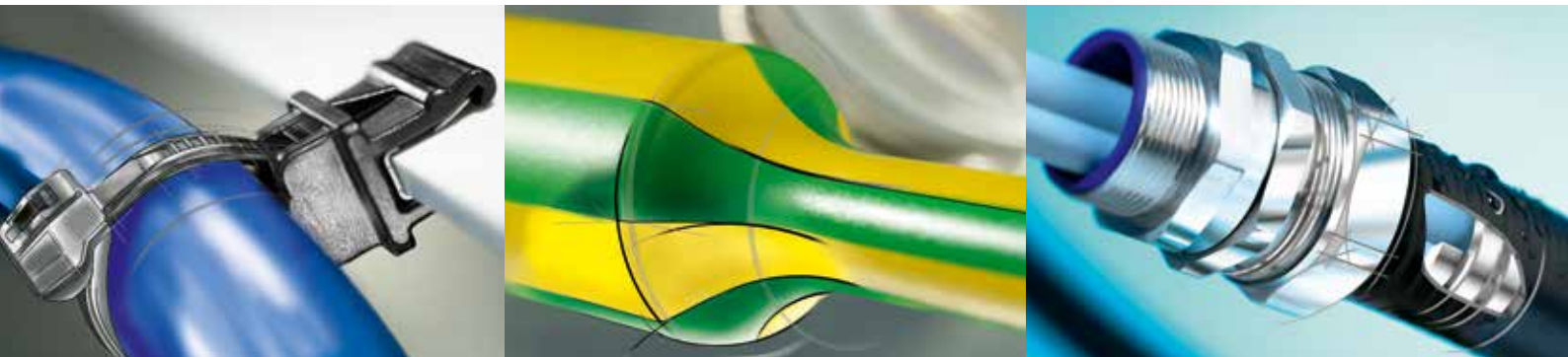


# HellermannTyton

## Product Catalogue






## 1. Cable Ties and Fixings

	1.0 Technical Information .....	16
	1.1 Cable Ties Inside Serrated .....	30
	1.2 Cable Ties Outside Serrated .....	43
	1.3 Cable Ties Without Serration .....	44
	1.4 Cable Ties, Stainless Steel.....	49
	1.5 Cable Ties With Fixing Elements.....	56
	1.6 Cable Tie Mounts .....	64
	1.7 Fixing Elements .....	80
	1.8 Clips, Clamps and Plugs.....	81
	1.9 Solar Solution.....	92

## 2. Insulation

	2.1 Heat Shrinkable Tubing.....	108
	2.2 Heat Shrinkable Moulded Shapes .....	117

## 3. Cable Protection Systems

	3.1 Protective Tubing and Spiral Binding .....	122
	3.2 Protective Sleeves .....	123
	3.3 Edge Protection.....	125

**Note: Some images and specifications may differ from what is included in this catalogue**  
**Note : Some products in this catalogue are non standard stocked items which will incur a longer lead time.**



## 4. Electrical Installation

	4.1 Electrical and Technical Tapes .....	128
	4.2 Wire Connectors .....	136
	4.3 Pre-Insulated Terminals .....	138
	4.4 Cast Resin Technology .....	152
	4.5 Gel Technology.....	165
	4.6 Accessories.....	177

## 5. Identification Systems

	5.1 Wire and Cable Markers .....	180
	5.2 RFID Cable Ties and Accessories.....	182
	5.3 Hazardous Area Identification.....	184
	5.4 Printers and Software .....	185

## 6. Application Tooling

	6.1 Application Tooling for Cable Ties .....	190
	6.2 Application Tooling for	
	Heat Shrinkable Tubing.....	194
	Braided Sleeves.....	195

## 7. Tools

	7.1 Crimp Tools .....	198
	7.2 Cable Cutters.....	201

# HellermannTyton

## Supporting you in Asia-Pacific

HellermannTyton Pte Ltd has been serving the Asia Pacific region since 1981. More than 450 people are employed within Asia-Pacific, focusing on providing high-quality services. A wide range of injection moulding products are manufactured at our sites - from standard cable ties to customised products for specific applications and tailor-made developments for our customers.



**HellermannTyton - Singapore (Regional HQ)**

- Incorporated:** July 1981
- Staff Strength:** 167
- Space area:** 4,000 square meters
- Machines:** 48 injection molding machines producing 4 billion pieces per annum
- Manufacturing focus:** Injection moulding, assembly operations, laser-welding

## Global Presence in 37 Countries

Perfect solutions for your cable needs



### About HellermannTyton

**HellermannTyton is a leading manufacturer and supplier of products for fastening, fixing, installing, connecting, insulating, protecting and identifying electrical cables and data network infrastructure. We also develop parts for customer-specific industrial applications.**

#### Experienced partner at your side

We are always close to you, talking to you to create solutions tailored precisely to your individual needs. Decision-making paths are shortened, and your knowledge is bundles with ours to achieve the very best results for each project.

#### Global Player & Local Strength

Since 1935, our mission is to provide innovative solutions around all cable management needs – with customer satisfaction as our first priority. Our portfolio includes more than 75,000 items. We operate 15 world-class manufacturing facilities and develop products at 11 locations. More than 4 500 employees work at HellermannTyton in 37 countries and offer you first-class service and advice – wherever you need it.

Our global brand is trusted by industry professionals around the world. The quality of HellermannTyton products is inspired by your cable management needs.










We are at your service:

<http://www.HellermannTyton.com.au>

# HellermannTyton Product Overview





## Cable Ties and Fixings

As one of the leading manufacturers of cable ties and fixing elements, HellermannTyton sets the standards in the production of high-quality cable ties and fixing elements. HellermannTyton provides system solutions which can meet practically any challenge. We do not just fulfil the most up to date requirements for cable ties and cable tie systems, but also constantly pushes back the boundaries of what is technologically possible with its fixing elements.

				
Cable Ties Inside Serrated	Cable Ties Outside Serrated	Cable Ties Without Serration	Cable Ties, Releasable	Cable Ties, Stainless Steel
				
Cable Ties With Fixing Elements	Cable Tie Mounts	Fixing Elements	Clips, Clamps and Plugs	Special Material Cable Ties

## Insulation

HellermannTyton focuses on matching all of its heat shrink tubing optimally in the jobs for which it will be used in developing, manufacturing and distributing its heat shrink tubing and heat shrink moulded shapes. We set the pace with each new piece of heat shrink tubing when it comes to providing protection against mechanical, environmental, chemical or electrical effects.

			
Heat Shrinkable Tubing	Heat Shrinkable Moulded Shapes	Heat Shrinkable Cable Repair Sleeves	Heat Shrinkable Tubing - Thick Wall Adhesive Lined





## Electrical Installation

HellermannTyton provides innovative products for electrical installations, for example with HelaCon wire connectors and HelaTape electrical tapes, which are available in a wide selection of sizes and colours. The cable installation system Cable Scout+ and the unique downlight mounting device range of SpotClip helps to work faster and easier while ensuring maximum quality and safety.

			
Electrical and Technical Tapes	Cable Lugs	Pre-Insulated Terminals	Cast Resin Technology


## Cable Protection Systems

HellermannTyton does not compromise when it comes to cable protection. Cable protection tubes, cable seals, cable protection grommets, flexible conduits, fittings and further cable protection accessories from HellermannTyton not only meet all current and normalised standards, the cable protection products from Tornesch and the other world-wide sites exceed them and provide the best possible cable protection in the market today.

