 1-Piece Fixing Ties with Arrowhead, with Wings

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

| TYPE | Drawing | Width (W) | Length (L) | Bundle Ø max. | N | Hole Ø (FH) | Panel Thickness | Material | Colour | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YQR10016 | | 4.6 | 165.0 | 34.0 | 225 | 6.9 - 7.1 | 1.6 - 4.0 | PA66 | Grey (GY) | 2-10 | 126-03000 |
| 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. | N | 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 | EVO9 | EVO9HT | MK9P |
| | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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

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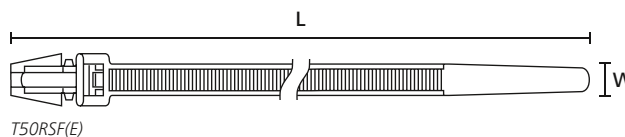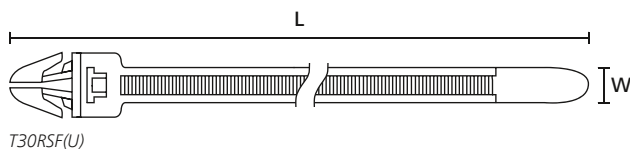
**Features and benefits**
- Easy to assemble without the need for a tool
- Fixing tie with arrowhead without legs
- Arrowhead simply locks into place
- Cable tie head always situated in defined position

**Material specification please see page 26.**



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

T30RSF(U)

T50RSF(E)

| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Hole Ø (FH) | Panel Thickness | Material | Colour | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|
| T30RSF | 3.6 | 158.0 | 31.0 | 135 | 4.8 - 5.6 | 0.9 - 2.4 | PA66 | Natural (NA) | 2;4-6 | 126-00213 |
| | 3.6 | 158.0 | 32.0 | 135 | 4.7 - 5.5 | 0.9 - 2.4 | PA66HS | Black (BK) | 2;4-6 | 126-00211 |
| T50RSF(E) | 4.6 | 210.0 | 44.0 | 225 | 6.2 - 6.4 | 2.9 - 3.0 | PA66 | Natural (NA) | 2-10 | 111-85799 |
| | 4.6 | 210.0 | 44.0 | 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 MK20 | 3 MK21 | 4 MK3SP | 5 MK3PNSP2 | 6 EVO7 | 7 MK7HT | 8 MK7P | 9 MK6 | 10 EVO9 |
|---|---|---|---|---|---|---|---|---|---|
| | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

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 Ties with Arrowhead, with Disc

**For temperatures up to +240 °C**

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

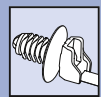*One piece fixing tie with arrowhead, outside serrated.*
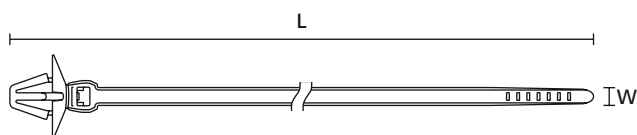
*PT2ASFT6.5PT0.7-1.5E*
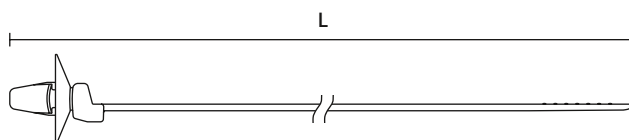
*PT2ASFT6.5PT0.7-1.5E*

| 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 |

All dimensions in mm. Subject to technical changes.

| Recommended Tools | | | |
|------|------|------|------|
| 2 | 4 | 5 | 6 |
| MK20 | MK3SP | MK3PNSP2 | EVO7 |
| 551 | 552 | 552 | 554 |

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

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## 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 manufacturer, white goods manufacturer.

### 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.*
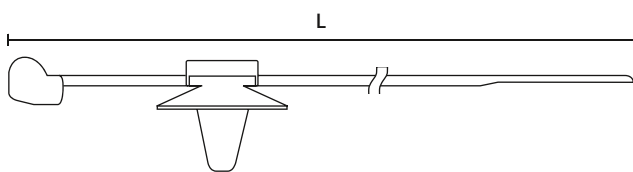
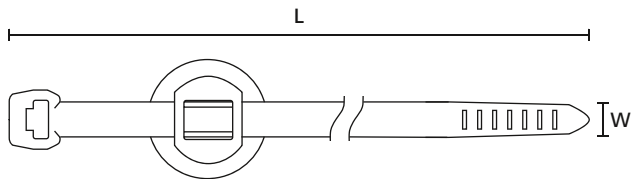**2-Piece Fixing Ties with Arrowhead, with Disc, for round holes**
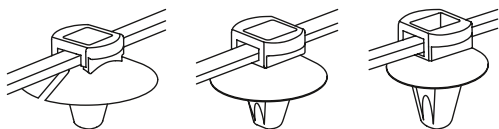
T50SSFT6.5          T50RSFT6.5D18          T50ROSSFT6.5 16-3

**Material specification please see page 26.**

L

T50ROSSFT6.5-16-3

L

W

T50ROSSFT6.5-16-3

| 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. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **T50SOSSFT65162OD** | 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 |
| **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 |
| **T50ROSSFT6.5 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 | 156-01697 |
| **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 |
| **T50RDHSFT6.5D18** | 4.7 | 210.0 | 45.0 | 225 | 18.0 | 6.5 - 6.8 | 0.4 - 1.6 | PA66 | PA46 | Natural (NA), Grey (GY) | 2-11;15 | 156-01720 |

All dimensions in mm. Subject to technical changes.

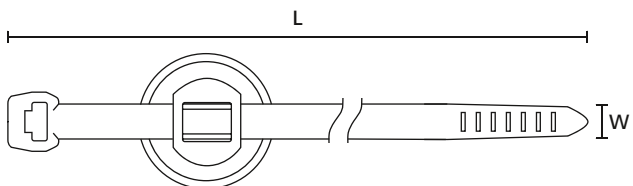| Recommended Tools | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 15 |
| | MK20 | MK21 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | EVO9 | EVO9HT | MK9SST |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 560 |

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

## 2-Piece Fixing Ties with Arrowhead, with Disc
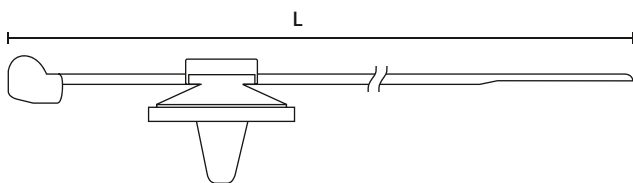
*T50ROSSFT6.5-16-2MOD-MD*

*T50ROSSFT6.5-16-2MOD-MD*

*The additional seal protects against the ingress of moisture.*

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

| 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. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T50ROSS FT6.5-D16-2 MD | 4.6 | 200.0 | 45.0 | 222 | 22.4 | 6.4 - 6.6 | 0.7 - 2.0 | PA66HS | PA66HIRHS | Black (BK) | 2-10 | 150-93100 |
| T50ROSS FT6.5-16-2-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 |
| T50ROSS FT6.5 16-3MD | 4.6 | 200.0 | 45.0 | 225 | 16.0 | 6.1 - 7.0 | 2.5 - 3.0 | 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, with disc for oval holes**
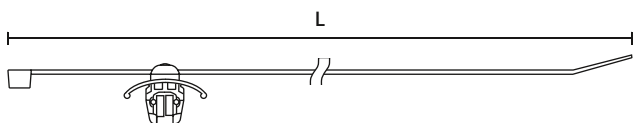
*T50RFT62x122*
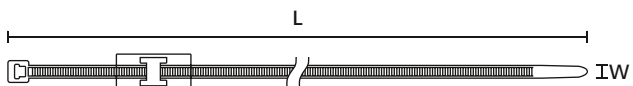
*T50RFT62x122*

*T50RFT6OVAL for oval holes 6.3 x 12.2 mm.*

| 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 |
| T50RFT6OVAL | 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.

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

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

### 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
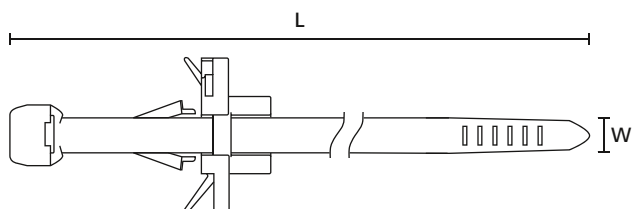- DSFT-version for parallel rounting of two bundles

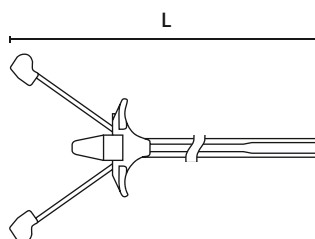**i** **Other dimensions are available on request.**

**Material specification please see page 26.**


*T50SOSDSFT6.5 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 | 15.0 | 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 |
| | MK20 | MK21 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | EVO9 |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

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, PEEK**

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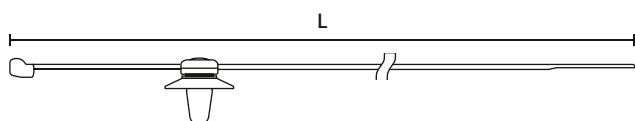- Excellent resistance against chemicals and gamma radiation

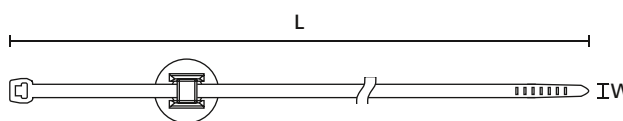*PEEK Fixing Ties can be used for small diameters from 1.0 mm.*

📄 **Please find more PEEK products for your system solutions: PEEK Ties, see page 69. Screw Mount CTAM, see page 149.**
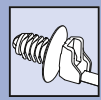
*One Step to the Web!*

*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. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **T50ROSP1SFT6.5** | 4.6 | 200.0 | 45.0 | 225 | 16.0 | 6.3 - 6.7 | 0.7 - 1.3 | PA46, PEEK | Grey (GY), Beige (BGE) | 2;4-8 | 156-00455 |
| **T50ROSP2SFT6.5** | 4.6 | 200.0 | 45.0 | 225 | 16.0 | 6.3 - 6.7 | 1.7 - 2.3 | PA46, PEEK | Grey (GY), Beige (BGE) | 2;4-8 | 156-00456 |
| **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 | 7 | 8 |
| | MK20 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P |
| 📄 | 551 | 552 | 552 | 554 | 555 | 556 |

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, 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**
- 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
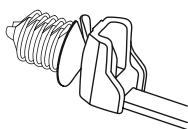- Suitable for use within threaded holes



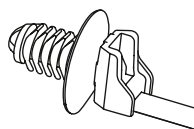*Fir tree foot parts can be used for a variety of panel thicknesses.*

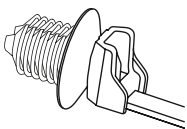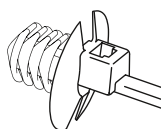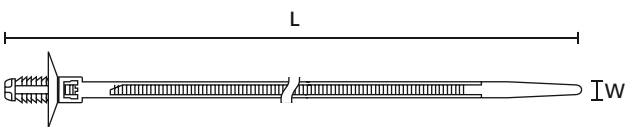📄 **Material specification please see page 26.**
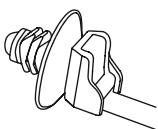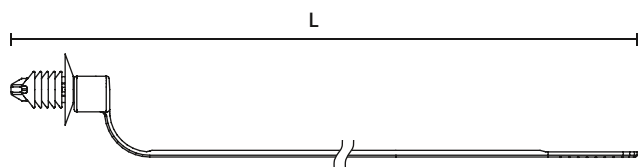

T50SOSFT6-E2


T50SOSFT6D10E


T50SOSFT6LGE


T50SOSFT8E


T18RDP5



*T50SOSFT6D10E - One piece fixing tie with fir tree food part.*



*Fir tree foot part can be used for a variety of panel thicknesses*



*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 |
| **T30SOS-AS-FT6-E** | 3.5 | 126.4 | 25.0 | 200 | 16 | 6.3 - 6.7 | 0.6 - 4.0 | PA66HS | Black (BK) | 2;4-6 | 157-00243 |
| **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 |
| | 4.6 | 160.0 | 35.0 | 180 | 16.0 | 6.3 - 7.0 | 0.6 - 4.2 | PA66HS | Grey (GY) | 2-10 | 157-00198 |
| **T50SOSFT6D10E** | 4.6 | 163.0 | 32.0 | 225 | 9.8 | 5.8 - 6.2 | 0.8 - 5.5 | PA46 | Grey (GY) | 2-10 | 157-00028 |
| | 4.6 | 163.0 | 32.0 | 225 | 9.8 | 5.8 - 6.2 | 0.8 - 5.5 | PA66HS | Black (BK) | 2-10 | 157-00045 |

All dimensions in mm. Subject to technical changes.

### Recommended Tools

| | 2 MK20 | 3 MK21 | 4 MK3SP | 5 MK3PNSP2 | 6 EVO7 | 7 MK7HT | 8 MK7P | 9 MK6 | 10 EVO9 | 11 EVO9HT | 12 MK9P |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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, for Round Holes**

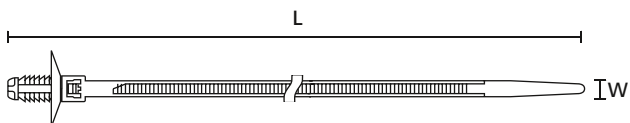| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Disc Ø | Hole Ø (FH) | Panel Thickness | Material | Colour | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| T50SOSFT8E | 4.6 | 163.0 | 35.0 | 225 | 16.0 | 8.0 - 8.5 | 0.6 - 6.0 | PA46 | Grey (GY) | 2-10 | 157-00115 |
| | 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 |
| T50SOSFT6LG-E2 | 4.6 | 167.0 | 35.0 | 180 | 16.0 | 6.1 - 6.9. 6.1 - 6.6 (hexagonal) | 0.6 - 8.3 | PA66HIRHS | Black (BK) | 2-10 | 157-00242 |
| T50SOSFT6-E3 | 4.7 | 161.0 | 35.0 | 150 | 16 | 6.1 - 6.9 | 0.7 - 3.5 | PA66HIRHS | Black (BK) | 2-10 | 157-00241 |
| 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 |
| | 4.7 | 161.4 | 35.0 | 225 | 16.0 | 6.3 - 7.0 | 0.7 - 3.0 | PA46 | Grey (GY) | 2-10 | 157-00059 |
| 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 |
| T50ROSFTQM6 | 5.1 | 203.2 | 50.8 | 222 | 7.874 | 6.1 | 0.5 - 7.1 | PA66HIRHS | Black (BK) | 2-10 | 157-00112 |
| T50ROSFT6LGU | 5.1 | 220.0 | 50.0 | 225 | 15.9 | 6.5 - 7.2 | 0.6 - 8.5 | PA66HS | Black (BK) | 2-10 | 157-00052 |
| OS170FT7LH | 5.3 | 170.0 | 30.0 | 147 | 16.0 | 6.8 - 7.2 | 0.6 - 4.5 | PA66 | Black (BK) | 3;9-12 | 157-00019 |
| OS160FT6HEX | 5.3 | 170.0 | 30.0 | 200 | 16.0 | 6.35 (hexagonal) | 0.7 - 5.0 | PA66 | Black (BK) | 3;9-12 | 157-00080 |
| | 5.3 | 170.0 | 30.0 | 200 | 16.0 | 6.5 | 0.7 - 5.0 | PA66HS | Black (BK) | 3;9-12 | 157-00081 |
| OS180FT7LH | 5.3 | 180.0 | 30.0 | 200 | 16.0 | 6.5 - 7.0. 6.35 | 0.6 - 4.5 | PA66 | Grey (GY) | 3;9-12 | 157-00068 |
| | 5.3 | 180.0 | 30.0 | 200 | 16.0 | 6.5 - 7.0. 6.35 | 0.6 - 4.5 | PA66 | Black (BK) | 3;9-12 | 157-00070 |

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**



*Fir tree foot part can be used for a variety of panel thicknesses*

**Material specification please see page 26.**

| 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 | 7 | 8 | 9 | 10 | 11 | 12 |
| | MK20 | MK21 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | EVO9HT | MK9P |
| | 551 | 551 | 552 | 552 | 555 | 556 | 557 | 554 | 554 | 558 |

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

Date of issue: 10/2017

## 1-Piece Fixing Ties with Fir Tree and Disc, with Stand-off, for Round Holes
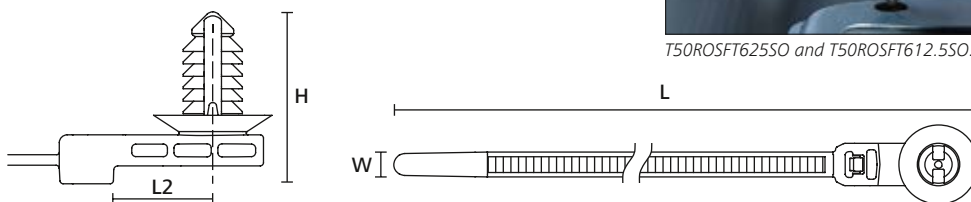
**With Offset 12.5 and 25.0 mm**

### Features and benefits

• Bundling and fixing solution
• Ideal combination of materials and design
• Different positions of the fixing anchor are available to fit installation space
• 1-Piece Fixing Tie with defined offset 12.5 and 25.0 mm