			
Non-Metallic Conduit Systems	Metallic Conduit Systems	Wiring Duct and Accessories	Conduit System Accessories
			
Protective Tubing and Spiral Binding	Braided Sleeves	Edge Protection	Grommets

## Identification Systems

Durable and easy to work with industrial identification is becoming critical in modern working processes. HellermannTyton offer easy to integrate solutions for you to ensure both highly complicated label designs for serial production to simple one-off labels in a few clicks. Our 80+ year experience in the identification industry ensures that the materials to print on, our printers, and software suit your needs.

		
Wire and Cable Markers	Control Panel Labelling	Industrial Identification
		
Security Labelling	Hazardous Area Identification	Printers and Software

## Application Tooling

HellermannTyton provides over 60,000 solutions covering all aspects of cables – and as a logical outcome, the company also develops and sells optimum, user-friendly application tools, which make carrying out assembly jobs as simple and efficient as possible. The range of application tools ranges from manual cable tie guns to fully automatic cable tie systems for industrial serial production.

				
Automatic Cable Tying System	Cable Tie Application Tool (EVO 7)	Cable Tie Application Tool (EVO 9)	Metal Tie Application Tool (MK95ST)	Cable Tie Application Tool (MK20)

## HellermannTyton: Long-term experience and a variety of system solutions for your business

Our system solutions are perfectly suited to meeting the challenges of different industries around the world.



Automotive Industry



Aviation and Aerospace



Shipbuilding



Rail Transportation



Renewable Energies



Construction



Defence



Offshore Development



Agricultural Technology



Telecommunications



White Goods



Food and Beverage Industry



## A World of Solutions at your Fingertips

### Comprehensive product information online

Digital versions of all our publications, plus video clips of products, are available to you in the media centre on our website. You can also download product data in 2D and 3D formats from our product pages.



*Any screen, one experience: our online information is tailored to display correctly for the electronic device you use*

### Extensive portfolio of high-quality products

We make it as easy as possible for you to discover the perfect product that helps you solve your particular electrical installation or engineering challenge. Our printed publications guide you through our extensive portfolio.



*Something for everyone: our brochures focus on key products and product ranges designed for specific applications*

## Expertise worldwide

You will find your local contact here:

### Europe

 **HellermannTyton GmbH – Austria**  
Rennbahnweg 65  
1220 Vienna  
Tel.: +43 12 59 99 55-0  
Fax: +43 12 59 99 11  
Email: office@HellermannTyton.at  
www.HellermannTyton.at

 **HellermannTyton – Czech Republic**  
Email: officeCZ@HellermannTyton.at  
www.HellermannTyton.cz


 **HellermannTyton – Denmark**  
Industrivej 44A, 1.  
4000 Roskilde  
Tel.: +45 702 371 20  
Fax: +45 702 371 21  
Email: htdk@HellermannTyton.dk  
www.HellermannTyton.dk

 **HellermannTyton – Finland**  
Sähkötie 8  
01510 Vantaa  
Tel.: +358 9 8700 450  
Fax: +358 9 8700 4520  
Email: myynti@HellermannTyton.fi  
www.HellermannTyton.fi

 **HellermannTyton S.A.S. – France**  
2 rue des Hétries - CS 80543  
78197 Trappes Cedex  
Tel.: +33 1 30 13 80 00  
Fax: +33 1 30 13 80 60  
Email: info@HellermannTyton.fr  
www.HellermannTyton.fr


 **HellermannTyton GmbH – Germany**  
Großer Moorweg 45  
25436 Tornesch  
Tel.: +49 4122 701-0  
Fax: +49 4122 701-400  
Email: info@HellermannTyton.de  
www.HellermannTyton.de


 **HellermannTyton KFT – Hungary**  
Kisfaludy u. 13  
1044 Budapest  
Tel.: +36 1 369 4151  
Fax: +36 1 369 4151  
Email: officeHU@HellermannTyton.at  
www.HellermannTyton.hu


 **HellermannTyton Ltd – Ireland**  
Unit A5 Cherry Orchard  
Business Park  
Ballyfermot, Dublin 10  
Tel.: +353 1 626 8267  
Fax: +353 1 626 8022  
Email: sales@HellermannTyton.ie  
www.HellermannTyton.co.uk


 **HellermannTyton S.r.l. – Italy**  
Via Visco, 3/5  
35010 Limena (PD)  
Tel.: +39 049 767 870  
Fax: +39 049 767 985  
Email: info@HellermannTyton.it  
www.HellermannTyton.it

 **HellermannTyton B.V. – Belgium/Netherlands**  
Vanadiumweg 11-C  
3812 PX Amersfoort  
Tel.: +31 33 460 06 90  
Fax: +31 33 460 06 99  
Email (NL): info@HellermannTyton.nl  
Email (BE): info@HellermannTyton.be  
www.HellermannTyton.nl  
www.HellermannTyton.be

 **HellermannTyton AS – Norway**  
PO Box 240 Alnabru  
0614 Oslo  
Tel.: +47 23 17 47 00  
Fax: +47 22 97 09 70  
Email: firmapost@HellermannTyton.no  
www.HellermannTyton.no

 **HellermannTyton Sp. z o.o. – Poland**  
ul. Berdychów 57A  
62-410 Zagórzów  
Tel.: +48 63 2401 849  
Fax: +48 63 2401 848  
Email: info@HellermannTyton.pl  
www.HellermannTyton.pl

 **HellermannTyton – Romania**  
Email: officeRO@HellermannTyton.at  
www.HellermannTyton.at

 **OOO HellermannTyton – Russia**  
40/4, Pulkovskoe road  
BC Technopolis Pulkovo, office A 8081  
196158, St. Petersburg  
Tel.: +7 812 386 00 09  
Fax: +7 812 386 00 08  
Email: info@HellermannTyton.ru  
www.HellermannTyton.ru

 **HellermannTyton – Slovenia**  
Branch Office Ljubljana  
Podružnica Ljubljana, Leskovaška 6  
1000 Ljubljana  
Tel.: +386 1 433 70 56  
Fax: +386 1 433 63 21  
Email: officeSI@HellermannTyton.at  
www.HellermannTyton.si

 **HellermannTyton España s.l. – Spain/Portugal**  
Avda. de la Industria 37 2º 2  
28108 Alcobendas, Madrid  
Tel.: +34 91 661 2835  
Fax: +34 91 661 2368  
Email:  
HellermannTyton@HellermannTyton.es  
www.HellermannTyton.es


 **HellermannTyton AB – Sweden**  
Isafjordsgatan 5  
16440 Kista  
Tel.: +46 8 580 890 00  
Fax: +46 8 580 348 02  
Email: kundsupport@HellermannTyton.se  
www.HellermannTyton.se

 **HellermannTyton Engineering GmbH – Turkey**  
Saray Mah Dr. Adnan Büyükdüz Cad. No:4  
Akkom Office Park 2. Blok Kat: 10  
34768 Ümraniye-Istanbul  
Tel.: +90 216 687 03 40  
Fax: +90 216 250 32 32  
Email: info@HellermannTyton.com.tr  
www.HellermannTyton.com.tr

 **HellermannTyton Ltd – UK**  
William Prance Road  
Plymouth International Medical  
and Technology Park  
Plymouth, Devon PL6 5WR  
Tel.: +44 1752 701 261  
Fax: +44 1752 790 058  
Email: info@HellermannTyton.co.uk  
www.HellermannTyton.co.uk

 **HellermannTyton Ltd – UK**  
Sharston Green Business Park  
1 Robeson Way  
Altrincham Road, Wythenshawe  
Manchester M22 4TY  
Tel.: +44 161 947 2200  
Fax: +44 161 947 2220  
Email: sales@HellermannTyton.co.uk  
www.HellermannTyton.co.uk

 **HellermannTyton Ltd – UK**  
Cley Road, Kingswood Lakeside  
Cannock, Staffordshire  
WS11 8AA  
Tel.: 01543-728282  
Freephone line: 0808-1642204  
Fax: 01543-728284  
Email: info@HellermannTyton.co.uk  
www.HellermannTyton.co.uk