*T50ROSFT625SO and T50ROSFT612.5SO.*

| TYPE | Drawing | Width (W) | Length (L) | Length (L2) | Bundle Ø max. | N | Hole Ø (FH) | Panel Thickness | Material | Colour | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T50ROSFT 612.5SO | | 5.1 | 234.2 | 12.5 | 50.0 | 222 | 6.1 - 6.9 | 0.6 - 6.0 | PA66HIRHS | Black (BK) | 2-10 | 157-00216 |
| T50ROSFT 6S25SO | | 5.1 | 242.2 | 25.0 | 50.0 | 220 | 6.1 - 6.9 | 0.6 - 3.8 | PA66HIRHS | Black (BK) | 2-10 | 157-00197 |
| T50ROSFT 825SO | | 5.1 | 245.1 | 25.0 | 50.0 | 220 | 7.6 - 8.4 | 0.6 - 6.0 | PA66HIRHS | Black (BK) | 2-10 | 157-00196 |
| T50ROSFT 6SO12.5A | | 5.1 | 215.5 | 12.5 | 50.0 | 222 | 6.1 - 7.0 | 0.6 - 6.7 | PA66HIRHS | Grey (GY) | 2-10 | 157-00130 |
| | | 5.1 | 215.5 | 12.5 | 50.0 | 222 | 6.1 - 7.0. 6.35 (hexagonal) | 0.6 - 6.7 | PA66HIRHS | Black (BK) | 2-10 | 157-00145 |
| T50ROSFT M6SO12.5A | | 5.1 | 215.5 | 12.5 | 50.0 | 222 | M6 | 0.6 - 5.5 | PA66HIRHS | Grey (GY) | 2-10 | 157-00118 |
| T50ROSFT 8SO25A | | 5.1 | 230.0 | 25.0 | 50.0 | 222 | 7.6 - 8.4 | 0.6 - 6.7 | PA66HIRHS | Grey (GY) | 2-10 | 157-00120 |
| T50ROSFT 6SO25A | | 5.1 | 230.0 | 25.0 | 50.0 | 222 | 6.1 - 7.0 | 0.6 - 6.7 | PA46 | Brown (BN) | 2-10 | 157-00158 |
| | | 5.1 | 230.0 | 25.0 | 50.0 | 222 | 6.1 - 7.0 | 0.6 - 6.7 | PA66HIRHS | Grey (GY) | 2-10 | 157-00119 |
| T50ROSFT 6SO12.5B | | 5.1 | 215.5 | 12.5 | 50.0 | 222 | 6.1 - 7.0 | 0.6 - 6.7 | PA66HIRHS | Black (BK) | 2-10 | 157-00171 |
| T50ROSFT 6SO25B | | 5.1 | 230.0 | 25.0 | 50.0 | 222 | 6.1 - 7.0 | 0.6 - 6.7 | PA66HIRHS | Black (BK) | 2-10 | 157-00169 |
| T50ROSFT M6SO12.5B | | 15.0 | 215.5 | 12.5 | 50.0 | 225 | M6 | 0.6 - 5.5 | PA66HIRHS | Black (BK) | 2-10 | 157-00131 |
| T50ROSFT M6SO25B | | 19.0 | 230.0 | 25.0 | 50.0 | 220 | M6 | 0.5 - 6.5 | PA66HIRHS | Black (BK) | 2-10 | 157-00172 |
| T50ROSFT 8SO25B | | 19.0 | 230.0 | 25.0 | 50.0 | 225 | 7.6 - 8.4 | 0.6 - 5.0 | PA66HIRHS | Black (BK) | 2-10 | 157-00170 |
| T50ROSFT 6SO12.5R | | 5.1 | 223.1 | 12.5 | 50.0 | 222 | 6.1 - 7.0 | 0.6 - 8.3 | PA66HIRHS | Black (BK) | 2-10 | 157-00165 |
| T50ROSFT 6SO25R | | 5.1 | 237.7 | 25.0 | 50.0 | 222 | 6.1 - 7.0 | 0.6 - 8.3 | PA66HIRHS | Black (BK) | 2-10 | 157-00164 |

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 | EVO9 |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

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

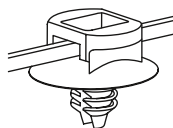*These Fir-Tree fixings can also be used in threaded, blind holes.*
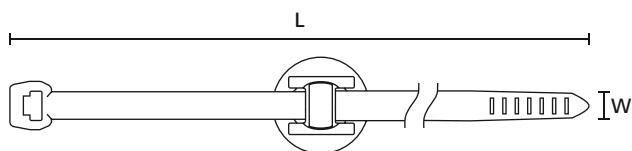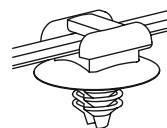
T50SOSFT5SD
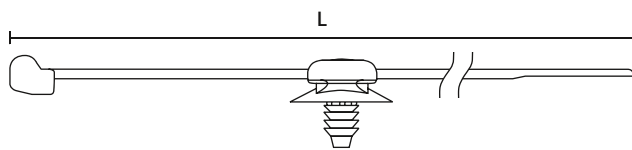
T50SOSFT5SD

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

📄 **Material specification please see page 26.**

T30RFT5          T50SOSFT5SD

### Fir Tree Parts FT3

| 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. |
|------|-----------|------------|---------------|---|--------|-------------|-----------------|--------------------|--------------------|--------|-------|-------------|
| **T18RFT3** | 2.5 | 100.0 | 20.0 | 80 | 13 | M3 | 1.5 - 3.0 | PA66HSUV | PA66HSW | Black (BK) | 2;4-6 | 156-00338 |

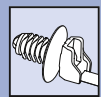All dimensions in mm. Subject to technical changes.

### Fir Tree Parts FT5

| 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 | 22.0 | 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 | Grey (GY) | 2;4-6 | 156-01316 |
| | 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 |
| **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.
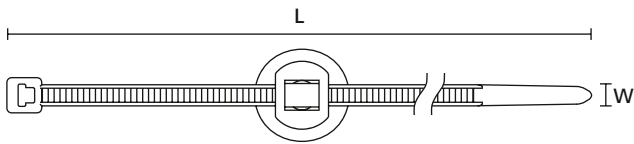
### Recommended Tools

| | 2 MK20 | 3 MK21 | 4 MK3SP | 5 MK3PNSP2 | 6 EVO7 | 7 MK7HT | 8 MK7P | 9 MK6 | 10 EVO9 |
|---|--------|--------|---------|------------|--------|---------|--------|-------|---------|
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

For more information on toolings please refer to the Application Tooling chapter.
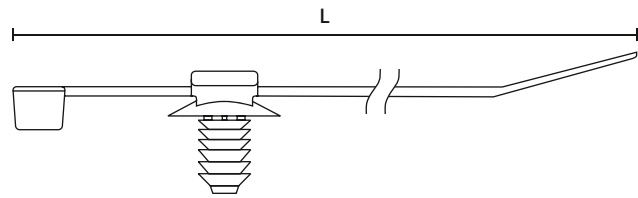
Date of issue: 10/2017

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

### Fir Tree Parts FT6



*T50RFT6LG*



*T50RFT6LG*

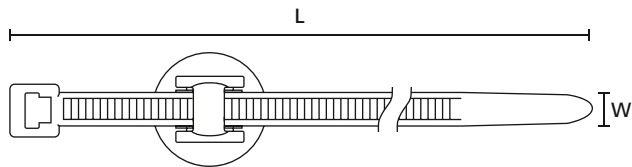| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Disc Ø | Hole Ø (FH) | Panel Thickness | Material Cable Tie | Material Foot Part | Colour | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PT2AFT6 | 3.4 | 145.0 | 35.0 | 230 | 16 | 6.4 - 7.1 | 0.8 - 3.0 | PEEK | PA46 | Beige (BGE). Grey (GY) | 2;4-6 | 156-00890 |
| 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 | 30.0 | 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 |
| T50ROSFT6LG | 4.6 | 200.0 | 45.0 | 225 | 16.0 | 6.4 - 7.1 | 0.8 - 6.0 | PA66HS | PA66HIRHS | Black (BK) | 2;4-8 | 150-31099 |
| T50ROSFT6SD | 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. 6.1 - 6.6 (hexagonal) | 0.7 - 5.0 | PA66HS | PA66HIRHS | Black (BK) | 2-10 | 156-01705 |
| T50RFT6 | 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 |
| T50RFT6 | 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 |

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 | EVO9 | EVO9HT | MK9P |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

For more information on toolings please refer to the Application Tooling chapter.
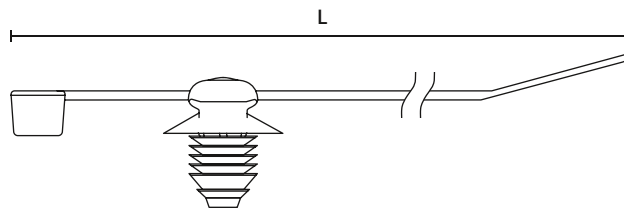
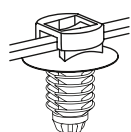## 2-Piece Fixing Ties with Fir Tree, with Disc, for Round Holes
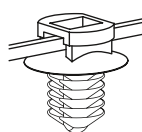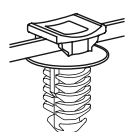
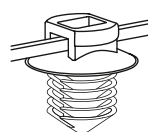**Fir Tree Parts FT7 - FT10**



*T50RFT8GSD*



*T50RFT8GSD*
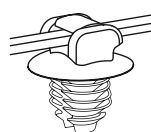


*T50IFT7*    *T50RFT8*    *T50RFT8GSD*    *T120IFT9*    *T50RFT10*
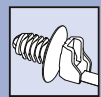
**Material specification please see page 26.**

| 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 |
| T30RFT7 | 3.5 | 150.0 | 35.0 | 135 | 16.0 | 6.5 - 7.0 | 0.8 - 7.0 | PA66HS | PA66HS | Black (BK) | 2;4-6;8 | 156-00057 |
| 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 |
| T50ROSFT8 GSD | 4.6 | 200.0 | 45.0 | 225 | 16 | M10 | 1.1 - 1.5 | PA66 | PA66 | Black (BK) | 2-10 | 156-01484 |
| 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 |
| T50RFT8 | 4.6 | 202.0 | 45.0 | 225 | 16.0 | 7.7 - 8.0 | 0.8 - 6.0 | PA66HS | PA66HS | Black (BK) | 2-10 | 111-85880 |
| 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 |
| T50RDHFT8 | 4.7 | 210.0 | 19.0 | - | 16 | 7.7 - 8.0 | 180.0 - 6.0 | PA66 | PA66 | Black (BK) | 2-10 | 156-01612 |
| 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 |
| T120RFT9B | 7.6 | 380.0 | 100.0 | 535 | 21.6 | 8.7 - 9.2 | 1.0 - 15.8 | PA66HS | PA66HIRHSUV | Black (BK) | 3;9-11;15 | 156-00071 |
| T120RFT9A | 7.6 | 380.0 | 100.0 | 535 | 21.6 | 8.7 - 9.2 | 1.0 - 6.5 | PA66HS | PA66HIRHSUV | Black (BK) | 3;9-11;15 | 156-00067 |
| WSSFT9A | 12.7 | 228.0 | 57.0 | 534 | 21.6 | 8.75 - 9.25 | 1.0 - 6.5 | PA66HIRHSUV | PA66HIRHSUV | Black (BK) | 3;9-12 | 156-00068 |

All dimensions in mm. Subject to technical changes.

| Recommended Tools | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 15 |
| | MK20 | MK21 | MK3SP | MK3PNSP2 | EVO7 | MK7HT | MK7P | MK6 | EVO9 | EVO9HT | MK9P | MK9SST |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 | 560 |

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

Date of issue: 10/2017

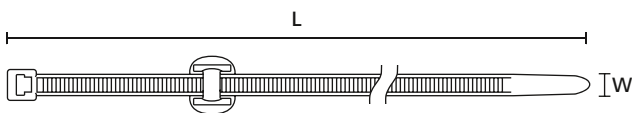## 2-Pieces Fixing Ties with Deep Hole Anchor, with Disc, for Round Holes

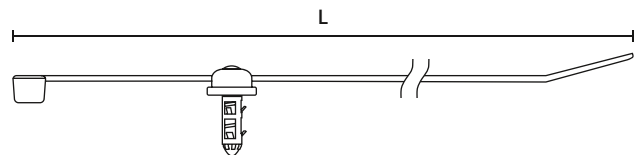**Deep Hole Anchor DHA5.5 - DHA8.4**

### 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*

| 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 | EVO9 |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

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 weld studs or ISO bolts are used and cables need to be bundled and secured (WS series, DCT9 & DCT 11 are for 1/4" bolts).
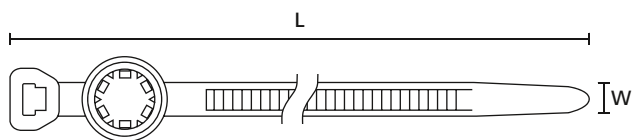
### Features and benefits
• Cable tie head always situated in defined position
• Easy to assemble without the need for a tool
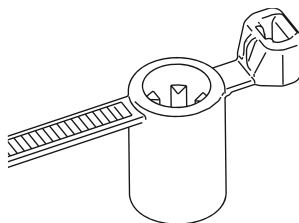• Bundle runs directly above weld stud with defined stand-off from the panel

**📄 Material specification please see page 26.**



*The T50SSBS5OTE / T50SSBS6OT-E allows very precise routing of cable bundles.*



L

W

*T50SSBS6OT-E*

*T50SSBS5OTE*

| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Stud Ø | Material | Colour | Tools | Article-No. |
|------|-----------|------------|---------------|-----|--------|----------|--------|-------|-------------|
| **T50SSBS5OT-E** | 4.6 | 160.0 | 35.0 | 200 | 5.0 | PA66HS | Black (BK) | 2-10 | 155-30602 |
| **T50SSBS6OT-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 | EVO9 |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

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

Date of issue: 10/2017
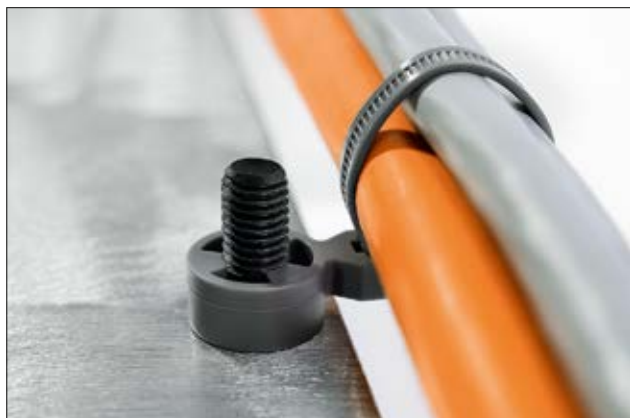
## 1-Piece Fixing Ties for Weld Studs

### 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
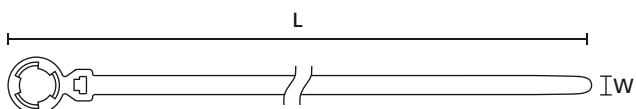- Bundles are routed very close to stud



*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 |
| **T50SOSSBU-M6** | | 5.7 | 175.0 | 30.0 | 150 | M6 | PA66HSW | Grey (GY) | 2-10 | 157-00065 |
| **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-2** | | 4.7 | 161.0 | 35.0 | 225 | 5.0 | PA66HS | Black (BK) | 2-10 | 157-00252 |

All dimensions in mm. Subject to technical changes.

## 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.*
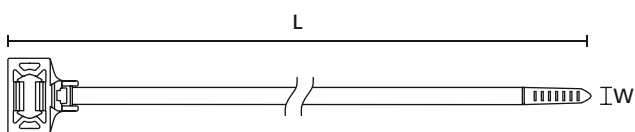
*T50SOSWSP5E-2*

| 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
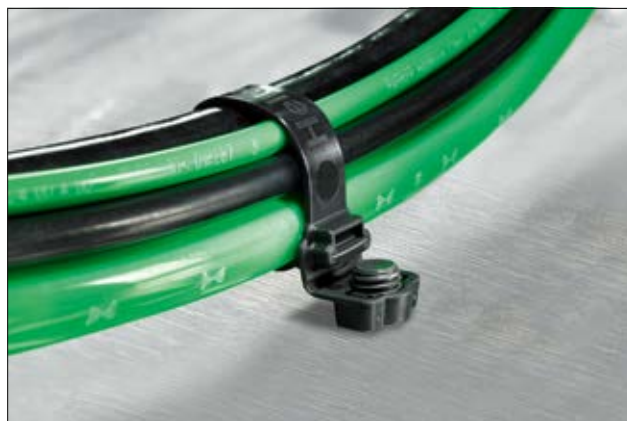
*The wide strap stud mount cable tie minimises pinching on soft bundles.*
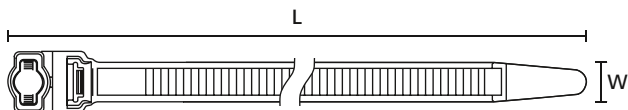
*Wide strap heavy duty stud mount cable ties.*

| 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 | PA66HIRHSUV | Black (BK) | 11-12 | 157-00034 |
| **WSI8MM** | 12.7 | 322.6 | 82.5 | 534 | 8.0 | PA66HIRHSUV | Black (BK) | 11-12 | 157-00035 |
| **WSR8MM** | 12.7 | 398.8 | 104.1 | 534 | 8.0 | PA66HIRHSUV | 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 | EVO9 | EVO9HT | MK9P |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

For more information on toolings please refer to the Application Tooling chapter.
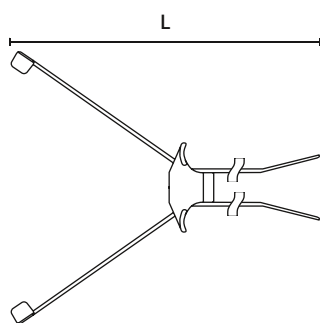
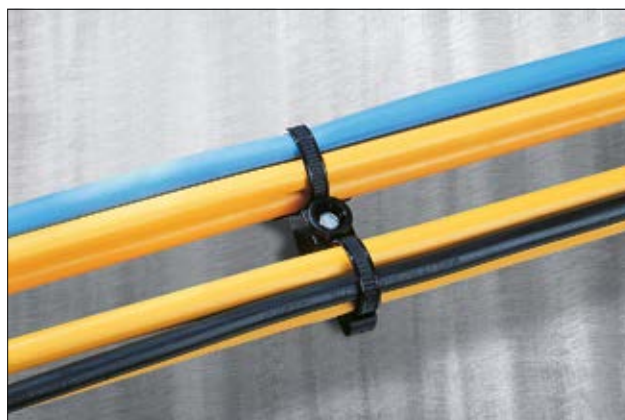## Fixing Ties for Weld Studs, for parallel routing

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 allows this to be achieved simply and quickly.

### 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.*

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

📄 **Material specification please see page 26.**

DSBS5

### 2-Piece Fixing Ties for Weld Studs

| TYPE | Width (W) | Length (L) | Bundle Ø max. | 🔽 N | Stud Ø | Material Cable Tie | Material Foot Part | Colour | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|
| T50SDSBS5 | 4.6 | 150.0 | 35.0 | 225 | 5.0 | PA66HS | PA66HIRHS | Black (BK) | 2-10 | 150-56193 |
| T50ROSDSBS5 | 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.

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

W
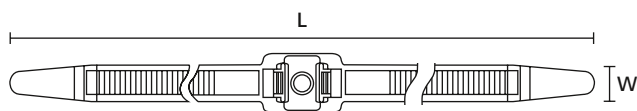
*Dual Clamp Ties (DCT)*

| TYPE | Width (W) | Length (L) | Bundle Ø max. | Stud Ø | Material | Colour | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|
| DCT11 | 12.7 | 489.0 | 58.0 | 6.35 | PA66HIRHSUV | Black (BK) | 3;9-12 | 115-31100 |
| DCT9 | 12.8 | 331.0 | 33.0 | 6.35 | PA66HIRHS | Black (BK) | 2-11 | 115-00034 |

All dimensions in mm. Subject to technical changes.

### Recommended Tools

| | 2 MK20 | 3 MK21 | 4 MK3SP | 5 MK3PNSP2 | 6 EVO7 | 7 MK7HT | 8 MK7P | 9 MK6 | 10 EVO9 | 11 EVO9HT | 12 MK9P |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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 the bundle can be simply secured to the panel with a screw or bolt.
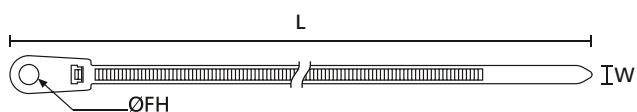
The tie is fitted to the panel first and then the cables can be added.

### Features and benefits

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

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

L

W

ØFH

*T( )MR Series with Mounting Head for Screw fixing*

**Material specification please see page 26.**

| 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 | EVO9 | EVO9HT | MK9P |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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

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

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## 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, just clip on per 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.*



*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.
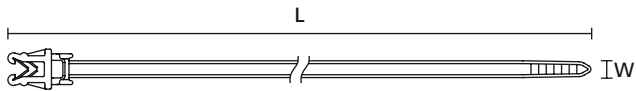
## Fixing Ties for Edges

### EdgeClip-Family

L

W

*T50SOSEC12E*

**Material specification please see page 26.**

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

| TYPE | Drawing | Width (W) | Length (L) | Bundle Ø max. | N | Panel Thickness | Material | Colour | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|
| T50SOSEC12E | | 4.6 | 160.0 | 35.0 | 150 | 1.0 - 3.0 | PA66HS | Black (BK) | 2-10 | 148-00200 |
| | | 4.6 | 160.0 | 35.0 | 150 | 1.0 - 3.0 | PA46 | Grey (GY) | 2-10 | 126-00253 |
| 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 | EVO9 |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

For more information on toolings please refer to the Application Tooling chapter.
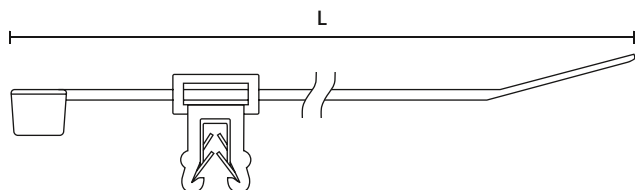
Date of issue: 10/2017

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

**EdgeClip-Family**

### 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

*Fixing Tie with EC4*

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

| 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 |
| T50RDHEC4A | | 4.7 | 210.0 | 19.0 | 225 | PA66 | PA66HIRHS | Natural (NA), Black (BK) | 2-10 | 156-01721 |
| T30REC4B | | 3.6 | 148.0 | 35.0 | 135 | PA66HS | PA66HIRHS | Black (BK) | 2;4-6;8 | 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;8 | 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;8 | 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.

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

**EdgeClip-Family**

### 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

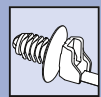**Material specification please see page 26.**

*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 |
| T80REC21 | | 4.7 | 205.0 | 55.0 | 355 | PA66HS | PA66HIRHS | Natural (NA), Black (BK) | 2-10 | 156-01728 |
| T50ROSEC22 | | 4.6 | 200.0 | 45.0 | 225 | PA66HS | PA66HIRHS | Black (BK) | 2-10 | 156-00011 |
| T50REC22 | | 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 | EVO9 |
| | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

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

Date of issue: 10/2017

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

### EdgeClip-Family

**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.

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

## 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 |
| T80REC23 | | 4.7 | 205.0 | 55.0 | 355 | PA66HS | PA66HIRHS | Natural (NA), Black (BK) | 2-10 | 156-01729 |
| 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 | EVO9 |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

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

Date of issue: 10/2017

## 2-Piece Fixing Ties for Edges, 0.5 - 2.5 mm, Top Fixing

### EdgeClip-Family for flat and thin edges

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 buidling and electrical industry. These EdgeClips are specially designed for applications where space is limited such as in mirrors and headlights.

### Features and benefits
• For flat edges
• For thin edges 0.5 - 2.5 mm
• Small housing for limited space
• Pre-assembled 2-piece fixing tie with EdgeClip
• Cable tie head can be moved after bundling

*T30ROSEC0,5-2,5SPV for application on thin edges.*

*The capabilities of our popular Edge Clip family have been enhanced with the introduction of new, smaller clips. These smaller clips allow bundles to run more safely on thin or flat edges.*

| TYPE | Drawing | Width (W) | Length (L) | Bundle Ø max. | N | Panel Thickness | Material Cable Tie | Material Foot Part | Colour | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| T30ROSEC0.5-2.5TP-SD | | 3.4 | 145.0 | 35.0 | 135 | 0.5 - 2.5 | PA66HS | PA66HIRHS | Black (BK) | 2;4-6 | 156-01543 |
| T30ROSEC0.5-2.5TV-SD | | 3.4 | 145.0 | 35.0 | 135 | 0.5 - 2.5 | PA66HS | PA66HIRHS | Black (BK) | 2;4-6 | 156-01545 |
| T30ROSEC0.5-2.5TPVA | | 3.4 | 145.0 | 35.0 | 135 | 0.5 - 2.5 | PA66HS | PA66HIRHS | Black (BK) | 2;4-6 | 156-01542 |

All dimensions in mm. Subject to technical changes.

## 2-Piece Fixing Ties for Edges, 0.5 - 2.5 mm, Side Fixing

| TYPE | Drawing | Width (W) | Length (L) | Bundle Ø max. | N | Panel Thickness | Material Cable Tie | Material Foot Part | Colour | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| T30ROSEC0.5-2.5SP-SVB | | 3.4 | 145.0 | 35.0 | 135 | 0.5 - 2.5 | PA66HS | PA66HIRHS | Black (BK) | 2;4-6 | 156-01546 |
| T30ROSEC05-2.5SPSVA | | 3.4 | 145.0 | 35.0 | 133 | 0.5 - 2.5 | PA66HS | PA66HIRHS | Black (BK) | 2;4-6 | 156-01797 |
| T30ROSEC0.5-2.5SPVA | | 3.4 | 145.0 | 35.0 | 135 | 0.5 - 2.5 | PA66HS | PA66HIRHS | Black (BK) | 2;4-6 | 156-01544 |

All dimensions in mm. Subject to technical changes.

| Recommended Tools | | | | |
|---|---|---|---|---|
| | 2 | 4 | 5 | 6 |
| | MK20 | MK3SP | MK3PNSP2 | EVO7 |
| 📄 | 551 | 552 | 552 | 554 |

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

Date of issue: 10/2017

## 2-Piece Fixing Ties for Edges, twistable

**EdgeClip-Family**

These cable ties and Edge Clip 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 buidling 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
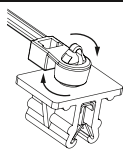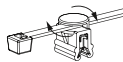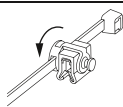
*EdgeClip CBTO50R, rotatable 90°.*

**L**
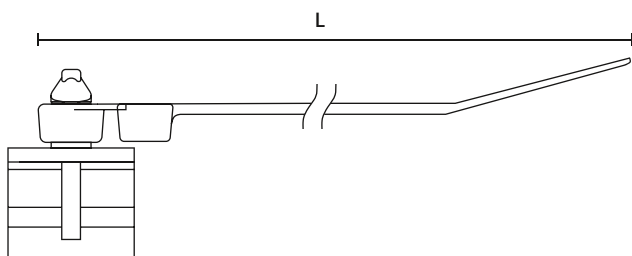
*CBT30MR*

📄 **Material specification please see page 26.**

| 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 MK20 | 3 MK21 | 4 MK3SP | 5 MK3PNSP2 | 6 EVO7 | 7 MK7HT | 8 MK7P | 9 MK6 | 10 EVO9 |
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

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

## Heavy Duty Harness Clips

**Beam Clamps**

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 and industrial buildings.

### Features and benefits

- Easy to install
- No demage to surfaces
- Easy maintenance of bundle by simply changing cable tie
- Cable tie head can be moved after bundling
- Applicable to a wide range of panel thicknesses
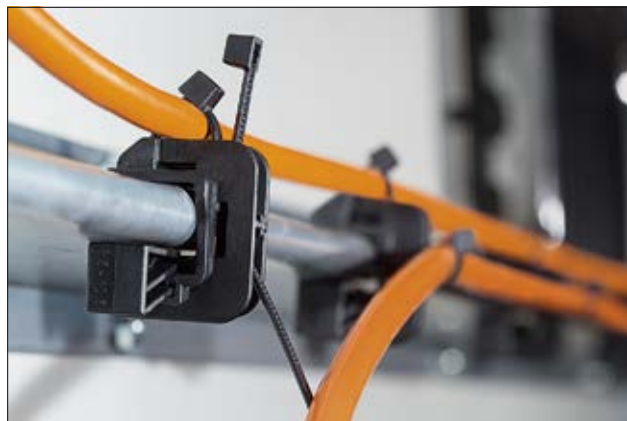
*The Beam Clamp can be fixed onto a beam with a wedge. Up to two bundles can be routed on the top or rear side of the clamp.*
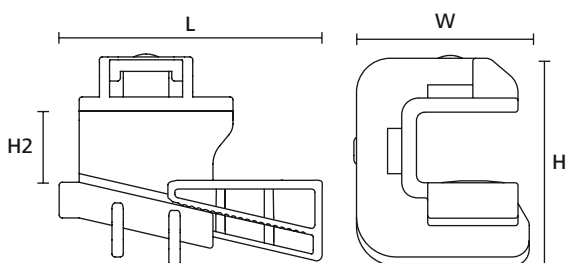
*Beam Clamp, Front view*

*Beam Clamp, Side view*

**Material specification please see page 26.**

| TYPE | Drawing | Width (W) | Length (L) | Height (H) | Height (H2) | Panel Thickness | Material | Colour | Article-No. |
|---|---|---|---|---|---|---|---|---|---|
| **Beam Clamp D** | | 28.6 | 46.2 | 36.7 | 12.5 | 5.5 - 7.0 | PA6GF30 | Black (BK) | 151-00886 |
| **Beam Clamp B** | | 28.6 | 46.2 | 36.7 | 12.5 | 7.0 - 8.5 | PA6GF30 | Black (BK) | 151-00822 |
| **Beam Clamp C** | | 28.6 | 46.2 | 36.7 | 12.5 | 8.5 - 10.5 | PA6GF30 | Black (BK) | 151-00823 |
| **Beam Clamp D with foam** | | 28.6 | 46.2 | 36.7 | 12.5 | 5.5 - 7.0 | PA6GF30 | Black (BK) | 151-01188 |
| **Beam Clamp B with foam** | | 28.6 | 46.2 | 36.7 | 12.5 | 7.0 - 8.5 | PA6GF30 | Black (BK) | 151-01186 |
| **Beam Clamp C with foam** | | 28.6 | 46.2 | 36.7 | 12.5 | 8.5 - 10.5 | PA6GF30 | Black (BK) | 151-01187 |

All dimensions in mm. Subject to technical changes.

# Little Newcomer Joins the EdgeClip-Family

We developed the first EdgeClip over 15 years ago for the automotive industry.

The newest member of the steadily growing EdgeClip-Family is the ideal fixing solution on edges. It can be used wherever space is limited and only a narrow or flat edge is available, or whenever gluing or drilling is not possible. Specially designed for all industries, for example white goods or solar.

## Follow the QR code to discover the EC0.5!

# 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, cables have to be routed and connected

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

**Features and benefits**

- Simply clip on 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

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Other product variants are available in our 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 | N | Material Cable Tie | Material Foot Part | Colour | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| T50RIAHC1TICR | | 4.6 | 200.0 | 50.0 | 3.0 - 13.0 | 225 | PA66HIR(S) | PA66HIRHS | Black (BK) | 2-10 | 156-05331 |
| T50RIAHC2TICR | | 4.6 | 200.0 | 50.0 | 11.0 - 20.0 | 225 | PA66HIR(S) | PA66HIRHS | Black (BK) | 2-10 | 156-05330 |

All dimensions in mm. Subject to technical changes.

**Recommended Tools**

| | 2 MK20 | 3 MK21 | 4 MK3SP | 5 MK3PNSP2 | 6 EVO7 | 7 MK7HT | 8 MK7P | 9 MK6 | 10 EVO9 |
|---|---|---|---|---|---|---|---|---|---|
| 📄 | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 |

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
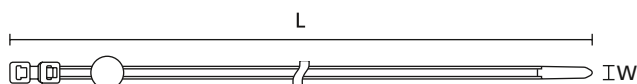- For parallel routing of bundles that can be twisted 90° even after installation

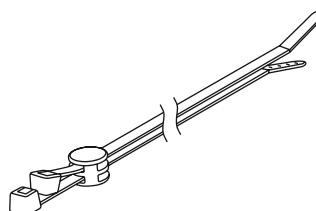**Material specification please see page 26.**

*T120RCOUPLER can be used for parallel routing of two cable ties.*

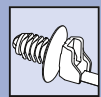*The second tie can be used for post-installations.*

L

W

*Two Cable Ties with Coupler*

*T120RCOUPLER*

*Fixing Element - COUPLER*

| TYPE | Width (W) | Length (L) | Bundle Ø max. | N | Material Cable Tie | Material Foot Part | Colour | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|
| T50RCOUPLER | 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 |
| T50RSINGLECOUPLER | 4.6 | 202.0 | 47.0 | 225 | PA66HIRHS | PA66HIRHS | Black (BK) | 2-10 | 156-01134 |
| T120RCOUPLER | 7.6 | 390.0 | 105.0 | 535 | PA66HIR(S) | PA66HIRHS | Black (BK) | 3;9-12 | 156-00275 |
| T120RSINGLECOUPLER | 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 | EVO9 | EVO9HT | MK9P |
| | 551 | 551 | 552 | 552 | 554 | 555 | 556 | 557 | 554 | 554 | 558 |

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

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## 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 with difficult environment.

### 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.*

*DHDM for parallel routing of bundles.*
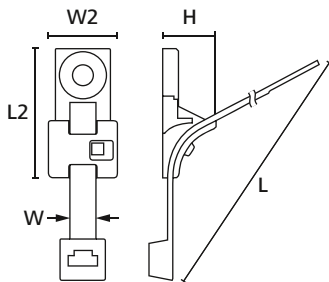
*HDM with cable tie (L = length of the tie"flat")*

### HDM-Series

| 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 |
| T50RHDM8 | 4.6 | 20.0 | 200.0 | 37.5 | 16.0 | 50.0 | M8 | PA66HIRHS | Black (BK) | 2-10 | 156-00412 |
| X80RHDM6O | 4.6 | 26.0 | 200.0 | 34.7 | 15.5 | 23.0 | M6 | PA66HS, PA66HIRHS | Black (BK) | 2-12 | 156-01425 |
| T120SHDM8 | 7.6 | 20.0 | 225.0 | 38 | 15.6 | 55.0 | - | PA46 | Grey (GY) | 9-10;12;15 | 156-00429 |
| 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 |
| X120RHDM 65x160 | 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.

### DHDM-Series

| TYPE | Width (W) | Width (W2) | Length (L) | Length (L2) | Height (H) | Bundle Ø max. | Mounting Screw Type | Material | Colour | Tools | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| T120ROSDHDM6 | 7.6 | 25.4 | 385.0 | 59.4 | 15.5 | 105.0 | M6 | PA66W, PA66HS | Black (BK) | 3;9-12 | 156-01485 |
| 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 |

All dimensions in mm. Subject to technical changes.

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## 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.

| 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 | -30 °C to +120 °C |

### Instructions for use
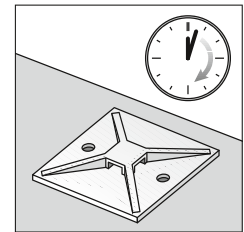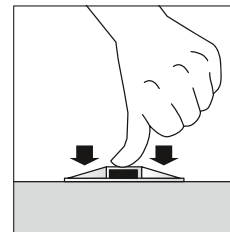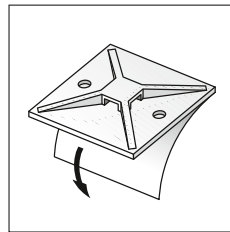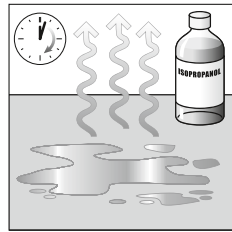


1. The surface must be dry, free from dust, oil, oxides, parting agents and other impurities. The surface to be glued should be cleaned using a clean cloth and isopropanol / water (50/50). When using other appropriate cleaning agents, ensure that they do not attack the surface nor leave any residues.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

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

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

4. 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.

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

### Advantages of our self-adhesive mounts with mod. Acrylate (SolidTack / FlexTack)

- Acrylic Foam Tape is made from a homogeneous system of high performance acrylic adhesive
- Very good initial bond
- High temperature resistance
- Adhesive offers design freedom, no need for bolts or screws
- Reduces the risk of corrosion, no need for boreholes

- Weight reduction compared to mechanical mounting
- Possibility to optimize production processes and to reduce production cost (bonding vs. screwing)
- Can compensate unevenness up to a certain degree
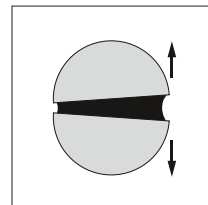- Specially developed for low energy surfaces

### Load types on adhesive bonds
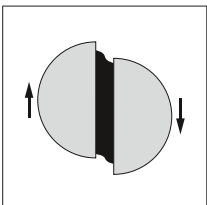


**Shear resistance.**
Shear force pulls the adhesive surfaces in opposite directions along a parallel line.
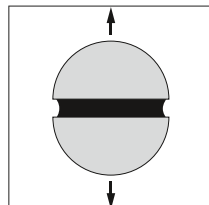
**Tensile strength.**
Tension force pulls surfaces apart perpendicular to the adhesive bond.

**Cleavage resistance.**
Cleavage can occur where forces acting on bonded surfaces are not evenly spread but concentrated along a single line.
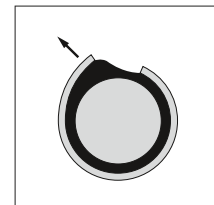
**Peel adhesion.**
Peeling force acts on a small amount of adhesive at the edge of the tape and weakens the adhesive bond. At least one adherend is flexible.