 **HellermannTyton Data Ltd – UK**  
Cornwell Business Park  
43-45 Salthouse Road, Brackmills  
Northampton NN4 7EX  
Tel.: +44 1604 707 420  
Fax: +44 1604 705 454  
Email: sales@htdata.co.uk  
www.htdata.co.uk


### Middle East

 **HellermannTyton – UAE**  
Email: info@HellermannTyton.ae  
www.HellermannTyton.ae

### North America


 **HellermannTyton – Canada**  
Tel.: +1 905 726 1221  
Fax: +1 905 726 8538  
Email: sales@HellermannTyton.ca  
www.HellermannTyton.ca

 **HellermannTyton – Mexico**  
Tel.: +52 333 133 9880  
Fax: +52 333 133 9861  
Email: info@HellermannTyton.com.mx  
www.HellermannTyton.com


 **HellermannTyton – USA**  
Tel.: +1 414 355 1130  
Fax: +1 414 355 7341  
Email: corp@htamericas.com  
www.HellermannTyton.com

### South America

 **HellermannTyton – Argentina**  
Tel.: +54 11 4754 5400  
Fax: +54 11 4752 0374  
Email: ventas@HellermannTyton.com.ar  
www.HellermannTyton.com.ar


 **HellermannTyton – Brazil**  
Tel.: +55 11 4815 9000  
Fax: +55 11 4815 9030  
Email: vendas@HellermannTyton.com.br  
www.HellermannTyton.com.br


### Asia-Pacific


 **HellermannTyton – Australia**  
Tel.: +61 2 9540 3955  
Fax: +61 2 9540 3457  
Email: cservice@HellermannTyton.com.au  
www.HellermannTyton.com.au

 **HellermannTyton – China**  
Tel.: +86 510 8528 2536  
Fax: +86 510 8528 2731  
Email: cservice@HellermannTyton.com.cn  
www.HellermannTyton.com.cn


 **HellermannTyton – Hong Kong**  
Tel.: +852 2832 9090  
Fax: +852 2832 9381  
Email: cservice@HellermannTyton.com.hk  
www.HellermannTyton.com.sg


 **HellermannTyton – India**  
Tel.: +91 120 413 3384  
Email: info@HellermannTyton.co.in  
www.HellermannTyton.co.in

 **HellermannTyton – Japan**  
Tel.: +81 3 5790 3111  
Fax: +81 3 5790 3112  
Email: mkt@hellermanntyton.co.jp  
www.HellermannTyton.co.jp

 **HellermannTyton – Republic of Korea**  
Tel.: +82 32 833 8012  
Fax: +82 32 833 8013  
Email: cservice@HellermannTyton.co.kr  
www.HellermannTyton.co.kr

 **HellermannTyton – Philippines**  
Tel.: +63 2 752 6551  
Fax: +63 2 752 6553  
Email: cservice@HellermannTyton.com.ph  
www.HellermannTyton.com.ph

 **HellermannTyton – Singapore**  
Tel.: +65 6 852 8585  
Fax: +65 6 756 6798  
Email: cservice@HellermannTyton.sg  
www.HellermannTyton.com.sg

 **HellermannTyton – Thailand**  
Tel.: +662 237 6702 / 266 0624  
Fax: +662 266 8664  
Email: cservice@HellermannTyton.co.th  
www.HellermannTyton.com.sg

### Africa

 **HellermannTyton – South Africa**  
Tel.: +27 11 879 6600  
Fax: +27 11 879 6603  
Email: jhb.sales@Hellermann.co.za  
www.HellermannTyton.co.za

## HellermannTyton is your partner for close, intensive on-site cooperation

We meet growing global challenges by being close to our clients. HellermannTyton speaks your language when it comes to devising new solutions and optimising processes. We want you to be able to provide your customers with even better results.



### Your local contact person

#### Sales

---

Tel: +61 2 9540 3955

Toll Free: 1800 815 018

[cservice@HellermannTyton.com.au](mailto:cservice@HellermannTyton.com.au)

---

#### Address

---

Unit 2, 12-14 Mangrove Lane

Taren Point

NSW 2229

[www.HellermannTyton.com.au](http://www.HellermannTyton.com.au)

---

#### Regional Contacts

---

NSW - North: 0437 077 080

NSW - South: 0402 978 655

VIC - TAS: 0408 380 177

QLD: 0400 686 532

SA/WA/NT: 0427 435 102

---

Stay in touch with us!















**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.



	1.0 Technical Information	16
	1.1 Cable Ties Inside Serrated	30
	1.2 Cable Ties Outside Serrated	43
	1.3 Cable Ties Without Serration	44
	1.4 Cable Ties, Stainless Steel	49
	1.5 Cable Ties With Fixing Elements	56
	1.6 Cable Tie Mounts	64
	1.7 Fixing Elements	80
	1.8 Clips, Clamps and Plugs	81
	1.9 Solar Solution	92



## 1.0 Technical Information

Material Specification Overview	16
Properties of Polyamide PA66	18
Properties of Polyamide PA66W, PA12, PA46	19
Properties of Polyamide PEEK and E/TFE (Tefzel®)	20
Chemical resistance of various plastics	21
Flammability Test According UL94	22
Conformity to IEC 62275 standards for Cable Ties	24
Determination of Minimum Tensile Strength	25
Locking technologies for cable ties	26
Optimum Storage Conditions for Cable Ties	27

## 1.1 Cable Ties Inside Serrated

<b>T-Series</b>		
for outdoor use, black	PA66, UV-resistant	30
standard, natural	PA66	31
standard, coloured	PA66	33
for higher chemical resistance and up to +170 °C	(E/TFE)	35
up to +105 °C	PA66, heat stabilised	36
<b>In-between size to T-Series</b>		
natural and black	LK-series	38
<b>For Parallel Routing</b>		
	DH-Series	39
<b>For Food Industry</b>		
	MCT-Series	40
detectable	MCTS-Series	41
	MCT-/MCTS-Series, PPMP	42
detectable, releasable	MCT-Series	40
<b>Locked by Glass Fibre Pin</b>		
With kickdown lever	REL-Series	43

## 1.2 Cable Ties Outside Serrated

<b>For thin-walled bundles</b>		
	OS-Series	44

## 1.3 Cable Ties Without Serration

<b>Locked by Glass Fibre Pin</b>		
1-piece	KR-Series	45
ultrasonic welded	KR-Series	46
endless	KR-Series	46

## With quick release mechanism

SpeedyTie	47
-----------	----

## 1.4 Cable Ties, Stainless Steel

### Technical Information

Short Circuit Test (SCT)	48
--------------------------	----

### With Ball-Lock

	SST-Series SS316	49
Coated	SST-Series SS316	50
Coloured	SST-Series SS316	51
	MBT-Series SS316	52

### Protective Channel for Stainless Steel Ties

LFPC-Series	53
-------------	----

## 1.5 Cable Ties With Fixing Elements

### Product Selection

Consulting Assistant for Fixing Ties	54
--------------------------------------	----