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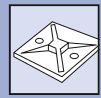
## Cable Tie Mounts with high performance adhesive

**FlexTack-Series FMB for round and angled surfaces**

FlexTack cable tie mounts can be successfully applied to a variety of high- and low-energy surfaces such as glass, metals (including painted, varnished or powder-coated surfaces) as well as plastics. FlexTack provides a reliable fixing solution where it is impractical to use screws or bolts. The unique design in combination with the special acrylate adhesive makes professional cable management easy.

**Features and benefits**

- Flexible Mount for round and angled surfaces
- FMB mounts with homogeneous system of acrylic adhesive
- Allows greater design freedom and offers uniform stress distribution along with weight reduction
- Adhesive with high cohesive strength combined with good weathering resistance
- Innovative fixing solution for high and low energy surfaces
- Protection foil with finger lift for easy peel off
- Temperature resistance up to +105 °C
- 4-way entry for cable tie for quicker and more flexible installation
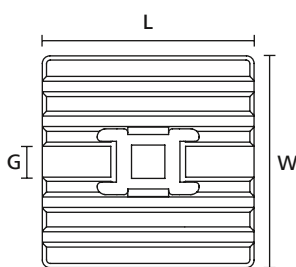- FMB4APT-I is also suitable for high energy surfaces like metal or glass



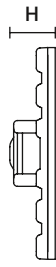*Flexible cable tie mount (FlexTack) in a concave application.*
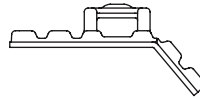
*Application video: FlexTack*

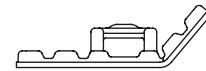**Material specification please see page 26.**



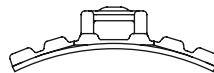*Flexible Adhesive Mount FMB4APT-I (plan view)*
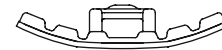
*Flexible Adhesive Mount FMB4APT-I (side view)*

*Flexible Adhesive Mount FMB4APT-I (down angled, side view)*

*Flexible Adhesive Mount FMB4APT-I (up angled, side view)*

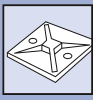*Flexible Adhesive Mount FMB4APT-I (convex, side view)*

*Flexible Adhesive Mount FMB4APT-I (concave, side view)*

| TYPE | Width (W) | Length (L) | Height (H) | Strap Width max. (G) | Material | Colour | Adhesive | Pack Cont. | Article-No. |
|---|---|---|---|---|---|---|---|---|---|
| FMB4APT-I | 28.0 | 28.0 | 6.3 | 5.4 | PA66HS | Black (BK) | mod. Acrylate | 100 pcs. | 151-01527 |
| | 28.0 | 28.0 | 6.3 | 5.4 | PA66HS | White (WH) | mod. Acrylate | 100 pcs. | 151-01528 |

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 Tie Mounts with high perfomance adhesive

### SolidTack-Series QM

Q-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. With its SolidTack adhesive Q-mounts offer an innovative fixing solution especially for low energy surfaces or if drilling a hole is not possible. Suitable for a wide range of applications on varnished or plastic or metal surfaces in many areas like electrical cabinet, railway, aerospace, automotive and agriculture machinery.

### Features and benefits

• Q-mounts with homogeneous system of acrylic adhesive
• Perfect for combination with Q-ties
• Very good initial adhesion, increases with time
• Adhesive with high cohesive strength combined with good weathering resistance
• Innovative fixing solution for high and low energy surfaces
• Q-Mount base locks Q-tie in vertical position, means the hands are free to apply cables
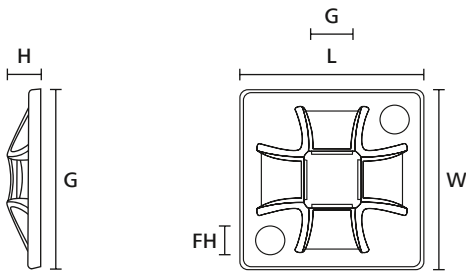
*Mounting bases Q-Mount.*

📄 **Please find more Q-Series products for your system solution on page 137, 147 and 492.**

ℹ **For more information on the types of adhesive please see page 134.**

📄 **Material specification please see page 26.**

*Q-Mount (side view)*    *Q-Mount (plan view)*

| TYPE | Width (W) | Length (L) | Height (H) | Hole Ø (FH) | Strap Width max. (G) | Material | Colour | Adhesive | Pack Cont. | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|
| QM20APT-I | 20.0 | 20.0 | 3.7 | 3.1 | 4.0 | PA66 | Black (BK) | mod. Acrylate | 100 pcs. | 151-01592 |
|  | 20.0 | 20.0 | 3.7 | 3.1 | 4.0 | PA66 | Natural (NA) | mod. Acrylate | 100 pcs. | 151-01591 |
| QM30APT-I | 30.0 | 30.0 | 4.5 | 4.1 | 5.1 | PA66 | Black (BK) | mod. Acrylate | 100 pcs. | 151-01594 |
|  | 30.0 | 30.0 | 4.5 | 4.1 | 5.1 | PA66 | Natural (NA) | mod. Acrylate | 100 pcs. | 151-01593 |
| QM40APT-I | 40.0 | 40.0 | 5.5 | 4.1 | 8.4 | PA66 | Black (BK) | mod. Acrylate | 50 pcs. | 151-01596 |
|  | 40.0 | 40.0 | 5.5 | 4.1 | 8.4 | PA66 | Natural (NA) | mod. Acrylate | 50 pcs. | 151-01595 |

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 Tie Mounts Q-Series

Q-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. Self adhesive versions of our Q-Mounts are suitable for applications where using screws, nuts, bolts or drilling holes to fix cables is problematic, or not the first choice.

### Features and benefits

- Screwable or self adhesive versions
- Perfect for combination with Q-ties
- 4-way entry for cable ties
- Adhesive with high pull-off force
- Locks cable tie in vertical position, means the hands are free to apply cables
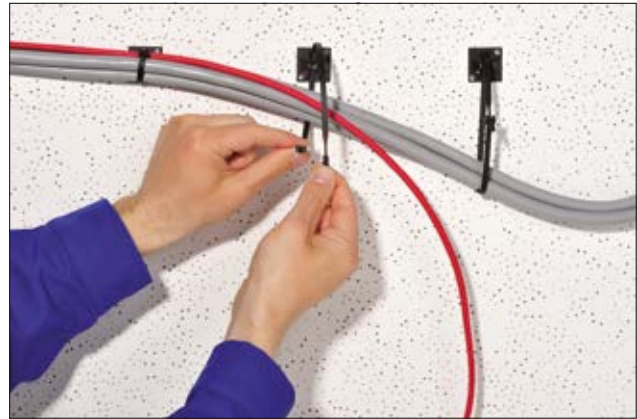
*Q-ties can be used for both temporary and final cable installation.*
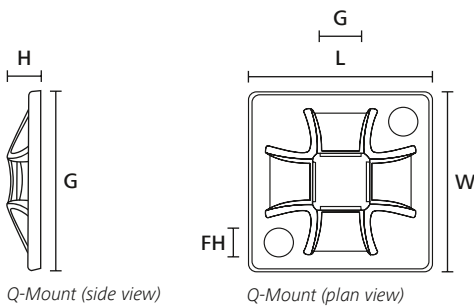
*Q-Mount (side view)*

*Q-Mount (plan view)*

*Application video:
Q-Series*

### Q-Mount Series QMA, self adhesive, screwable

| 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.
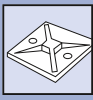
### Q-Mount Series QM, screwable

| 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.

## Cable Tie Mounts with high perfomance adhesive

### SolidTack-Series MB

SolidTack MB Series mounts do have a square design and are fairly common in areas like electrical cabinet, railway, aerospace, automotive and agriculture machinery. The premium self-adhesive bonds well on high and low-energy surfaces like plastics, metal, varnish or paint and is suitable for a wide range of applications.

**Features and benefits**
• MB mounts with homogeneous system of acrylic adhesive
• Very good initial adhesion, increases with time
• Adhesive with high cohesive strength combined with good weathering resistance
• Innovative fixing solution for high and low energy surfaces
• Protection foil with finger lift for easy peel off

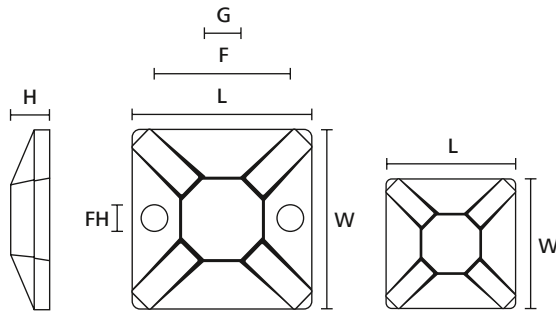*SolidTack products work on varnished and powder coated surfaces.*

**For more information on the types of adhesive please see page 134.**

**Material specification please see page 26.**

*One Step to the Web!*

MB3-MB5 (side view)     MB3-MB5 (plan view)     Cable Tie Mount MB2A (plan view)

| 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-I | 13.0 | 13.0 | 4.1 | - | - | 2.7 | PA66 | Black (BK) | mod. Acrylate | 100 pcs. | 151-01556 |
| MB3APT-I | 19.0 | 19.0 | 3.8 | 3.1 | 13.2 | 4.4 | PA66 | Black (BK) | mod. Acrylate | 100 pcs. | 151-01557 |
| | 19.0 | 19.0 | 3.8 | 3.1 | 13.2 | 4.4 | PA66 | White (WH) | mod. Acrylate | 100 pcs. | 151-01558 |
| MB4APT-I | 28.0 | 28.0 | 4.7 | 4.0 | 20.2 | 5.6 | PA66 | Black (BK) | mod. Acrylate | 100 pcs. | 151-01559 |
| | 28.0 | 28.0 | 4.7 | 4.0 | 20.2 | 5.6 | PA66 | White (WH) | mod. Acrylate | 100 pcs. | 151-01560 |
| MB5APT-I | 38.0 | 38.0 | 6.3 | 4.7 | 25.3 | 10.0 | PA66 | Black (BK) | mod. Acrylate | 100 pcs. | 151-01561 |

All dimensions in mm. Subject to technical changes.
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.
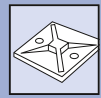
## Self Adhesive, Screw Fixing Cable Tie Mounts

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 is impractical or undesirable.

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

**MB-Series square design, screwable**

*MB3-MB5 (side view)*

*MB3-MB5 (plan view)*

*MB-Series Mounts with square design / screwable, self adhesive.*
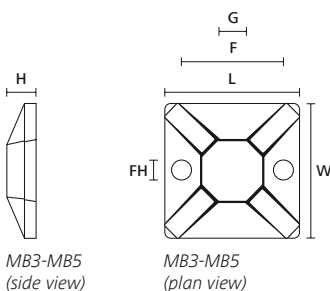
📄 **For more information on the types of adhesive please see page 134.**

| 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 | White (WH) | 100 pcs. | 151-28359 |
| MB4 | 28.0 | 28.0 | 4.7 | 20.0 | 4.0 | 5.4 | PA66 | White (WH) | 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.

**MB-Series square design, self adhesive, screwable**
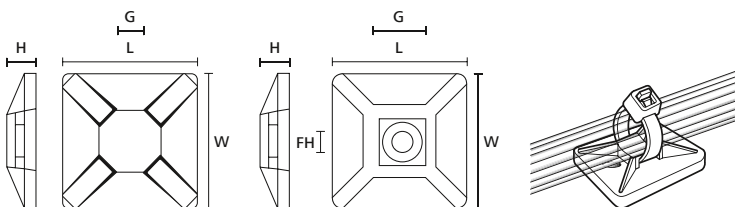
*Cable Tie Mount MB2A (side and plan view)*

*Cable Tie Mount MB4CA (side and plan view)*

*Cable Tie Mount MB3A in application*

| 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 | Black (BK) | Synthetic rubber T60 | 50 pcs. | 151-01800 |
| | 13.0 | 13.0 | 4.1 | - | 2.7 | PA66 | White (WH) | 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 | White (WH) | 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 | White (WH) | 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 | Black (BK) | Synthetic rubber T50 | 100 pcs. | 151-28602 |
| | 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**

c **UL** US    For product specific approvals and specifications please refer to the Appendix.

Date of issue: 10/2017

## Flat ribbon cable mounts

FKH mounts are designed to retain flat ribbon cables commonly used in information technology applications, in entertainment electronics or for connecting sensors. As each installation scenario is individual, FKH mounts are available in different dimensions and can be supplied as self adhesive and/or screwable versions.
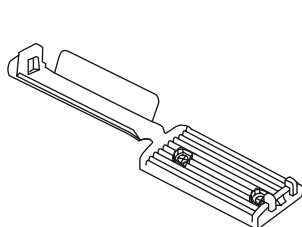
### Features and benefits
- One-piece fixing mount for flat ribbon cables
- Increased mounting area ensures proper bonding
- Quick and easy installation
- Can be released and re-used easily
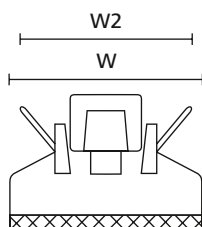- Flat cable is gently fastened due to soft wings

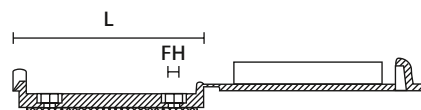*Based on extremely soft wings any flat cable is gently fastened.*

### Material specification please see page 26.

*Fixing can be realised with M3 screws or acrylic adhesive backing*

*Flat Ribbon Cable Mount (front view)*

*Flat Ribbon Cable Mount (side view)*

### SolidTack-Series FKH, high performance adhesive

| TYPE | Width (W) | Width (W2) | Length (L) | Hole Ø (FH) | For Cable Width max. | Material | Colour | Adhesive | Pack Cont. | Article-No. |
|------|-----------|------------|------------|-------------|----------------------|----------|--------|----------|------------|-------------|
| **FKH50APT-I** | 25.0 | 22.0 | 56.5 | 3.1 | 50.0 | PA66HIR | Black (BK) | mod. Acrylate | 100 pcs. | 151-01562 |
| **FKH80APT-I** | 25.0 | 22.0 | 86.0 | 3.1 | 80.0 | PA66HIR | Black (BK) | mod. Acrylate | 100 pcs. | 151-01563 |

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

### 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 |

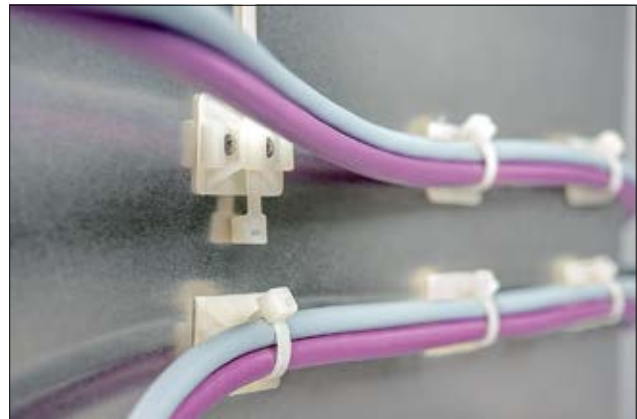All dimensions in mm. Subject to technical changes.
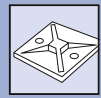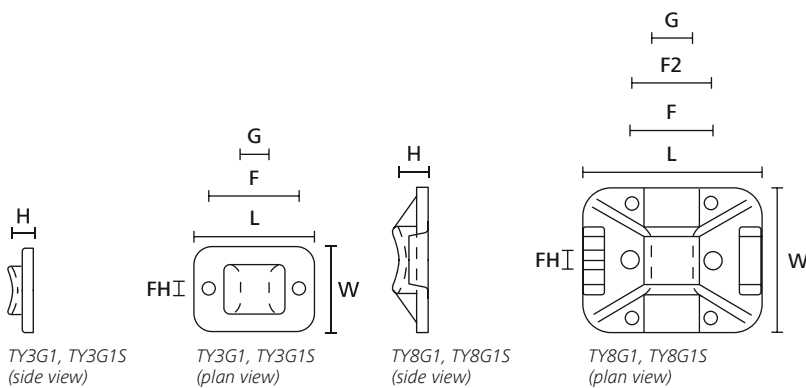
## Screw Fixing Cable Tie Mounts

These products are designed for simple yet robust installation in a wide variety of applications. TY-Series mounts with rectangled design are particularly used in telecoms equipment, switchgear and control cabinets. With its small and compact design TY3G1 offers an easy and rapid assembly for many different applications.

### 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.*

TY3G1, TY3G1S
(side view)

TY3G1, TY3G1S
(plan view)

TY8G1, TY8G1S
(side view)

TY8G1, TY8G1S
(plan view)

**For more information on the types of adhesive please see page 134.**

### 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.
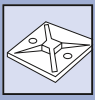
## Paste Adhesive Mount

### PMB5 mount for uneven surfaces

PMB5 pasty mount offers a fixing solution wherever screw fixing is not allowed. Due to a larger diameter the mount can even be installed onto uneven surfaces. PMB5 pasty mount is used in the railway industry as well as in the renewable energy industry. Further applications are in the ship building industry, in the electrical industry 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.*

W

L

G

H
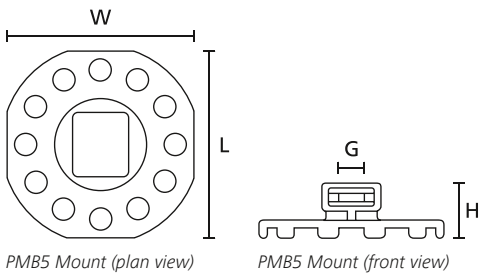
*PMB5 Mount (plan view)*          *PMB5 Mount (front view)*

**Material specification please see page 26.**

| 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.

## Mounts with round design, self adhesive
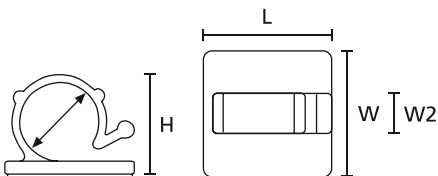
### RA-Series

These mounts are ideal for use in applications which are difficult to access or for areas where self adhesive is the only possible fixing method and fixing holes would be unacceptable. The round self adhesive mounts can be used without cable ties. Offering process optimization in industries like automotive, bus and truck, construction vehicles or industrial building.

### Features and benefits

- One-piece self adhesive mount for quick and easy installation
- Can be used without cable ties offering process optimization
- Designed to hold wires, cables or hoses
- Different sizes for various bundle diameters available
- Two types of adhesive can be offered

*Self adhesive one piece fixing mounts RA6 (l) and RB5 (r).*
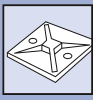
L
H
W   W2

*RA3-18 Series (side view)*

*RA3-18 Series (plan view)*

📄 **For more information on the types of adhesive please see page 134.**

| 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 |
| **RA6APT-I** | 19.0 | 5.0 | 19.0 | 9.0 | 6.0 | PA66 | Natural (NA) | mod. Acrylate | 151-01635 |
| **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 |
| **RA13APT-I** | 25.0 | 10.0 | 25.0 | 16.5 | 13.0 | PA66 | Natural (NA) | mod. Acrylate | 151-01636 |
| **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.

## Mounts with flat and round design, self adhesive

### RB-Series

RB-Series self adhesive mounts offer greater routing freedom and also reduce the risk of corrosion compared to screw fixing mounts. They are ideally suited for tool-free installation and can be re-opened and reused easily when cables need to be replaced. These mounts can be used without the need for additional cable ties. Offering process optimization in a variety of applications.
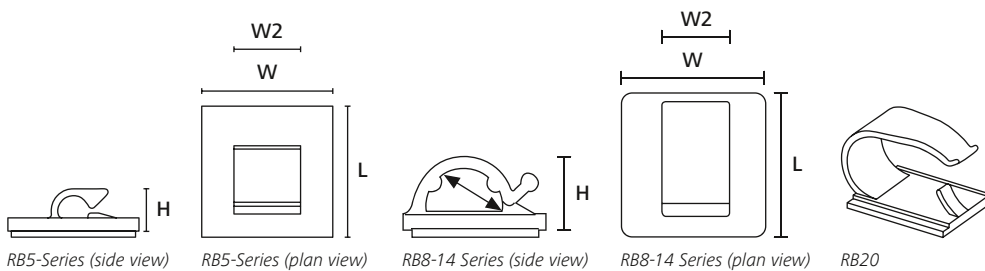
**Features and benefits**
- Flat design to use in applications with limited space
- One-piece self adhesive mount for quick and easy installation
- Can be used without cable ties offering process optimization
- Different sizes for various bundle diameters available
- Cost effective with easy application on smooth, clean surfaces

*Self adhesive one piece fixing mounts RB20 (l) and RB14 (r).*

### 📄 Material specification please see page 26.

RB5-Series (side view)  RB5-Series (plan view)  RB8-14 Series (side view)  RB8-14 Series (plan view)  RB20

| 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.
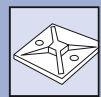
## Mounts with flexible flat design

### SAC-Series

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 and holes would be unacceptable. Typical 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
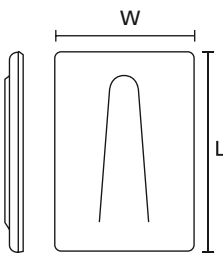

*SAC-Series Self Adhesive Clip*


*SAC-Series in application*


*Malleable tongue allows for a variety of sizes per clip.*

📄 **For more information on the types of adhesive please see page 134.**

| 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 |

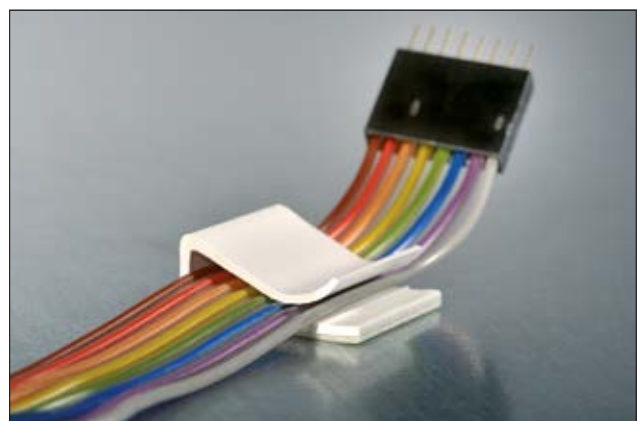All dimensions in mm. Subject to technical changes.

### Type 130100

**Features and benefits**
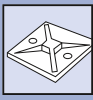- Self adhesive mount with integrated clamp for holding flat cables
- Manufactured from PVC
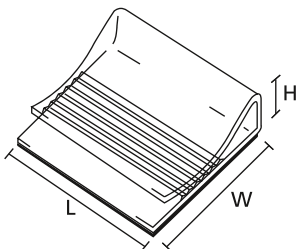

*130100 Self Adhesive Clip*


*130100 self adhesive mount 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.

## 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 for the cable tie leads to a quicker and more flexible installation
- Magnetic and X-Ray 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
- Can support quality assurance in the production of food stuffs, for example HACCP

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

*One Step to the Web!*

> **i**  **Can support quality assurance in the production of food stuffs, for example HACCP.**

> **The MCMB mount can ideally be combined with MCT cable ties on page 65.**
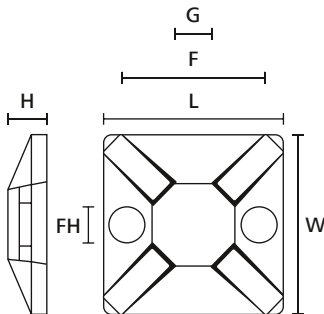
*MCMB Mount (side and plan view)*

| 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.
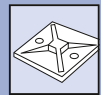
## Screw Fixing Cable Tie Mounts CTQM
## for limited space

### 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 width
- Uses screw with countersunk head (max. ø of head: 8.0 mm)
- Perfect for combination with Q-ties
- Pre-assembly feature in combination with cable tie
- Holds the cable tie in vertical mounting position
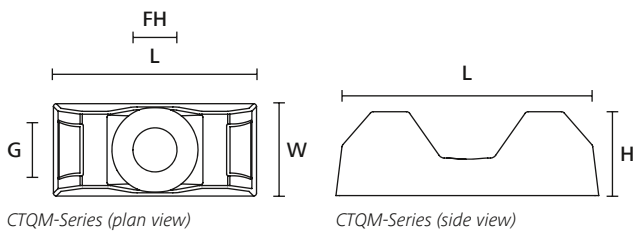
*Q-Mount, CTQM 2-way entry, screwable.*

*Application video: Q-Series*

**Material specification please see page 26.**

**Please find more Q-Series products for your system solution on page 56, 137 and 492.**
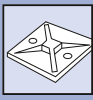
*CTQM-Series (plan view)*

*CTQM-Series (side view)*

| TYPE | Width (W) | Length (L) | Height (H) | Hole Ø (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.

## 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 manufacture. They offer a very secure fixing and can be used with a wide variety of heavy duty cable ties up to 8.3 mm width.

**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
- Mounts are available in various sizes and materials

*Cable Tie Mounts KR6G5, KR8G5 and CTM.*
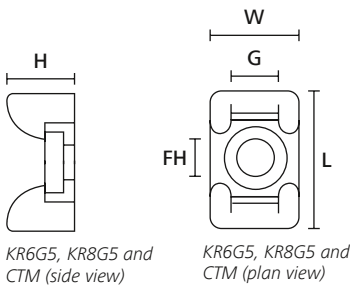
*KR6G5, KR8G5 and CTM (side view)*

*KR6G5, KR8G5 and CTM (plan view)*

**The KR-E/TFE mounts can ideally be combined with the E/TFE-cable ties on page 51.**

**Can support quality assurance in the production of food stuffs, for example HACCP.**

| 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.

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

Date of issue: 10/2017
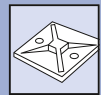
## Screw Fixing Mounts

**CTAM-Series for applications where space is limited**

Each of these products offers 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 these cable tie mounts are also used within the aerospace and railway industry.

**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

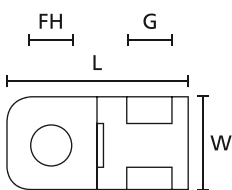*CTAM mounts for applications with limited space.*

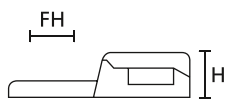📄 **The CTAM mounts made of PEEK are the ideal complement for the PEEK tie on page 69.**

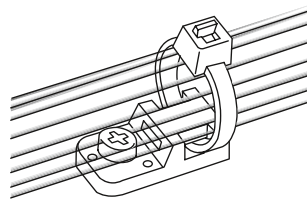📄 **The CTAM mounts made of PA66MP+ are the ideal complement for MCTS ties on page 66.**

ℹ️ **Can support quality assurance in the production of food stuffs, for example HACCP.**

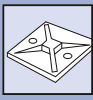*CTAM-Series (plan view)*  *CTAM-Series (side view)*  *CTAM-Series in application*  *One Step to the Web!*

| 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. | 151-31109 |
| **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 | 5.0 | PEEK | Beige (BGE) | 100 pcs. | 151-00757 |
| **CTAM2** | 10.2 | 20.5 | 5.5 | 5.2 | 5.0 | 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.

## Screw Fixing Mounts
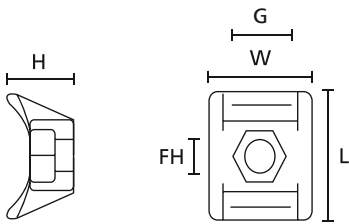
### LKC- and NY-Series with overlapping curved design

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 width.

### 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

NY3256 (side view)    NY3256 (plan view)

*Cable Tie Mounts LKC Series.*

📄 **Material specification please see page 26.**

| 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 | Black (BK) | 100 pcs. | 151-27010 |
| | | 17.0 | 25.0 | 13.5 | 5.5 | 8.0 | PA66 | Natural (NA) | 100 pcs. | 151-27019 |
| LKCSF1 | | 19.0 | 40.0 | 16.0 | 6.0 | 13.0 | PA66W | Black (BK) | 100 pcs. | 151-01683 |
| | | 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 | 3.1 | 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

These cable tie mounts are very small in their overall size. They are designed for simple yet robust installation particulary in areas with high vibrations and/or limited space. They are a common fixing method for telecoms equipment, switchgear and control cabinets.
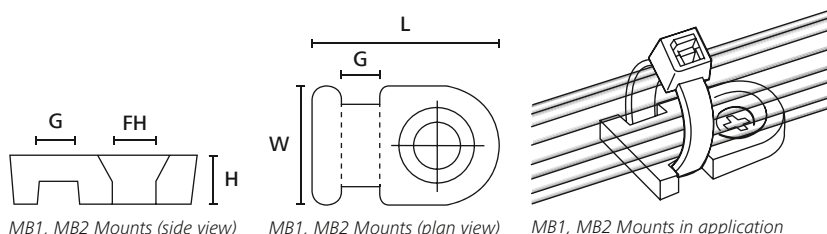
### Features and benefits
- Small overall size for areas with limited mounting space
- Simple to install with a screw, bolt or rivet
- Excellent security, particularly in areas of high vibration
- Single hole fixing with two-way entry for cable tie

*TY- (l) and MB-Series (r) with curved design, screwable.*

### MB-Series Curved Design, screwable

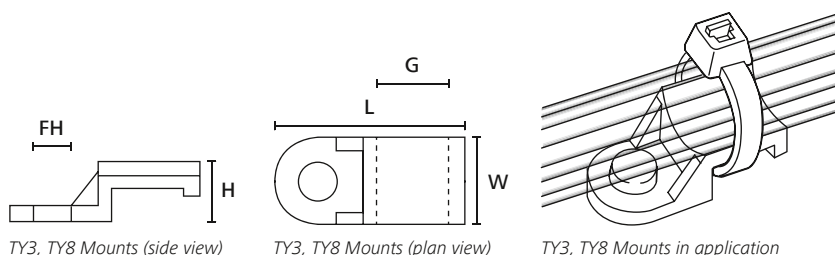*MB1, MB2 Mounts (side view)*  *MB1, MB2 Mounts (plan view)*  *MB1, MB2 Mounts in application*

| 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 | White (WH) | 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 | 5.7 | 3.5 | 5.0 | PA66 | Natural (NA) | 1,000 pcs. | 151-02156 |
| **TY8F1** | 10.0 | 22.5 | 7.2 | 4.5 | 8.0 | PA66 | Natural (NA) | 1,000 pcs. | 151-02157 |

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 using these products as they will allow the use of many different sizes of standard cable ties without the need to stock a wide range of specific fixing ties.

**Features and benefits**
- Small overall size for areas with limited mounting space
- Screwable mounts for fixing cable sideways
- Ideal for securing large, heavier bundles
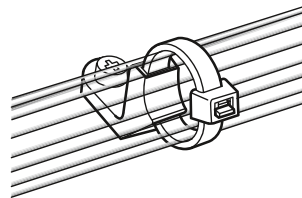- Suitable for cable ties up to 8 mm width



*LKM, CL8 and FH cable tie mounts for applications with limited space.*
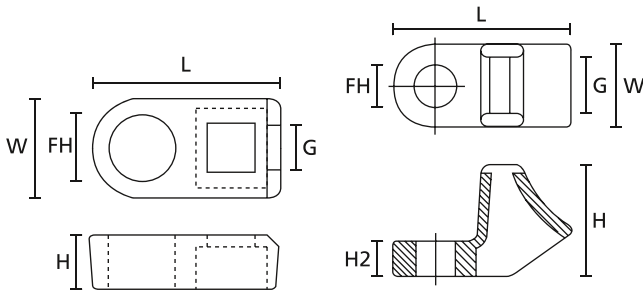


FH cable tie mounts
(plan and side view)

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.
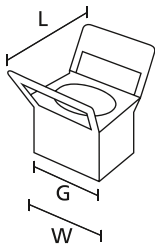
## Fixing Base

### LOK02

Designed specifically for holding heavier cable bundles these mounting bases can be used in many industries from agriculture to truck manufacture. LOK cable tie mounts offer a very secure fixing and can be used in combination with cable ties up to 9 mm width.

**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 application.*

*LOK02 Fixing Base*
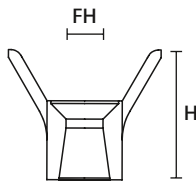
*LOK02 Fixing Base (front view)*

**Material specification please see page 26.**

| 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.

## Clamps with elastical loop

### Cradle clamp

Simple and versatile method of bundling cables. These clamps consist of two parts. The clamping base for mounting onto a panel and the elastical loop.

### Features and benefits
- 2-piece fixing part consists of clamp and retaining ring
- Suitable for pre-assembly and prototyping
- Useful for applications requiring addition or removal of cables
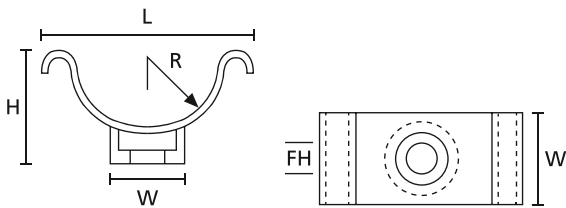- Simply stretch loop over clip for simple and quick cable containment

*2-Piece fixing cradle clamp.*

*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 | 22.0 | 14.0 | 6.3 | 4.8 | PA6HIR | Black (BK) | 201-10010 |
| C2 | 12.7 | 35.0 | 18.0 | 11.0 | 4.8 | PA6HIR | Black (BK) | 201-10020 |
| C3 | 12.7 | 48.0 | 25.0 | 17.5 | 4.8 | PA6HIR | Black (BK) | 201-10030 |

All dimensions in mm. Subject to technical changes.
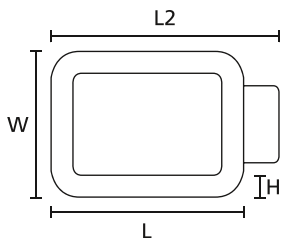
*Retaining Ring R1 - 3*

| 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. Strain relief clip is simply attached to 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

*Klam-Klip (side view)*

*Klam-Klip (plan view)*

*Strain relief Klam-Klip in application.*

📄 **Material specification please see page 26.**

| 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.

## Harness Clip for Heavy Duty Applications, for Screws or threaded Bolts

These heavy duty mounts (HDM) have been primarily designed for use in the automotive and truck industry. Nowadays they can be found in a variety of applications requiring heavy duty mounting in areas like the railway, defence and/or argriculture industry.

### Features and benefits
• Design offers secure alignment to the bundle
• Possible replacement of cushion clamps and/or metal clamps
• Eliminates the needs for multiple sized fix diameter clamps
• For heavy duty cable ties up to 12.7 mm width
• High tightening torque through metal bushing
• Easy maintenance of bundle by simply changing the cable tie

*Heavy Duty Mounts HDM-Series, Patent Number US5820083.*
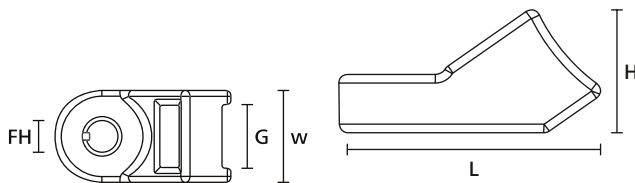
*HDM19, 25, 312*

### 📄 Material specification please see page 26.

### Standard Torque Mounts

| 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 | PA66HIR | Black (BK) | 100 pcs. | 151-00437 |
| HDM19 | | 19.3 | 36.3 | 16.7 | 4.7 | 12.7 | PA66HIRHS | 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 | Pack Cont. | Article-No. |
|------|---------|-----------|------------|------------|-------------|----------------------|----------|--------|------------|-------------|
| HDM321 | | 24.0 | 46.0 | 20.7 | 8.31 | 12.7 | PA66HSW | Black (BK) | 500 pcs. | 151-07100 |
| HDM401 | | 24.0 | 46.0 | 20.7 | 9.5 | 12.7 | PA66HIRHSW | Black (BK) | 100 | 151-00442 |
| HDM501 | | 24.0 | 46.0 | 20.7 | 12.7 | 12.7 | PA66HIRHS | Black (BK) | 500 pcs. | 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 | Pack Cont. | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|
| **HDM400BR** | | 25.0 | 47.0 | 20.7 | 10,29 | 12.7 | PA66HIRHSUV | Black (BK) | 500 | 151-01224 |

All dimensions in mm. Subject to technical changes.
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.
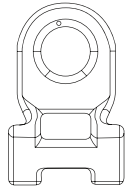
## Two Way Saddle Mount for heavy duty applications, for parallel separation

Heavy duty saddle mounts can be installed between two bundles to separate them and prevent chafing and wear. Fastened to a frame rail or mounting bracket, the special profile on the saddle mount provides a tight circumferential loop on large and small bundles. The saddle mount is an ideal assistant in many applications within the railway, truck and agricultural vehicle construction as well as in the ship building industry.