### 1-Piece Fixing Ties

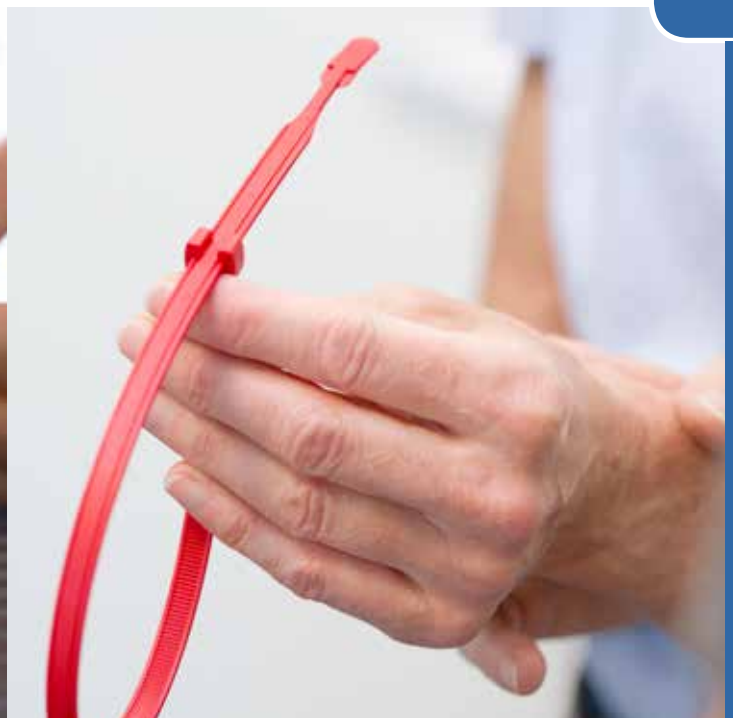
With mounting head	for screws	62
For edges		56

### 2-Piece Fixing Ties

	1.0 - 3.0 mm, top fixing	58
	1.0 - 3.0 mm, side fixing	59
For edges	3.0 - 6.0 mm, top fixing	60
	3.0 - 6.0 mm, side fixing	60
With pipe clip	twistable 360°	61
	twistable 90°	61

### For Single Hole Application

Chasis Ties (BH-T-Ties)	63
-------------------------	----



## 1.6 Cable Tie Mounts

### Cable Tie Mounts with Special Adhesive

self adhesive, for round and angled surfaces FlexTack-Series FMB 64

Screwable, self adhesive SolidTack-Series MB 65

### Flat Ribbon Cable Mount

Screwable, self-adhesive SolidTack-Series FKH 66

### Square-Cut

screw-fixing, self-adhesive MB-Series 67

screw-fixing, detectable MCMB-Series 68

### Rectangled

Screwable TY-Series 69

Screwable, self adhesive TY-Series 69

### Paste Adhesive Mount

PMB5 70

### Round Design

self-adhesive RA-Series 71

### Overlapping curved design

Screwable LKC-, NY-Series 72

### Curved design

Screwable CTM-, KR-, MCKR-Series 73

### For limited space

Screwable CTAM-Series 74

### Harness clips for heavy duty applications

Standard torque mounts 75

Medium torque mounts 75

For screws or studs High torque mounts (metal bushing) 76

High torque double mounts (metal bushing) 76

for parallel separation 77

### Fixing elements

For parallel routing DSWS4, twistable 78

DSWS5, twistable 79

## 1.7 Fixing Elements

### Fixing base

LOK-series 80

## 1.8 Clips, Clamps and Plugs

### Plastic P-Clips

HP-Series 81

### Snapper Hose Clips

for tubes and harnesses SNP-Series 82

### Heavy Duty Harness Clips

Beam Clamps 86

### Ratchet P-Clamp

Screwable 90

## 1.9 Solar Solution

### Fixing base

Metal edge clips 92

for edges 90-degree metal edge clip 92

EdgeClip Family 93

### GalvaLok Series

for outdoor use PA11 96

with release mechanism PA11 97

with arrowhead and wings releasable, for round holes 97

2-piece fixing ties edge clip 98

push mount 98

endless strap EL-TY 99

POMUV solar ties 100

inside serrated PA12 solar ties 101

PVDF solar ties 102



## Material Specification Overview

MATERIAL	Material Shortcut	Operating Temperature	Colour**	Flammability	Material Properties*	Material Specifications
Aluminium-alloy	AL	-40 °C to +180 °C	Natural (NA)		<ul style="list-style-type: none"> <li>Corrosion resistant</li> <li>Antimagnetic</li> </ul>	RoHS
Chloroprene	CR	-20 °C to +80 °C	Black (BK)		<ul style="list-style-type: none"> <li>Weather-resistant</li> <li>High yield strength</li> </ul>	RoHS
Ethylene Tetrafluoroethylene (Tefzel®)	E/TFE	-80 °C to +170 °C	Blue (BU)	UL 94 V0	<ul style="list-style-type: none"> <li>Resistance to radioactivity</li> <li>UV-resistant, not moisture sensitive</li> <li>Good chemical resistance to: acids, bases, oxidizing agents</li> </ul>	RoHS
Polyacetal	POM	-40 °C to +90 °C, (+110 °C, 500 h)	Natural (NA)	UL 94 HB	<ul style="list-style-type: none"> <li>Limited brittleness sensitivity</li> <li>Flexible at low temperature</li> <li>Not moisture sensitive</li> <li>Robust on impacts</li> </ul>	RoHS
Polyamide 11	PA11	-40 °C to +85 °C, (+105 °C, 500 h)	Black (BK)	UL 94 HB	<ul style="list-style-type: none"> <li>Bio-plastic, derived from vegetable oil</li> <li>Strong impact resistance at low temperature</li> <li>Very low moisture absorption</li> <li>Weather-resistant</li> <li>Good chemical resistance</li> </ul>	HF RoHS
Polyamide 12	PA12	-40 °C to +85 °C, (+105 °C, 500 h)	Black (BK)	UL 94 HB	<ul style="list-style-type: none"> <li>Good chemical resistance to: acids, bases, oxidizing agents</li> <li>UV-resistant</li> </ul>	HF RoHS
Polyamide 4.6	PA46	-40 °C to +150 °C (5000 h), +195 °C (500 h)	Natural (NA), Grey (GY)	UL 94 V2	<ul style="list-style-type: none"> <li>Resistance to high temperatures</li> <li>Very moisture sensitive</li> <li>Low smoke sensitiv</li> </ul>	HF LFH RoHS
Polyamide 6	PA6	-40 °C to +80 °C	Black (BK)	UL 94 V2	<ul style="list-style-type: none"> <li>High yield strength</li> </ul>	RoHS
Polyamide 6, high impact modified	PA6HIR	-40 °C to +80 °C	Black (BK)	UL 94 HB	<ul style="list-style-type: none"> <li>Limited brittleness sensitivity</li> <li>Higher flexibility at low temperature</li> </ul>	RoHS
Polyamide 6.6	PA66	-40 °C to +85 °C, (+105 °C, 500 h)	Black (BK), Natural (NA)	UL 94 V2	<ul style="list-style-type: none"> <li>High yield strength</li> </ul>	HF RoHS
Polyamide 6.6, glass-fibre reinforced	PA66GF13, PA66GF15	-40 °C to +105 °C	Black (BK)	UL 94 HB	<ul style="list-style-type: none"> <li>Good resistance to: lubricants, vehicle fuel, salt water and a lot of solvent</li> </ul>	HF RoHS
Polyamide 6.6, heat and UV stabilised	PA66HSW	-40 °C to +105 °C	Black (BK)	UL 94 V2	<ul style="list-style-type: none"> <li>High yield strength</li> <li>Modified elevated max. temperature</li> <li>UV-resistant</li> </ul>	HF RoHS
Polyamide 6.6, heat stabilised	PA66HS	-40 °C to +105 °C	Black (BK), Natural (NA)	UL 94 V2	<ul style="list-style-type: none"> <li>High yield strength</li> <li>Modified elevated max. temperature</li> </ul>	HF RoHS
Polyamide 6.6, high impact modified	PA66HIR	-40 °C to +80 °C, (+105 °C, 500 h)	Black (BK)	UL 94 HB	<ul style="list-style-type: none"> <li>Limited brittleness sensitivity</li> <li>Higher flexibility at low temperature</li> </ul>	RoHS
Polyamide 6.6, high impact modified, heat and UV stabilised	PA66HIRHSW	-40 °C to +110 °C	Black (BK)	UL 94 HB	<ul style="list-style-type: none"> <li>Limited brittleness sensitivity</li> <li>Higher flexibility at low temperature</li> <li>Modified elevated max. temperature</li> <li>High yield strength, UV-resistant</li> </ul>	RoHS
Polyamide 6.6, high impact modified, heat stabilised	PA66HIRHS	-40 °C to +105 °C	Black (BK)	UL 94 HB	<ul style="list-style-type: none"> <li>Limited brittleness sensitivity</li> <li>Higher flexibility at low temperature</li> <li>Modified elevated max. temperature</li> </ul>	RoHS
Polyamide 6.6, high impact modified, scan black	PA66HIR(S)	-40 °C to +80 °C, (+105 °C, 500 h)	Black (BK)	UL 94 HB	<ul style="list-style-type: none"> <li>Limited brittleness sensitivity</li> <li>Higher flexibility at low temperature</li> </ul>	RoHS
Polyamide 6.6, UV-resistant	PA66W	-40 °C to +85 °C, (+105 °C, 500 h)	Black (BK)	UL 94 V2	<ul style="list-style-type: none"> <li>High yield strength</li> <li>UV-resistant</li> </ul>	HF RoHS