**Features and benefits**
- For parallel routing of different bundles to avoid wear and chafing
- Offers secure alignment to the bundle
- Can be used in combination with heavy duty cable ties
- Easy maintenance of bundle by simply changing the cable tie
- Made from impact modified, heat stabilized material

*This saddle mount is installed between two bundles to separate them and prevent chafing and wear.*
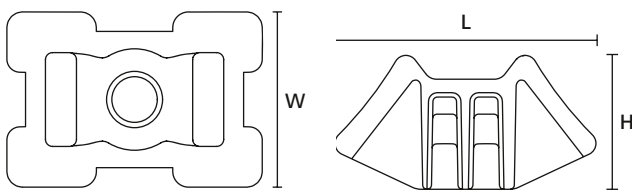
*S2CM25*

| TYPE | Width (W) | Length (L) | Height (H) | Hole Ø (FH) | Strap Width max. (G) | Bundle Ø max. | Material | Colour | Pack Cont. | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|
| **S2CM25** | 30.0 | 45.0 | 23.0 | 6.0 | 12.5 | 89.0 | PA66HIRHS | Grey (GY) | 500 pcs. | 151-29400 |
| **S2HM25** | 30.0 | 45.0 | 23.0 | 6.0 | 13.5 | 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 axial oval mount stands off bundles from frame rails and cross members to prevent them from rubbing and chafing. They can be perfectly used in combination with heavy duty cable ties up to 12.7 mm width – ideal to securely fix cables and wires in the railway and shipbuilding industry as well as in truck and agricultural vehicle construction.

### Features and benefits
- Guides bundles securely above sharp edges
- For threaded bolts or screws
- Can be used in combination with heavy duty cable ties
- For cable ties up to 12.7 mm width



*Axial oval mounts stand off bundles from frame rails and cross members to prevent them from rubbing and chafing.*

### Material specification please see page 26.
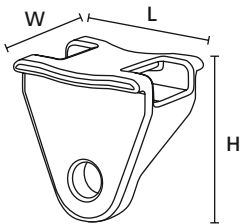


SAM83

| TYPE | Width (W) | Length (L) | Height (H) | Hole Ø (FH) | Strap Width max. (G) | Material | Colour | Pack Cont. | Article-No. |
|---|---|---|---|---|---|---|---|---|---|
| SAM83 | 26.0 | 34.0 | 35.0 | 8.0 | 12.7 | PA66HIRHS | Grey (GY) | 500 pcs. | 151-29600 |
| SAOM82 | 26.0 | 34.3 | 35.0 | 8.0 | 12.7 | 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.

Date of issue: 10/2017
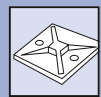
## Heavy Duty Mounts for 3-way routing

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 helps to fix and secure cable, lines and hydraulic lines in truck, agriculture and railway vehicle construction, as well as in ship building.

### 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



*S3CBM8 in combination with our X-Series.*



*S3SB15CBM8 and S3CBM8.*
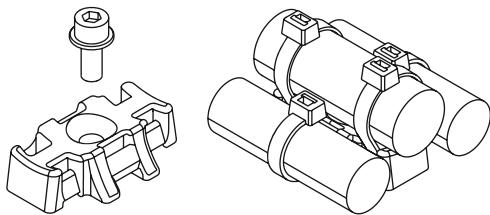
### S3CBM8



*Suitable for external cylindrical hexagonal bolts M8*

*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. |
|---|---|---|---|---|---|---|---|---|---|
| **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
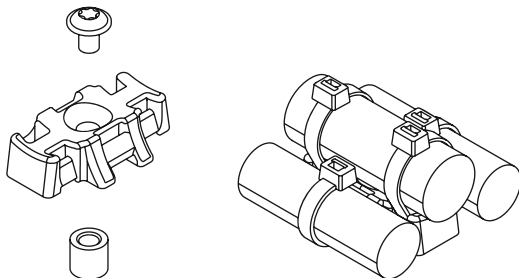


*Suitable for welding studs (M8 internal bore & outer diameter 15 mm)*

*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.

## 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. SSPC metal cable tie mounts are ideal for use within shipbuilding, oil and gas (offshore), industrial machinery and vehicles, food and beverage, power, renewable energy or process industries.

**Features and benefits**
- 2-way fixing for metal cable ties
- High performance stainless steel 316 material
- Heavy duty design
- Robust and durable solution
- Resistant to a range of chemicals in challenging environments
- Quick and easy to install
- Safe and secure solution for cables, tubing, conduits and pipes

*One Step to the Web!*

*Stainless Steel P-Mount SSPC for use in arduous environments.*

ℹ **The SSPC-Mounts can ideally be combined with the MBT cable ties on page 86–92 and with the MST and MLT cable ties on page 93, 94.**

ℹ **Can support quality assurance in the production of food stuffs, for example HACCP.**

📄 **Material specification please see page 26.**
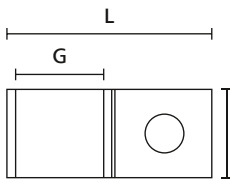
*SSPC Series (plan view)*

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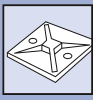Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Date of issue: 10/2017
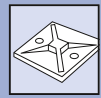
## Ratchet P-Clamp

The Ratchet P-Clamp family offers versatility when managing wires, cables and hoses. The robust design and durable materials make it ideal for heavy duty applications, both in- and outdoors. The one-piece adjustable clamp can be closed by hand to the desired diameter. The release feature provides easy and nondestructive removal of cables simply by using a flat-head screwdriver. This nondestructive release allows the clamp to be reused without removing or replacing any bolts or screws. The Ratchet P-Clamp is offered in four sizes and multiple mounting configurations.

### Features and benefits

- One-piece ratchet closure design allows for easy installation during pre- or final assembly
- Multiple configurations handle a wide range of diameters and applications, reducing part inventory
- Clamp interior is designed to guide and center bundle to reduce pinching
- Easy release feature allows for quick adjustments and maintenance
- Impact modified, heat and UV stabilized PA66 provides long-term durability, in- and outdoors
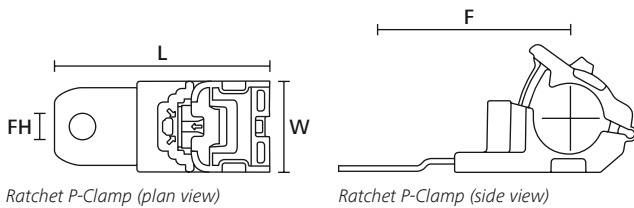- Steel mounting plate tolerates high torque mounting and is treated to resist chemicals and salt spray

*Ratchet P-Clamps in multiple configurations to handle a wide range of diameters and applications.*

*One Step to the Web!*

*Ratchet P-Clamp (plan view)*

*Ratchet P-Clamp (side view)*

### For bundle diameters from 6.2 mm to 13.7 mm

| TYPE | Width (W) | Length (L) | Bundle Ø min. | Bundle Ø max. | Hole Ø (FH) | Fixing Hole Centres (F) | Variant | Material | Colour | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|
| RCA90SM6 | 34.9 | 101.9 | 6.2 | 13.7 | M6 | 24.9 | 90° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01643 |
| RCA180SM6 | 34.9 | 116.2 | 6.2 | 13.7 | M6 | 50.5 | 180° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01637 |
| RCA180SM8 | 34.9 | 116.2 | 6.2 | 13.7 | M8 | 50.5 | 180° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01416 |
| RCA180SM10 | 34.9 | 116.2 | 6.2 | 13.7 | M10 | 50.5 | 180° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01417 |
| RCA180SM12 | 34.9 | 116.2 | 6.2 | 13.7 | M12 | 50.5 | 180° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01418 |
| RCA90LM6 | 34.9 | 129.9 | 6.2 | 13.7 | M6 | 24.9 | 90° Long | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01644 |
| RCA90LM8 | 34.9 | 129.9 | 6.2 | 13.7 | M8 | 24.9 | 90° Long | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01437 |
| RCA180MM6 | 34.9 | 138.2 | 6.2 | 13.7 | M6 | 72.5 | 180° Medium | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01638 |
| RCA180MM8 | 34.9 | 138.2 | 6.2 | 13.7 | M8 | 72.5 | 180° Medium | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01419 |
| RCA180LM6 | 34.9 | 167.2 | 6.2 | 13.7 | M6 | 101.5 | 180° Long | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01639 |

All dimensions in mm. Subject to technical changes.
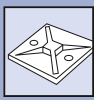
## Ratchet P-Clamp

**For bundle diameters from 12.7 mm to 19.5 mm**

| TYPE | Width (W) | Length (L) | Bundle Ø min. | Bundle Ø max. | Hole Ø (FH) | Fixing Hole Centres (F) | Variant | Material | Colour | Article-No. |
|------|-----------|-----------|---------------|---------------|-------------|-------------------------|---------|----------|--------|-------------|
| RCB90SM6 | 34.9 | 101.9 | 12.7 | 19.5 | M6 | 26.7 | 90° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01651 |
| RCB90SM8 | 34.9 | 101.9 | 12.7 | 19.5 | M8 | 26.7 | 90° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01457 |
| RCB180SM6 | 34.9 | 116.2 | 12.7 | 19.5 | M6 | 52.8 | 180° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01645 |
| RCB180SM8 | 34.9 | 116.2 | 12.7 | 19.5 | M8 | 52.8 | 180° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01440 |
| RCB180SM10 | 34.9 | 116.2 | 12.7 | 19.5 | M10 | 52.8 | 180° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01390 |
| RCB180SM12 | 34.9 | 116.2 | 12.7 | 19.5 | M12 | 52.8 | 180° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01441 |
| RCB90LM6 | 34.9 | 129.9 | 12.7 | 19.5 | M6 | 26.7 | 90° Long | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01652 |
| RCB90LM8 | 34.9 | 129.9 | 12.7 | 19.5 | M8 | 26.7 | 90° Long | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01460 |
| RCB180MM6 | 34.9 | 138.2 | 12.7 | 19.5 | M6 | 74.8 | 180° Medium | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01646 |
| RCB180LM6 | 34.9 | 167.2 | 12.7 | 19.5 | M6 | 103.8 | 180° Long | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01647 |

All dimensions in mm. Subject to technical changes.

**For bundle diameters from 19.4 mm to 36.0 mm**

| TYPE | Width (W) | Length (L) | Bundle Ø min. | Bundle Ø max. | Hole Ø (FH) | Fixing Hole Centres (F) | Variant | Material | Colour | Article-No. |
|------|-----------|-----------|---------------|---------------|-------------|-------------------------|---------|----------|--------|-------------|
| RCC90SM6 | 34.9 | 141.8 | 19.4 | 36.0 | M6 | 39.9 | 90° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01659 |
| RCC90SM8 | 34.9 | 141.8 | 19.4 | 36.0 | M8 | 39.9 | 90° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01492 |
| RCC180SM6 | 34.9 | 156.1 | 19.4 | 36.0 | M6 | 62.3 | 180° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01653 |
| RCC180SM8 | 34.9 | 156.1 | 19.4 | 36.0 | M8 | 62.3 | 180° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01474 |
| RCC180SM10 | 34.9 | 156.1 | 19.4 | 36.0 | M10 | 62.3 | 180° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01475 |
| RCC180SM12 | 34.9 | 156.1 | 19.4 | 36.0 | M12 | 62.3 | 180° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01476 |
| RCC90LM6 | 34.9 | 169.8 | 19.4 | 36.0 | M6 | 39.9 | 90° Long | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01660 |
| RCC90LM8 | 34.9 | 169.8 | 19.4 | 36.0 | M8 | 39.9 | 90° Long | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01495 |
| RCC180MM6 | 34.9 | 178.1 | 19.4 | 36.0 | M6 | 84.3 | 180° Medium | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01654 |
| RCC180LM6 | 34.9 | 207.1 | 19.4 | 36.0 | M6 | 113.3 | 180° Long | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01655 |

All dimensions in mm. Subject to technical changes.

**For bundle diameters from 36.0 mm to 51.0 mm**

| TYPE | Width (W) | Length (L) | Bundle Ø min. | Bundle Ø max. | Hole Ø (FH) | Fixing Hole Centres (F) | Variant | Material | Colour | Article-No. |
|------|-----------|-----------|---------------|---------------|-------------|-------------------------|---------|----------|--------|-------------|
| RCD180SM8 | 34.9 | 181.5 | 36.0 | 51.0 | M8 | 70.0 | 180° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01499 |
| RCD180SM10 | 34.9 | 181.5 | 36.0 | 51.0 | M10 | 70.0 | 180° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01501 |
| RCD180SM12 | 34.9 | 181.5 | 36.0 | 51.0 | M12 | 70.0 | 180° Short | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01502 |
| RCD90LM8 | 34.9 | 195.2 | 36.0 | 51.0 | M8 | 42.4 | 90° Long | PA66HIRHSUV, ST, ZN | Black (BK) | 151-01521 |

All dimensions in mm. Subject to technical changes.

**Accessories**

| TYPE | Variant | Material | Colour | Article-No. |
|------|---------|----------|--------|-------------|
| RCTT | No Serration | PA66HIRHSUV | Black (BK) | 151-01529 |
| RCINSERTA | Rubber profile | TPE | Black (BK) | 151-01530 |
| RCINSERTB | Rubber profile | TPE | Black (BK) | 151-01531 |
| RCINSERTC | Rubber profile | TPE | Black (BK) | 151-01532 |
| RCINSERTD | Rubber profile | TPE | Black (BK) | 151-01533 |

All dimensions in mm. Subject to technical changes.

Date of issue: 10/2017

## Aluminium P-Clamps

**Alu-P-Clamp with / without chloroprene insert**

Manufactured from a high quality aluminium, these metal P-Clamps 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. They are commonly used in caravan construction, the defence and railway industry as well as in the renewable energy sector.

**Features and benefits**
• Simple and secure pipe or cable fixation
• Can be combined with chloroprene rubber for vibration resistance
• Ideal for use in high temperature applications
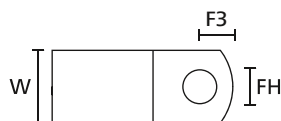• Suitable for applications needing strength of metal components

*P-Clamps manufactured in polyamide, aluminium or aluminium with a chloroprene insert.*
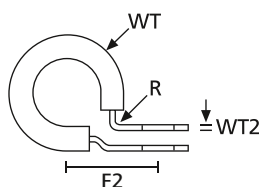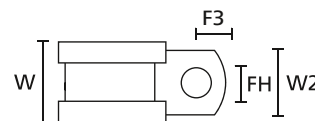
**Material specification please see page 26.**
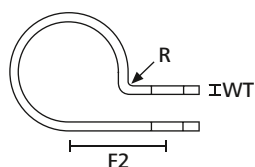
*ALU P-Clamp (side view)*

*ALU P-Clamp (plan view)*
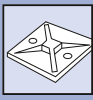
*ALU_C P-Clamp with chloroprene insert (side view)*

*ALU_C P-Clamp with chloroprene insert (plan view)*

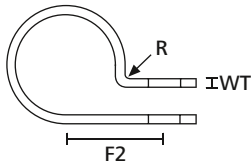| TYPE | Width (W) | Width (W2) | Wall (WT) | Wall (WT2) | Hole Ø (FH) | Fixing Hole Centres (F2) | Fixing Hole Centres (F3) | Bundle Ø max. | Radius (R) | Material | Colour | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALU4 | 12.7 | - | 0.80 | - | 5.2 | 11.6 | 5.5 | 6.4 | 1.6 | 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 |

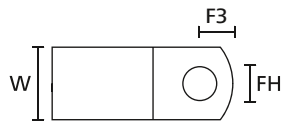All dimensions in mm. Subject to technical changes.
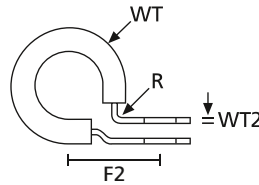
## Aluminium P-Clamps
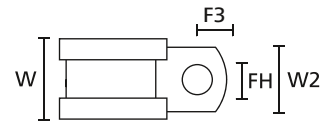
**Alu-P-Clamp with / without chloroprene insert**

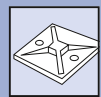*ALU P-Clamp (side view)*  *ALU P-Clamp (plan view)*  *ALU_C P-Clamp with chloroprene insert (side view)*  *ALU_C P-Clamp with chloroprene insert (plan view)*

| 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-Clamps

**HP-Series**

For permanent or semi-permanent cable fixings this range of plastic P-Clamps can be used in many industries. Their light weight makes them particularly suitable for use in areas such as aircraft and aerospace 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
- Can be used without cable ties

*P-Clamps H1P - H18P in different dimensions.*
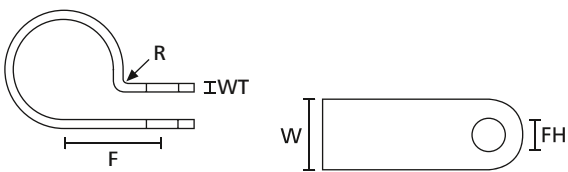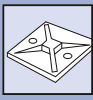
*P-Clamp H1P - H18P (side view)*          *P-Clamp H1P - H18P (plan view)*

**Material specification please see page 26.**

| 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.

## 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
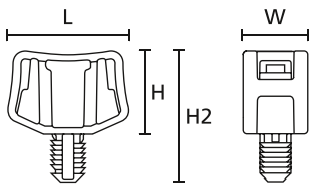
*Fir Tree Saddle Mounts*

*The mount can secure up to four separate bundles, providing parallel spacing between the frame rail and adjacent bundles.*

| TYPE | Width (W) | Length (L) | Height (H) | Height (H2) | Hole Ø (FH) | Panel Thickness | Bundle Ø max. | Material | Colour | Pack Cont. | Article-No. |
|------|-----------|------------|------------|-------------|-------------|-----------------|---------------|----------|--------|------------|-------------|
| **S3STM50** | 22.0 | 50.0 | 35.0 | 55.0 | 12.7 - 13.7 | 1.9 - 13.0 | 127.0 | PA66HIRHS | Black (BK) | 100 pcs. | 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

These 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

*MSBT120*

*Saddle Mount 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 | 11.2 - 20.8 | 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.
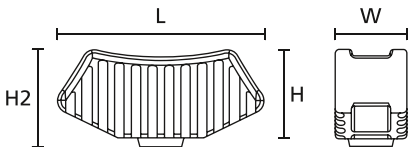
Date of issue: 10/2017
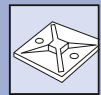
## Mounting Plates for Screw Fixing

### MP-Series for parallel bundling

Many applications require each cable run to be firmly held in place but to be held separately from adjacent cable runs (example - control cabinets, machinery and military systems). The MP series of mounts can achieve this.

**Features and benefits**
- Allow multiple cables to run in parallel
- Simple to fix with two screws
- Cables are fixed by using a cable tie through any combination of the available slots
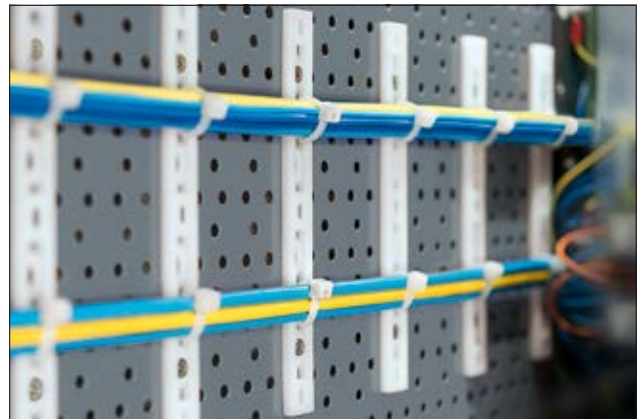


*MSMP mounting plates, screwable.*

📄 **Material specification please see page 26.**
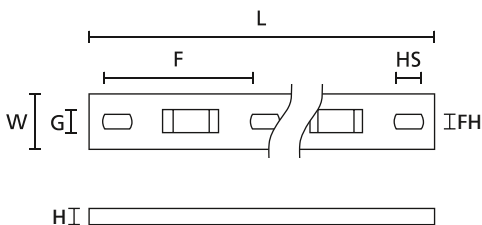


*Mounting plates MP and MSMP (plan and side view)*
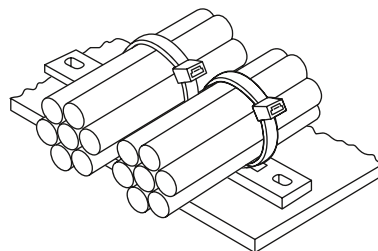


*Mounting plates in application*

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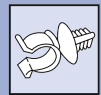Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

**c UL US** For product specific approvals and specifications please refer to the Appendix.

# Manual and pneumatic processing tools:
# The professional way to fasten metal cable ties

## Cable Fixing Cradle

**TM1SF for cable ties width up to 5.0 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
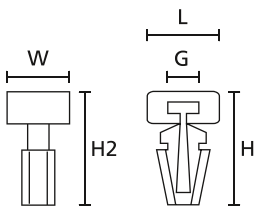


*TM1SF Fixing Base*



*TM1SF Fixing Base for pre-drilled or pre-punched holes.*

📄 **Material specification please see page 26.**

| 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
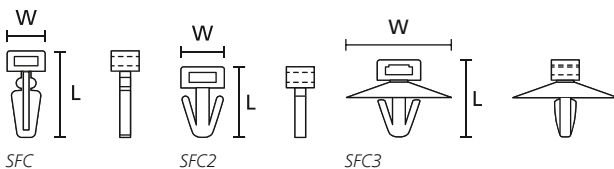


*SFC*          *SFC2*          *SFC3*



*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 1.5 - 4 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, AT2000 or AT2000CPK



*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.*
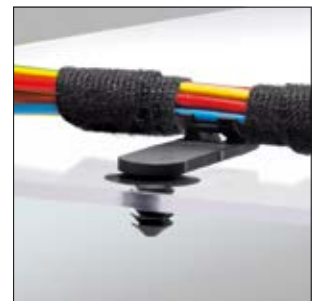


*COW Clip used as tape-on clip.*

📄 **Material specification please see page 26.**

Date of issue: 10/2017

Other product variants are available
in our 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 | Length (L) | Length (L2) | Stud Ø | Material | Colour | Article-No. |
|------|---------|-----------|-------------|--------|----------|--------|-------------|
| BC30 | | 55.0 | 30.0 | 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 | PA66HIRHS | Black (BK) | 155-01600 |
| BCSFT6.5 16-3MD | | 55.0 | 6.3 - 6.7 | 1.5 - 3.0 | PA66HIRHS | Black (BK) | 155-11601 |
| BCOWFT6M | | 27.3 | 6.5 - 7.0 | 0.6 - 3.5 | PA66HIRHS | Natural (NA) | 151-00790 |

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 assembly, just shuffle manually
- Oval connectors offer twist protection



*For a secure fixation simply push the connector by hand on our Connector Clip 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 snug fit 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



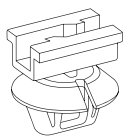*Connector Clips are available for many different connector types and fixing varieties.*

📄 **Material specification please see page 26.**

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Other product variants are available
in our Automotive catalogue.
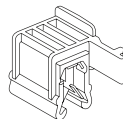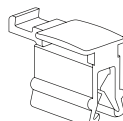
**Connector Clips for oval holes**

| 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 |
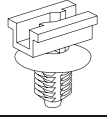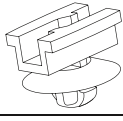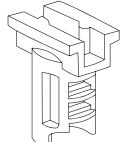
All dimensions in mm. Subject to technical changes.

**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) | Stud Ø | Panel Thickness | Material | Colour | Article-No. |
|------|---------|-------------|--------|-----------------|----------|--------|-------------|
| FT6LG-AMP | | 6.5 - 7.0 | - | 0.7 - 6.0 | PA66HIRHS | Black (BK) | 155-03800 |
| CC-PAEKSFT6.5PT1.7-2.3 | | 6.3 - 6.7 | - | 1.7 - 2.3 | PA66HIRHS | Black (BK) | 151-00840 |
| CCSBS5 | | - | 5.0 | - | PA66HIRHS | Black (BK) | 151-01196 |

All dimensions in mm. Subject to technical changes.

## Automatic bundling

### Bundling Clips for Automatic Cable Tying Systems

**Features and benefits**
- Optimized for use automatic cable tying systems
- Easy to apply
- The fixing elements can be tied automatically with Autotool 2000 family and Autotool System 3080

*Fixing Elements for Automatic bundling.*
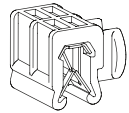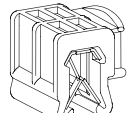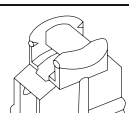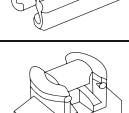
| TYPE | Drawing | Panel Thickness | Hole Ø (FH) | Colour | Material | Article-No. |
|------|---------|-----------------|-------------|--------|----------|-------------|
| ATSBCEC35 | | 1.5 - 4.0 | - | Black (BK) | PA66HIRHS | 102-68355 |
| ATSBCSFT6.5 | | 2.3 - 3.3 | 6.3 - 6.7 | Black (BK) | PA66HIRHS | 102-69066 |
| ATSBCSFT6.5-MD | | 2.0 - 3.0 | 6.3 - 6.7 | Black (BK) | PA66HIRHS | 102-69065 |
| ATSBCEC36 | | 1.5 - 4.0 | - | Black (BK) | PA66HIRHS | 102-68365 |
| ATSBCEC37 | | 1.5 - 4.0 | - | Black (BK) | PA66HIRHS | 102-68375 |
| ATSBCFT6LG | | 0.6 - 5.1 | 6.3 - 7.0 | Black (BK) | PA66HIRHS | 102-67065 |
| ATSBCEC38 | | 1.5 - 4.0 | - | Black (BK) | PA66HSW | 102-68385 |
| ATSBCKSFT6.5 | | 0.7 - 1.3 | 6.3 - 6.7 | Black (BK) | PA66HIRHS | 102-69067 |
| ATSBC2KSFT6.5 | | 1.7 - 2.3 | 6.3 - 6.7 | Black (BK) | PA66HIRHS | 102-69068 |
| ATSBCOWSFT6.5 | | 2.3 - 3.3 | 6.3 - 6.7 | Grey (GY) | PA46 | 102-69080 |
| ATSBCSFT6.5PT2.3-3.3 | | 2.3 - 3.3 | 6.3 - 6.7 | Grey (GY) | PA46 | 102-69089 |

All dimensions in mm. Subject to technical changes.

Date of issue: 10/2017
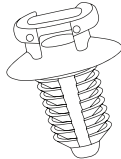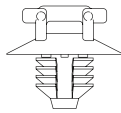
## Automatic bundling

**Edge Clips for Automatic Cable Tying Systems**

| TYPE | Drawing | Panel Thickness | Material | Colour | Article-No. |
|---|---|---|---|---|---|
| ATSEC38 | | 1.5 - 4.0 | PA66HIRHS | Black (BK) | 102-68380 |
| ATSEC37 | | 1.5 - 4.0 | PA66HIRHS | Black (BK) | 102-68370 |
| ATSEC35 | | 1.5 - 4.0 | PA66HIRHS | Black (BK) | 102-68350 |
| ATSEC36 | | 1.5 - 4.0 | PA66HIRHS | Black (BK) | 102-68360 |

All dimensions in mm. Subject to technical changes.

**Fir Tree Clips for Automatic Cable Tying Systems**

| TYPE | Drawing | Hole Ø (FH) | Panel Thickness | Material | Colour | Article-No. |
|---|---|---|---|---|---|---|
| ATSFT5LG | | 4.5 - 5.0 | 0.7 - 8.0 | PA66HIRHS | Black (BK) | 102-67050 |
| ATSFT6 | | 6.3 - 7.0 | 0.8 - 3.0 | PA66HIRHS | Black (BK) | 102-67060 |
| ATSFT6LG | | 6.5 - 7.1 | 0.6 - 6.0 | PA66HIRHS | Black (BK) | 102-67062 |
| ATSFT8GSD | | 8.0 - 8.5 | 1.5 - 4.0 | PA66HIRHS | Black (BK) | 102-67081 |

All dimensions in mm. Subject to technical changes.

## Fixing Elements for Tubes and Harnesses

**KSFT6.5OC with low Arrowhead**

This fixing elements can be used ideally everywhere 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
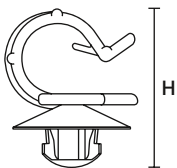
*KSFT6.5 OC 7-9*

*The very low arrowhead is specially designed for narrow installation spaces.*

| 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) | 151-01843 |
| **KSFT6.5OC7-9** | | 21.6 | 7.0 - 9.0 | 6.3 - 6.7 | 2.3 - 2.7 | PA66HIRHS | Black (BK) | 151-01844 |

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
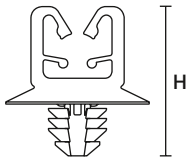
*HC48FT6*

*The HC48FT6 is designed for Bundle diameter 4.3 - 5.2 mm.*

| 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 |
| **HC48FT5** | | 20.8 | 4.5 - 5.2 | 4.5 - 5.0 | 0.7 - 3.0 | PA66HIRHS | Black (BK) | 151-01405 |

All dimensions in mm. Subject to technical changes.

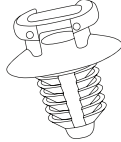## Fixing Elements for Tubes and Harnesses with Automatic Locking Feature

### 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 fixation 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.*
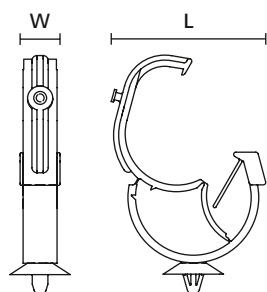

AHC( )AH

📄 **Material specification please see page 26.**

| 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 | 6.2 - 6.7 | - | 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 |

All dimensions in mm. Subject to technical changes.

**Fixing Elements for Tubes and Harnesses with Automatic Locking Feature**

**AHC-Series**

W    L
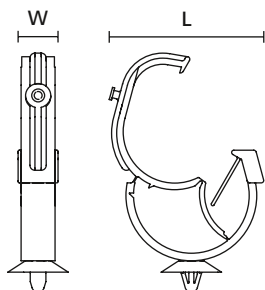
*AHC( )AH*

📄 **Material specification please see page 26.**

| TYPE | Drawing | Width (W) | Length (L) | Bundle Ø max. | Hole Ø (FH) | Stud Ø | Panel Thickness | Material | Colour | Article-No. |
|------|---------|-----------|------------|---------------|-------------|--------|-----------------|----------|--------|-------------|
| AHC3EH2 | | 11.0 | 44.2 | 28.0 | 6.2 x 12.2 | - | 1.8 - 4.8 | PA66HIRHS | Black (BK) | 151-00928 |
| AHC2BH | | 10.0 | 31.5 | 20.0 | 6.2 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 |
| AHC336FT6LG | | 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, connectable

### IAHC-Series, Connectable

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 connect
- 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.*

W

L
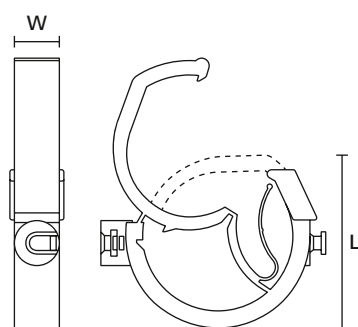
*IAHC( )T*

| 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.

**Fixing Elements for Tubes and Harnesses with Automatic Locking Feature, connectable**

IAHC-Serie, Connectable, with Arrowhead

📄 **Material specification please see page 26.**

W     L
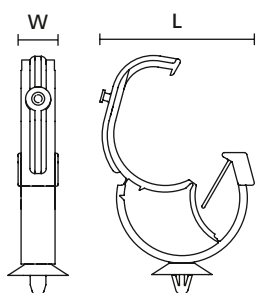
*AHC( )AH*


*IAHC elements can be connected.*

| TYPE | Drawing | Width (W) | Length (L) | Bundle Ø max. | Hole Ø (FH) | Material | Colour | Article-No. |
|------|---------|-----------|------------|---------------|-------------|----------|--------|-------------|
| IAHC3AH | | 13.5 | 40.0 | 28.0 | 6.2 - 6.7 | PA66HIRHS | Black (BK) | 151-00378 |
| IAHC4AH | | 13.5 | 53.0 | 36.0 | 6.2 - 6.7 | PA6HIRHS | Black (BK) | 151-00211 |
| | | 13.5 | 53.0 | 36.0 | 6.2 - 6.7 | PA66HIRHS | Black (BK) | 151-00382 |
| IAHC5BH | | 13.5 | 57.0 | 45.0 | 6.2 x 12.2 | PA66HIRHS | Black (BK) | 151-00384 |
| IAHC3CH | | 10.0 | 47.0 | 28.0 | 6.2 x 12.2 | PA66HIRHS | Black (BK) | 151-00381 |
| IAHC4CH | | 13.5 | 53.0 | 36.0 | 6.2 x 12.2 | PA6HIRHS | Black (BK) | 151-00383 |
| IAHC3EH | | 13.5 | 44.5 | 28.0 | 6.2 x 12.2 | PA66HIRHS | Black (BK) | 151-00489 |
| IAHC5FH | | 13.5 | 61.5 | 45.0 | 6.2 x 12.2 | PA66HIRHS | Black (BK) | 151-00787 |

All dimensions in mm. Subject to technical changes.

Date of issue: 10/2017

## Fixing Elements for Tubes and Harnesses

### DTC - Double Tube Clip, rotatable 360°

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

**Features and benefits**
- Fixing clip offers full 360° rotation
- For routing of two different bundles
- Simply clip on a wire or hose
- Suitable for post-installation of bundles

*DTCs for easy assembly of rotatable routed tubes and harnesses.*

*DTC Tubeclip*                     *DTC Tubeclip*
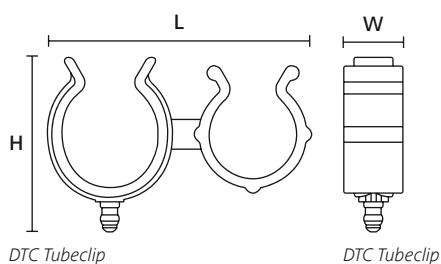
| TYPE | Width (W) | Length (L) | Height (H) | Ø (D) | Ø (D2) | Material | Colour | Article-No. |
|------|-----------|------------|------------|-------|--------|----------|--------|-------------|
| DTC18x5-S | 12.0 | 37.1 | 26.0 | 18.0 | 5.0 | PA66HIRHS | Black (BK) | 156-01311 |
| DTC18x6.5-S | 12.0 | 38.1 | 26.0 | 18.0 | 6.5 | PA66HIRHS | Black (BK) | 156-01312 |
| DTC18x9-11-S | 12.0 | 43.0 | 26.0 | 18.0 | 11.0 | PA66HIRHS | Black (BK) | 156-01313 |
| DTC18x18-20-S | 12.0 | 54.0 | 35.6 | 18.0 | 20.0 | PA66HIRHS | Black (BK) | 156-01314 |
| DTC18x28-S | 12.0 | 63.0 | 45.0 | 18.0 | 28.0 | PA66HIRHS | Black (BK) | 156-01315 |

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 enables cables to be installed using the minimum amount of space, a typical application would be in the frames / rails of control cabinets or within the white goods industry.

### Features and benefits

• Accept 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 only needed from one side

*WPC – Wire Push In Clip.*
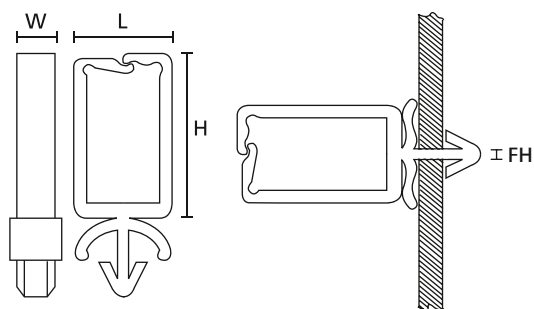
*WPC Wire Push In Clip (side view, front view, in application)*

**Material specification please see page 26.**

| 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.

## Fixing Elements for Tubes and Harnesses, for Edges

**EdgeClip-Family**

EdgeClips are used in the automotive industries and electrical industries and when 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 bigger bundle diameters
- Clips to be pushed onto an edge
- To be closed single handed, a snap can be felt
- Bundles can be released at any time
- EC27: fixing element enables usage of smaller bundle diameter
- 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) | 151-01863 |
| 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
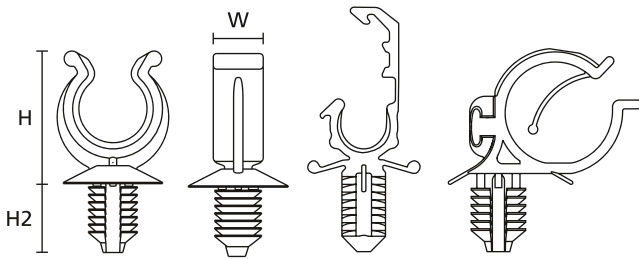
### CTC-Series

CTC clamps are used for example in the automotive, harness making, electrical industry and wherever corrugated tubing has be quickly and firmly fixed.

**Features and benefits**
- CTC clamps 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 by clicking
- Axial slipping is prevented by the inside profile of the clamp

*The tubing is clicked into the CTC clamp and is held firmly.*

*CTC-Series*          *CNCTC8FT6.5LG*   *CTCFT6*

*CNCT8FT6.5LG Clamps*

| 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 |

All dimensions in mm. Subject to technical changes.

| TYPE | Width (W) | Height (H) | Height (H2) | Nominal Ø | Hole Ø (FH) | Panel Thickness | Material | Colour | Article-No. |
|---|---|---|---|---|---|---|---|---|---|
| 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.