MATERIAL	Material Shortcut	Operating Temperature	Colour**	Flammability	Material Properties*	Material Specifications
<b>Polyamide 6.6</b> , with metal particles	PA66MP	-40 °C to +85 °C, (+105 °C, 500 h)	Blue (BU)	UL 94 HB	<ul style="list-style-type: none"> <li>High yield strength</li> <li>Metal and X-Ray detectable</li> </ul>	<b>HF</b> <b>RoHS</b>
<b>Polyamide 6.6</b> , with metal particles	PA66MP+	-40 °C to +85 °C	Blue (BU)	not flame retardant	<ul style="list-style-type: none"> <li>High yield strength</li> <li>Metal and x-ray detectable</li> </ul>	<b>HF</b> <b>RoHS</b>
<b>Polyamide 6.6 V0</b>	PA66V0	-40 °C to +85 °C	White (WH)	UL 94 V0	<ul style="list-style-type: none"> <li>High yield strength</li> <li>Low smoke emission</li> </ul>	<b>HF</b> <b>LFH</b> <b>RoHS</b>
<b>Polyester</b>	SP	-50 °C to +150 °C	Black (BK)	halogen free	<ul style="list-style-type: none"> <li>UV-resistant</li> <li>Good chemical resistance to: most acids, alkalis and oils</li> </ul>	<b>HF</b> <b>LFH</b> <b>RoHS</b>
<b>Polyetheretherketone</b>	PEEK	-55 °C to +240 °C	Beige (BGE)	UL 94 V0	<ul style="list-style-type: none"> <li>Resistance to radioactivity</li> <li>Not moisture sensitive</li> <li>Good chemical resistance to: acids, bases, oxidizing agents</li> </ul>	<b>HF</b> <b>LFH</b> <b>RoHS</b>
<b>Polyethylene</b>	PE	-40 °C to +50 °C	Black (BK), Grey (GY)	UL 94 HB	<ul style="list-style-type: none"> <li>Low moisture absorption</li> <li>Good chemical resistance to: most acids, alcohol and oils</li> </ul>	<b>HF</b> <b>RoHS</b>
<b>Polyolefin</b>	PO	-40 °C to +90 °C	Black (BK)	UL 94 V0	<ul style="list-style-type: none"> <li>Low smoke emissions</li> </ul>	<b>HF</b> <b>LFH</b> <b>RoHS</b>
<b>Polypropylene</b>	PP	-40 °C to +115 °C	Black (BK), Natural (NA)	UL 94 HB	<ul style="list-style-type: none"> <li>Floats in water</li> <li>Moderate yield strength</li> <li>Good chemical resistance to: organic acids</li> </ul>	<b>HF</b> <b>RoHS</b>
<b>Polypropylene, Ethylene-Propylene-Dien-Terpolymere-rubber</b> free of Nitrosamine	PP, EPDM	-20 °C to +95 °C	Black (BK)	UL 94 HB	<ul style="list-style-type: none"> <li>Good resistance to high temperatures</li> <li>Good chemical and abrasion resistance</li> </ul>	<b>HF</b> <b>RoHS</b>
<b>Polypropylene</b> with metal particles	PPMP	-40 °C to +115 °C	Blue (BU)	UL 94 HB	<ul style="list-style-type: none"> <li>Metal and X-Ray detectable</li> <li>Heat resistant</li> <li>Moderate yield strength</li> <li>Good chemical resistance</li> </ul>	<b>RoHS</b>
<b>Polypropylene</b> with metal particles	PPMP+	-40 °C to +85 °C	Blue (BU)	not flame retardant	<ul style="list-style-type: none"> <li>High yield strength</li> <li>Metal and x-ray detectable</li> </ul>	<b>HF</b> <b>RoHS</b>
<b>Polyvinylchloride</b>	PVC	-10 °C to +70 °C	Black (BK), Natural (NA)	UL 94 V0	<ul style="list-style-type: none"> <li>Low moisture absorption</li> <li>Good chemical resistance to: acids, ethanol and oil</li> </ul>	<b>RoHS</b>
<b>Stainless Steel</b>	SS304, SS316	-80 °C to +538 °C	Natural (NA)	non-burning	<ul style="list-style-type: none"> <li>Corrosion resistant</li> <li>Antimagnetic</li> <li>Weather resistant</li> <li>Outstanding chemical resistance</li> </ul>	<b>HF</b> <b>LFH</b> <b>RoHS</b>
<b>Thermoplastic Polyurethane</b>	TPU	-40 °C to +85 °C	Black (BK)	UL 94 HB	<ul style="list-style-type: none"> <li>High elastic</li> <li>Good chemical resistance to: acids, bases and oxidizing agents</li> </ul>	<b>HF</b> <b>RoHS</b>

Tefzel® is a registered trademark of DuPont. General linguistic usage for cable ties made from raw material E/TFE is Tefzel®-Tie. In addition to Tefzel® from DuPont HellermannTyton is also using equivalent E/TFE raw material from other suppliers. \*These details are only rough guide values. They should 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)

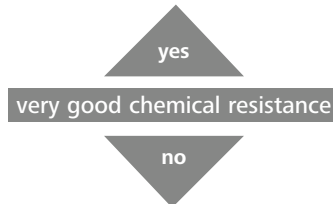
**HF = Halogenfree**

**LFH = Limited Fire Hazard**

**RoHS = Restriction of Hazardous Substances**

## Indoor applications

Standard temperature up to +85 °C		Heat stabilised up to +105 °C		High temperature +150 °C and higher	
Cable tie series and length	Page	Cable tie series and length	Page	Cable tie series and length	Page
SOFTFIX-Family TPU, BK Length 180–880 mm	81	T-Series PP, NA, BK Length 100–390 mm	52	PEEK-Series, BGE Length 145–250 mm	69
SRT-Series Industrial quantities TPU, BK Length 180–880 mm	81				