### CNCTC-Series with cover

| TYPE | Width (W) | Height (H) | Height (H2) | Nominal Ø | Hole Ø (FH) | Panel Thickness | Material | Colour | Article-No. |
|---|---|---|---|---|---|---|---|---|---|
| CNCTC8FT6.5LG | 10.0 | 11.0 | 11.4 | 7.0 | 6.5 - 6.7 | 1.0 - 6.0 | PA66HIRHS | Black (BK) | 151-01038 |
| | 10.0 | 11.0 | 11.4 | 7.0 | 6.5 - 6.7 | 1.0 - 6.0 | PA66HIRHS | Blue (BU) | 151-01177 |
| LC9FTOVAL | 10.0 | 37.7 | 13.2 | - | 6.2 x 12.2 | 0.6 - 6.8 | PA66HIRHS | Black (BK) | 151-01880 |

All dimensions in mm. Subject to technical changes.

Date of issue: 10/2017

## 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 tool
- Tube is guided accurately by clicking
- Axial slipping is prevented by the inside profile of the clamp
- Clamp can be unscrewed and removed from the weld stud

*The tubing is clicked into the CTC clamp and is held firmly.*
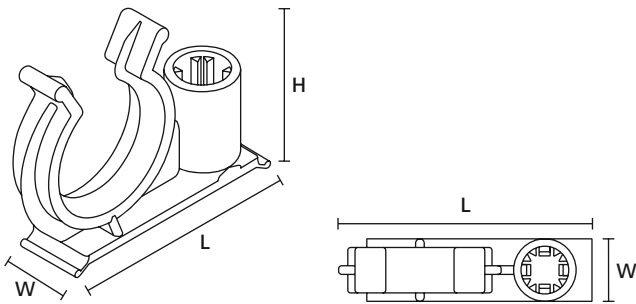
*CTC( )SBS6*

**Material specification please see page 26.**

| TYPE | Drawing | Width (W) | Length (L) | Height (H) | Nominal Ø | Stud Ø | Material | Colour | Article-No. |
|------|---------|-----------|------------|------------|-----------|--------|----------|--------|-------------|
| CTC4.5SBS6 | | 11.0 | 28.6 | 18.7 | 4.5 | 6.0 | PA66HIRHS | Black (BK) | 151-00700 |
| CTC7.5SBS6 | | 11.0 | 31.8 | 19.4 | 7.5 | 6.0 | PA66HIRHS | Black (BK) | 151-00701 |
| CTC10SBS6 | | 11.0 | 35.3 | 22.2 | 10.0 | 6.0 | PA66HIRHS | Black (BK) | 151-00702 |
| CTC13SBS6 | | 11.0 | 37.0 | 26.5 | 13.0 | 6.0 | PA66HIRHS | Black (BK) | 151-00703 |
| CTC17SBS6 | | 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 clamps 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.
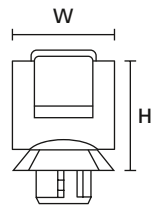
### Features and benefits
- Clamps for corrugated tubing for a variety of nominal diameters
- Arrowhead simply locks into place
- Tube is guided accurately by clicking
- Axial slipping is prevented by the inside profile of the clamp
- CTCLPROFILE clamp can also fastened to a metal edge



*Simple and secure installation of pipes or hoses to panels.*
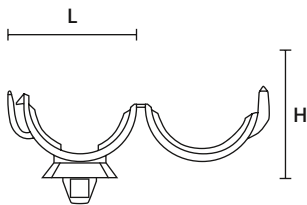


L    W    H    H

*RCC D21, D24, D28*          *RCC D21, D24, D28*

**Material specification please see page 26.**

| 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) are using 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 hose.

The use of weld studs avoids the problems with holes (ingress of moisture, corrosion etc).
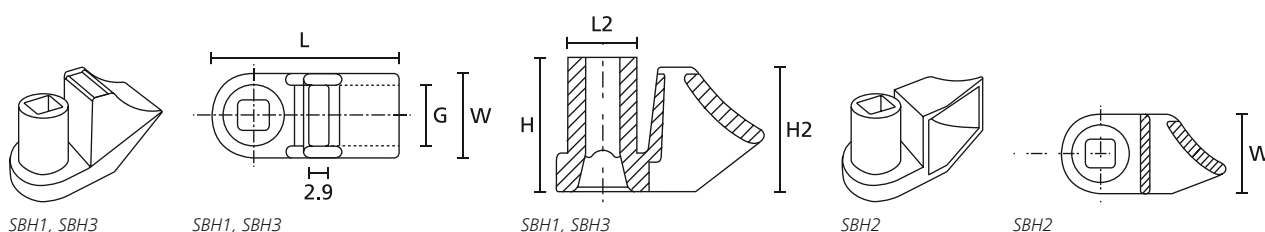
### Features and benefits

- 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

*SBH2 allow cables to run at 90° to the panel.*

### SB-Series



*SBH1, SBH3*  *SBH1, SBH3*  *SBH1, SBH3*  *SBH2*  *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
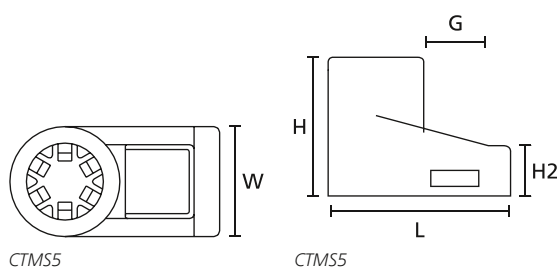


*CTMS5*  *CTMS5*

| 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 Parallel Routing, twistable

### DSWS-Series

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

*The spacers can be easily rotated by hand, allowing the bundles to be crossed and rotated at any angle.*
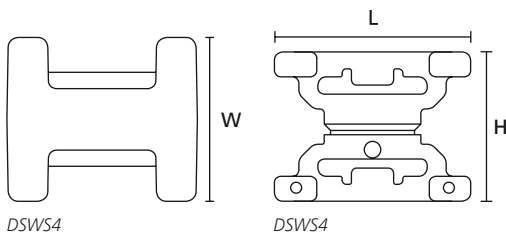
*DSWS4*

*DSWS4*

| 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) | 50 | 151-00644 |
| | 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.

### LOK04

Whenever there is a need of running two or more cables in parallel the LOK04 fixing base would be 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 cable tie width
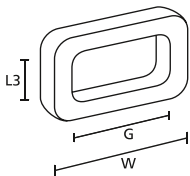
*LOK04*

*LOK04 ring for parallel routing.*

| 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.

## 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
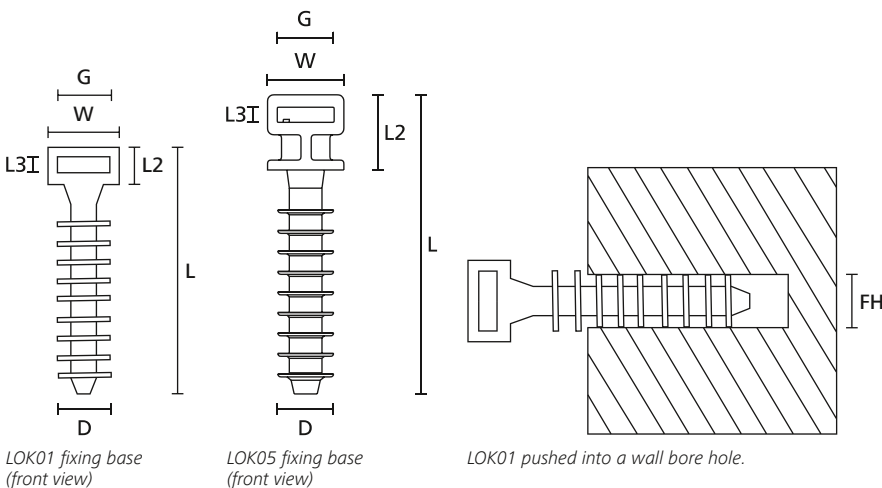- Elongated head of LOK05 for setting bundles at a distance from brickwork
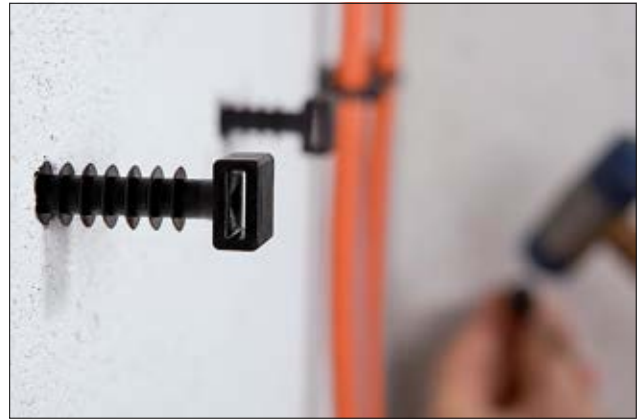
*LOK01 fixing bases for indoor and outdoor use.*

**Material specification please see page 26.**

**i** **The whole LOK-Series can ideally be combined with cable ties up to 9 mm cable tie width.**



*LOK01 fixing base (front view)*

*LOK05 fixing base (front view)*

*LOK01 pushed into a wall bore hole.*

| 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 | PA11 | Black (BK) | 151-01277 |
| | 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.
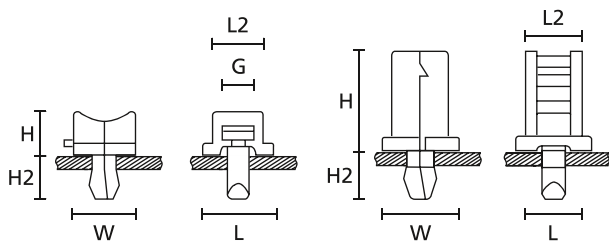
## Rivet Mount

### 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
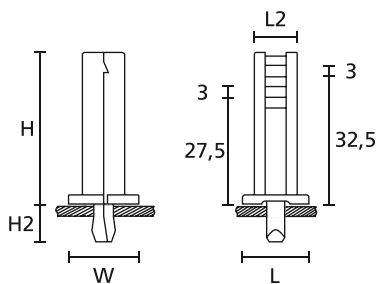- Easy insertion
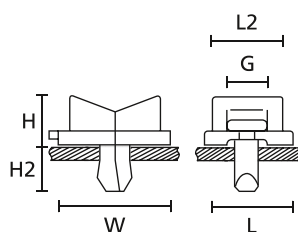- Firmly fixes wide variety of cable ties
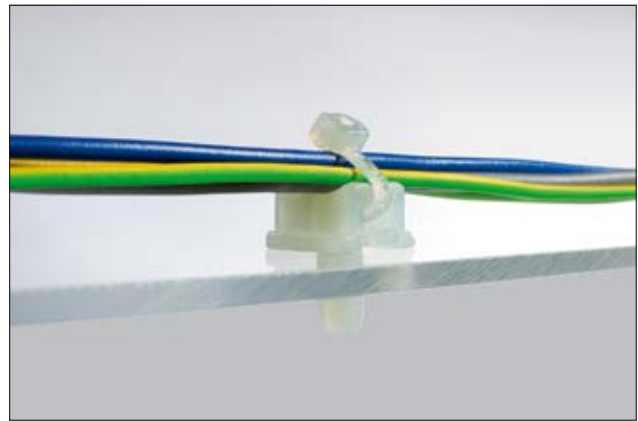


*TY5 Wedge Base Socket.*



*TY5K2 Rivet Mount*          *TY5K1 Rivet Mount*



*TY5K5 Rivet Mount*          *TY5K3/5 Rivet Mount*          *TY5K3 Rivet Mount*          *TY5K4 Rivet Mount*
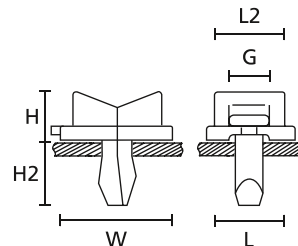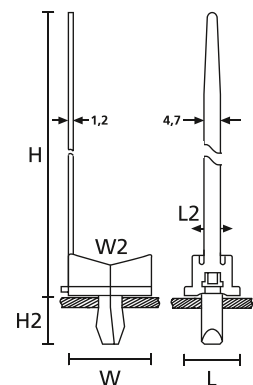
| TYPE | Width (W) | Length (L) | Length (L2) | Height (H) | Height (H2) | Strap Width max. (G) | Hole Ø (FH) | Panel Thickness | Material | Colour | Article-No. |
|------|-----------|------------|-------------|------------|-------------|----------------------|-------------|-----------------|----------|--------|-------------|
| **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

Products were developed especially for the automotive industry. Application in trunks, doors, wheel housing and dash panels. Parts are even used for optical reasons.

### 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 for example fir tree or arrowhead



*Blindplugs are available in different dimensions and materials.*

**Material specification please see page 26.**

| TYPE | Drawing | Hole Ø (FH) | Panel Thickness | Material | Colour | Article-No. |
|---|---|---|---|---|---|---|
| TRIM PLUG 5 | | 5.0 | 4.0 - 4.5 | PA66HIR | Natural (NA) | 151-00333 |
| PLUG11 | | 11.0 | 4.0 - 6.0 | PA66HIRHS | Natural (NA) | 151-00485 |
| | | 11.0 | 4.0 - 6.0 | 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 |
| BPFT6XXL | | 6.3 - 7.0 | 6.0 - 17.0 | PA66HIRHS | Natural (NA) | 151-01160 |
| 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.

## Snapper Hose Clips for Tubes and Harnesses
**SNP-Series**

SNP range may replace metal hose clamps. Snapper 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 a secure tensioning
- For higher operating temperatures: Glass Filled PA66

*SNP - Snapper Hose Clips range.*

*SNP - Snapper Hose Clip (front view)*

*SNP Clip (side view)*
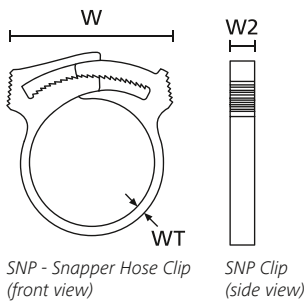
**Material specification please see page 26.**

| 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 | 8.40 | 11.70 | 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 |
| SNP2(E) | 8.7 | 10.0 | 17.00 | 21.00 | 6.0 | 1.50 | POM | Natural (NA) | 191-10029 |
| SNP2 | 9.3 | 10.5 | 12.20 | 17.60 | 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 | 13.30 | 19.20 | 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 | 18.40 | 28.50 | 5.9 | 1.70 | PA66GF13 | Black (BK) | 192-10070 |
| SNP6 | 11.7 | 13.3 | 14.70 | 21.60 | 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 | 16.70 | 24.90 | 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 | 15.6 | 18.3 | 21.00 | 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 | 19.90 | 30.80 | 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 | 19.9 | 23.6 | 24.00 | 35.50 | 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 | 24.40 | 36.10 | 5.9 | 1.70 | PA66GF13 | Black (BK) | 190-00090 |
| SNP20(E) | 22.7 | 24.7 | 20.00 | 26.00 | 6.0 | 1.80 | POM | Natural (NA) | 191-10209 |

All dimensions in mm. Subject to technical changes.

Date of issue: 10/2017

## Snapper Hose Clips for Tubes and Harnesses

**SNP-Series**

W

W2

WT
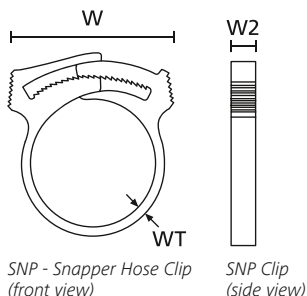
*SNP - Snapper Hose Clip (front view)*

*SNP Clip (side view)*

**i** | **SNP Snapper are also available on request in material PA66HS and PA46.**

**Snapper tools please see page 566.**

| TYPE | Bundle Ø min. | Bundle Ø max. | Width (W) min. | Width (W) max. | Width (W2) | Wall (WT) | Material | Colour | Article-No. |
|---|---|---|---|---|---|---|---|---|---|
| SNP22 | 23.7 | 27.4 | 23.90 | 37.70 | 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 | 26.50 | 39.40 | 7.3 | 1.70 | PA66GF13 | Black (BK) | 192-10240 |
| SNP24(E) | 26.5 | 28.6 | 20.00 | 26.00 | 6.0 | 2.00 | POM | Natural (NA) | 191-10249 |
| SNP28 | 28.8 | 33.2 | 26.00 | 42.10 | 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 | 27.30 | 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 | 53.80 | 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 | 35.60 | 57.50 | 7.3 | 1.80 | PA66GF13 | Black (BK) | 192-10380 |
| SNP42N | 44.5 | 52.2 | 35.70 | 59.80 | 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 | 7.3 | 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.
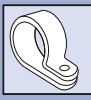
## Plastic Rivets

### TY-Series

These simple-to-use plastic rivets are ideal for improving productivity in the working environment, saving time and money over more conventional fixing methods - ideal for fixing 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.*

### Material specification please see page 26.



*Plastic Rivet TY3P1 / 8P1*

*Plastic Rivet TY8P2, 1st piece*

*TY8P2 pin, 2nd piece*
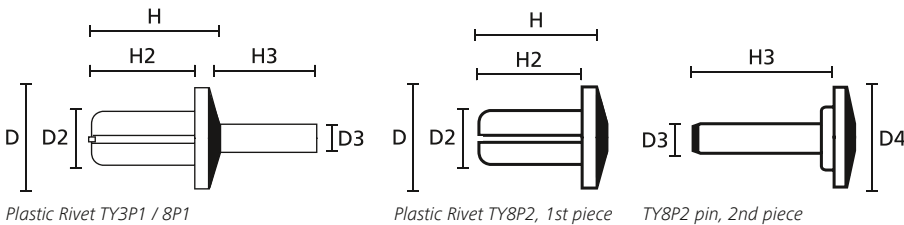
| TYPE | Height (H) | Height (H2) | Height (H3) | Ø (D) | Ø (D2) | Ø (D3) | Ø (D4) | Material | Colour | Article-No. |
|---|---|---|---|---|---|---|---|---|---|---|
| TY3P1 | 7.5 | 6.0 | 5.3 | 6.0 | 3.0 | 1.7 | - | PA66 | Black (BK) | 241-11310 |
| | 7.5 | 6.0 | 5.3 | 6.0 | 3.0 | 1.7 | - | PA66 | Natural (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.

# Custom-made solutions for the heavy duty sector – at a glance.



Our sample boards give you a quick overview of our comprehensive range of specially designed products for heavy duty applications.

Follow the QR code for further information.