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

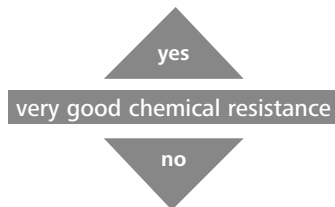
Heat stabilised up to +105 °C				High temperature +150 °C and higher	
Cable tie series and length	Page	Cable tie series and length	Page	Cable tie series and length	Page
CTT-Series PA66HS, BK Length 101.6–205 mm	62	OS-Series PA66HS, NA, BK Length 100–385 mm	68	DH-Series PA46, GY Length 210 mm	63
DH-Series PA66HS, BK Length 210–395 mm	63	Q-Series PA66HS, NA, BK Length 105–520 mm	60	T-Series PA46, NA, GY Length 100–390 mm	50
KR-Series PA66HS, NA, BK Length 210–426 mm	74	RLT-Series bis 670 N PA66HS, NA Length 770 mm	77	V-Series PA46, GY Length 102.5–150 mm	70
LK-Series PA66HS, BK, NA Length 270–535 mm	54	T-Series PA66HS, NA, BK Length 100–1,095 mm	47		
LR55-Series PA66HS, BK Length 195 mm	80	V-Series PA66HS, NA 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)

## Outdoor applications

Standard temperature up to +85 °C	
Cable tie series and length	Page
EL-TY-Series POM, BK Length 15.8–53.3 mm	76
Robusto-Series PA11, BK Length 123–355 mm	73
RT250, BK Length: 565,3 mm	74
T-Series PA11, BK Length 100–200 mm	53

High temperature +150 °C and higher	
Cable tie series and length	Page
MBT-FC-Series SS316, BK Length 362–1,245 mm	90
MBT-Series SS304, ML Length 127–838 mm	86
MST-Series SS304, ML Length 207–700 mm	93
MBT-Series SS316, ML Length 127–838 mm	87, 88
MBTXHD-/MBTUHD-Series SS316, ML Length 681–1,524 mm	89
MLT-Series, MLTC-Series SS316, ML, BK Length 230–630 mm	94
T-Series E/TFE, BU Length 100–387 mm	51

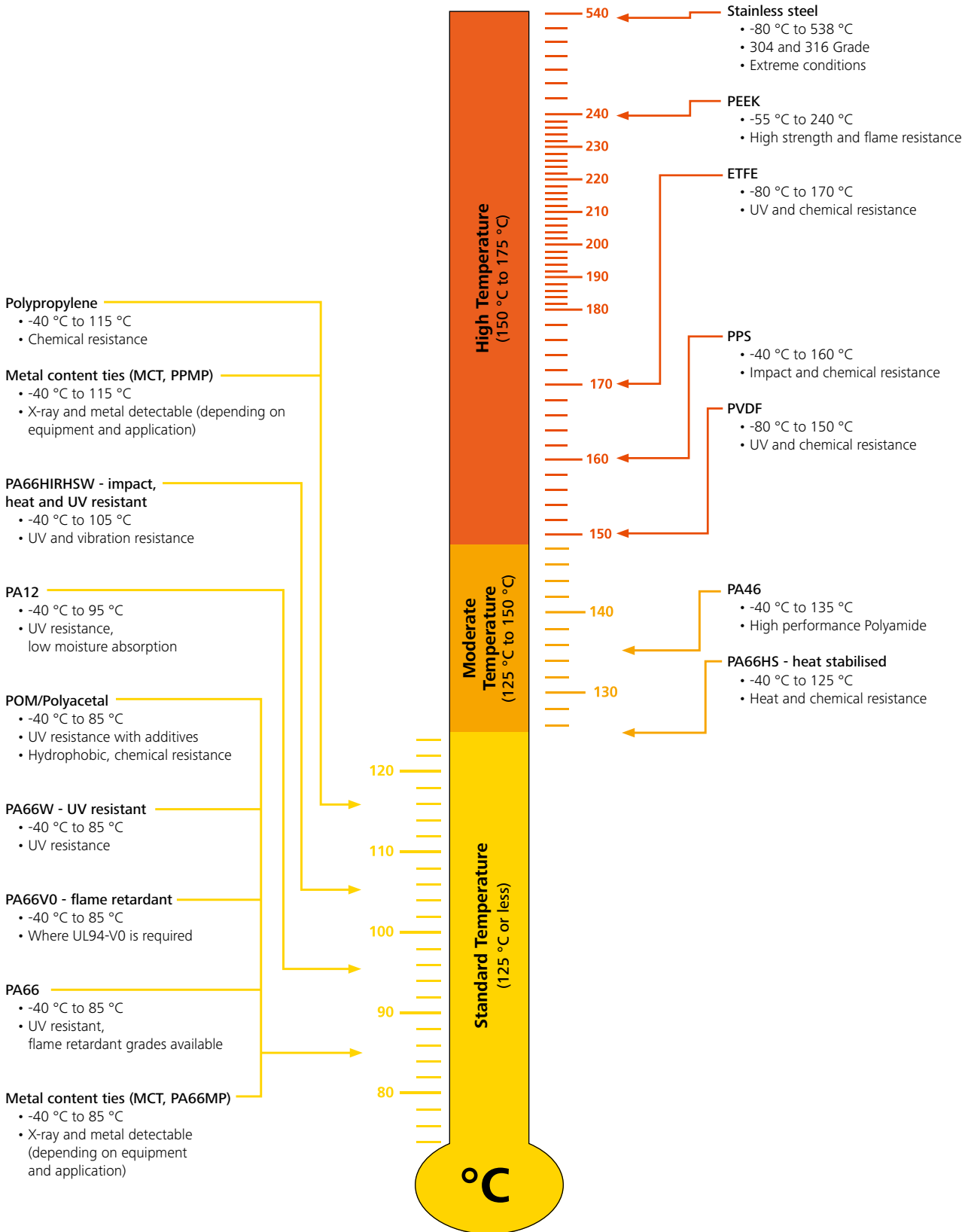


Standard temperature up to +85 °C	
Cable tie series and length	Page
DH-Series PA66W, BK Length 210–305 mm	63
KR-Series PA66W, BK Length 210–360 mm	74
LK-Series PA66W, BK Length 270–535 mm	54
Q-Series PA66W, BK Length 105–520 mm	59
REL-Series PA66W, BK Length 250 mm	79
RLT-Series to 670 N PA66W, BK Length 770 mm	77
T-Series PA66W, BK Length 100–1,325 mm	44
X-Series PA66W, BK Length 100–715 mm	61

Heat stabilised up to +105 °C	
Cable tie series and length	Page
RPE-Series PA66HSW, BK 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



## 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.



**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).**

#### 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 particular 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

## 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

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

Tefzel® is a registered trademark of DuPont.

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



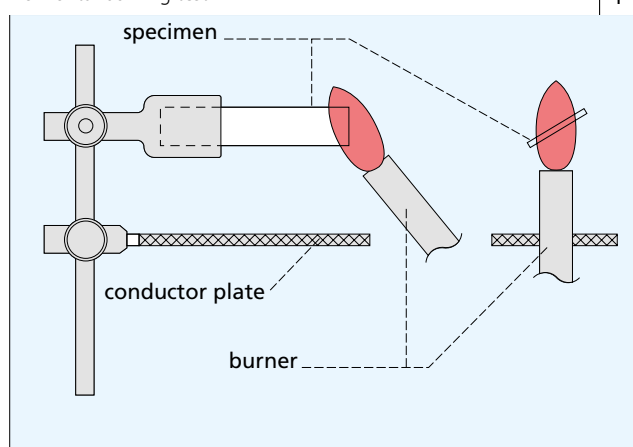
## What does flammability UL94 mean?

UL is the shortcut for Underwriters Laboratories. This is an independent organisation in the United States to control and certificate product safety. Beside a lot of product standards UL also specified the flammability test UL94 for plastic materials. UL94 is a material burning test done on 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



#### Test criteria:

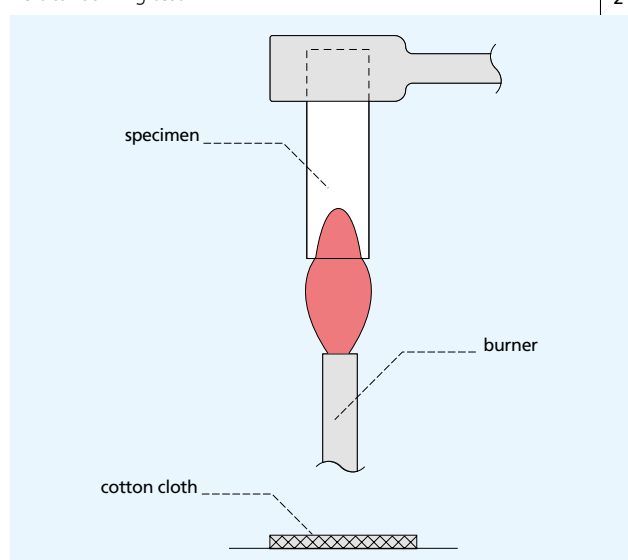
- burning rate of specimen in mm/min.

#### Classification:

- according to HB

### UL94 V:

Vertical burning test



#### Test criteria:

- afterflame time of specimen
- drip of flaming particles

#### Classification:

- according to V0, V1 or V2

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

Classification	Horizontal Test UL94		Vertical Test UL94		
	HB	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-Series, uncoated in SS304 material grade



**Material specification please see page 22.**

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



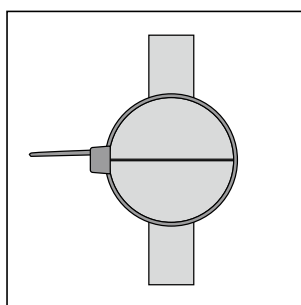
**Profit from the knowledge and experience of HellermannTyton and the high-quality of our cable management solutions for your particular industry and market.**

## Determination of minimum tensile strength

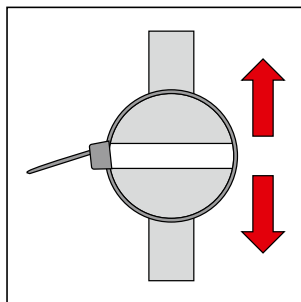
The minimum tensile strength is a critical selection criteria for cable ties. It expresses how much loading a cable tie can bear.

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

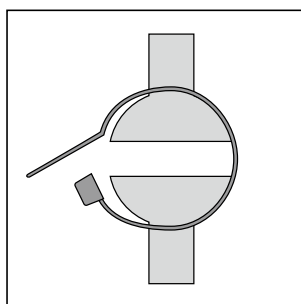
- Stabilisation to achieve equilibrium moisture content
- Set-up of the tensile test fixture
- Application of the tie on a split mandrel fixture
- Test speed



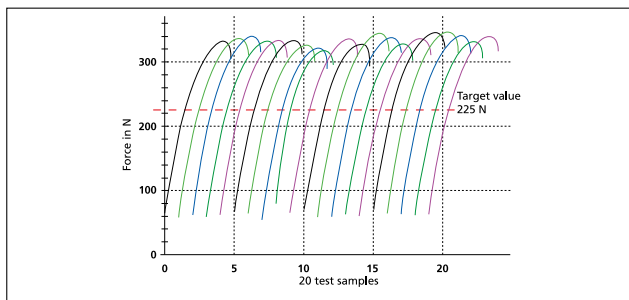
The cable tie is fixed onto a split mandrel fixture with the suitable cable tie application tool.



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:

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

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

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

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

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

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

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

Therefore, a T50R cable tie with a minimum tensile strength of 225 N (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:

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

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

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

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

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

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

$$\frac{N}{N} = \text{Minimum Loop Tensile Strength for Cable Ties (Newton)}$$

## 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.

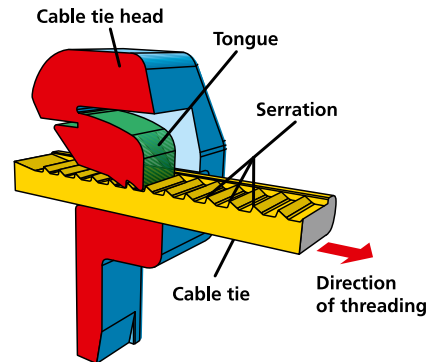
### MBT series of cable ties

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.

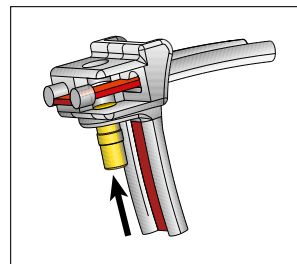
### Locking technology

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.

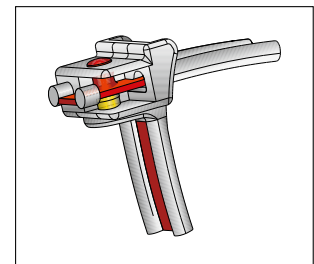
This cable tie is not suitable for rigid objects. Retraction of the ball-bearing (see drawing) is required into the small end of the wedged shaped housing to allow for a positive locking of the strap and also having a flush cut off at the end of the strap. This retraction cannot be ensured when bundling 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.



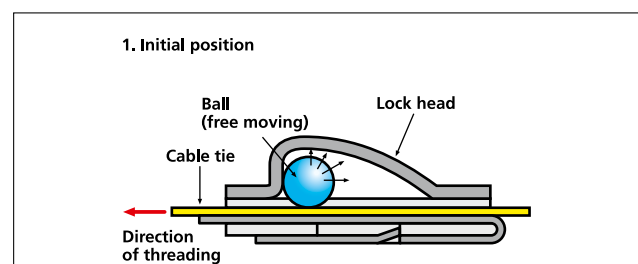
Locking technology of an outside serrated tie.



The unlocked head of a KR-tie.



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



#### 1. Initial position







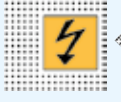
Ball (free moving)  
Lock head  
Cable tie  
Direction of threading





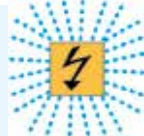




#### 2. Ball locks cable tie by wedging.

Ball (wedged)  
Rebound  
Lock head  
Cable tie  
Direction of threading

## Enclosures

### IP Ratings

First numeral	
Protection against solid bodies	
<b>IP</b>	
<b>0</b>	 No protection
<b>1</b>	 Protected against solid bodies greater than 50 mm (e.g. involuntary hand contact)
<b>2</b>	 Protected against solid bodies greater than 12 mm (e.g. fingers)
<b>3</b>	 Protected against solid bodies greater than 2.5 mm (e.g. tools, cables...)
<b>4</b>	 Protected against solid bodies greater than 1 mm (e.g.: small tools, fine cables...)
<b>5</b>	 Protected against dust (no harmful deposits)
<b>6</b>	 Fully protected against dust

Second numeral	
Protection against liquids	
<b>IP</b>	
<b>0</b>	 No protection
<b>1</b>	 Protected against dripping water (condensation)
<b>2</b>	 Protected against falling water up to 15° from the vertical
<b>3</b>	 Protected against rain water up to 60° from the vertical
<b>4</b>	 Protected against water splashing in all directions.
<b>5</b>	 Protected against water jets from all directions
<b>6</b>	 Protected against wave-like water jets from all directions
<b>7</b>	 Protected against immersion
<b>8</b>	 Protected against the effects of prolonged immersion under water



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

### T-Series in PA66W black

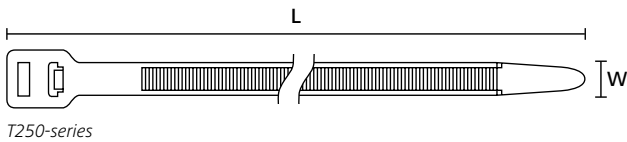
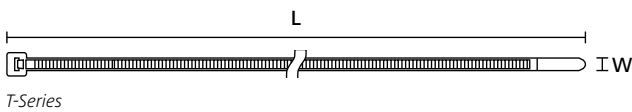
T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for almost any type of application.

#### Features and Benefits

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



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



**Material specification  
please see page 16.**

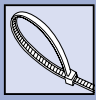
TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T18R	100.0	2.5	22.0	80	PA66W	Black (BK)	100 pcs.	2,6	111-01960
T18I	145.0	2.5	35.0	80	PA66W	Black (BK)	100 pcs.	2,6	111-02360
T18L	205.0	2.5	55.0	80	PA66W	Black (BK)	100 pcs.	2,6	111-02160
T25L	240.0	2.8	65.0	110	PA66W	Black (BK)	100 pcs.	2,6	111-02560
T30R	150.0	3.5	35.0	135	PA66W	Black (BK)	100 pcs.	2,6	111-03260
T30L	198.0	3.5	50.0	135	PA66W	Black (BK)	100 pcs.	2,6	111-00947
T30LL	290.0	3.5	80.0	135	PA66W	Black (BK)	100 pcs.	2,6	111-03580
T50R	200.0	4.6	50.0	225	PA66W	Black (BK)	100 pcs.	2,6,10	111-04860
T50I	300.0	4.6	85.0	225	PA66W	Black (BK)	100 pcs.	2,6,10	111-00952
T50L	390.0	4.6	110.0	225	PA66W	Black (BK)	100 pcs.	2,6,10	111-05710
T120I	300.0	7.6	80.0	535	PA66W	Black (BK)	100 pcs.	3,10,11	111-12160
T150R(H)	365.0	7.6	100.0	670	PA66W	Black (BK)	100 pcs.	3,10,11	111-14860
T120R(E)	387.0	7.6	100.0	535	PA66W	Black (BK)	100 pcs.	3,10,11	111-00944
T120M	460.0	7.6	125.0	535	PA66W	Black (BK)	100 pcs.	3,10,11	111-12610
T120L	760.0	7.6	225.0	535	PA66W	Black (BK)	50 pcs.	3,10,11	111-12460
T150L	820.0	8.8	245.0	780	PA66W	Black (BK)	25 pcs.	10,11	111-15460
T150M	530.0	8.9	150.0	780	PA66W	Black (BK)	25 pcs.	10,11	111-15660
T150XL	1,095.0	8.9	330.0	780	PA66W	Black (BK)	25 pcs.	10,11	111-15502
T150XLL	1,325.0	8.9	405.0	780	PA66W	Black (BK)	25 pcs.	10,11	111-15300
T250X	370.0	12.5	100.0	1115	PA66W	Black (BK)	25 pcs.	10,11	111-25100
T250R	515.0	12.5	125.0	1,115	PA66HIRHSUV	Black (BK)	25 pcs.	11	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.



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



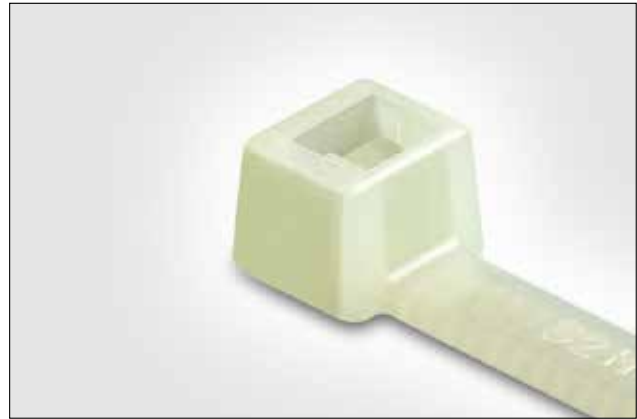
### Cable Ties Polyamide 6.6 standard (Natural)

#### T-Series in PA66 natural

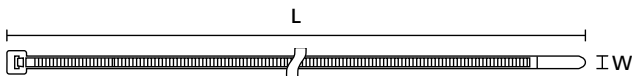
T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for almost any type of application.

#### Features and Benefits

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



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



T-Series

TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T18S	83.0	2.3	16.0	80	PA66	Natural (NA)	1,000 pcs.	2,6	111-02809
T18R	100.0	2.5	22.0	80	PA66	Natural (NA)	100 pcs.	2,6	111-81821
T18I	145.0	2.5	35.0	80	PA66	Natural (NA)	100 pcs.	2,6	111-02319
T18L	205.0	2.5	55.0	80	PA66	Natural (NA)	100 pcs.	2,6	111-02119
T25L	240.0	2.8	65.0	110	PA66	Natural (NA)	100 pcs.	2,6	111-02519
T25LL	330.0	2.8	95.0	110	PA66	Natural (NA)	100 pcs.	2,6	111-02619
T30R	150.0	3.5	35.0	135	PA66	Natural (NA)	100 pcs.	2,6	111-03219
T30L	198.0	3.5	50.0	135	PA66	Natural (NA)	100 pcs.	2,6	111-00946
T30LL	290.0	3.5	80.0	135	PA66	Natural (NA)	100 pcs.	2,6	111-03549
T40R	175.0	4.0	40.0	180	PA66	Natural (NA)	100 pcs.	2,6	111-03819
T50S	150.0	4.6	35.0	225	PA66	Natural (NA)	100 pcs.	2,6,10	111-05819
T50R	200.0	4.6	50.0	225	PA66	Natural (NA)	100 pcs.	2,6,10	111-04819
T50M	245.0	4.6	65.0	225	PA66	Natural (NA)	100 pcs.	2,6,10	111-00956
T50I	300.0	4.6	85.0	225	PA66	Natural (NA)	100 pcs.	2,6,10	111-00951
T50L	390.0	4.6	110.0	225	PA66	Natural (NA)	100 pcs.	2,6,10	111-05619
T80R	210.0	4.7	55.0	355	PA66	Natural (NA)	100 pcs.	2,6,10,11	111-05019
T80I	300.0	4.7	85.0	355	PA66	Natural (NA)	100 pcs.	2,6,10,11	111-08229
T80L	390.0	4.7	110.0	355	PA66	Natural (NA)	100 pcs.	2,6,10,11	111-05419

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	6	10	11
	MK20	EVO7	MK9/EVO9	MK9HT/EVO9HT
	192	190	191	191

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

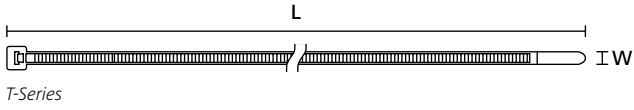


For product specific approvals and specifications please refer to the Appendix.



### Cable Ties Polyamide 6.6 standard (Natural)

T-Series in PA66 natural and black



Material specification please see page 16.

TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T120S	225.0	7.6	55.0	535	PA66	Natural (NA)	50 pcs.	3,10,11	111-12829
T120I	300.0	7.6	80.0	535	PA66	Natural (NA)	100 pcs.	3,10,11	111-12119
T150R	365.0	7.6	100.0	670	PA66	Natural (NA)	100 pcs.	3,10,11	111-14819
T120R(E)	387.0	7.6	100.0	535	PA66	Natural (NA)	100 pcs.	3,10,11	111-12019
T120M	460.0	7.6	125.0	535	PA66	Natural (NA)	100 pcs.	3,10,11	111-12619
T120XM	600.0	7.6	175.0	535	PA66	Natural (NA)	50 pcs.	3,10,11	111-12704
T120L	760.0	7.6	225.0	535	PA66	Natural (NA)	50 pcs.	3,10,11	111-12429
T150L	820.0	8.8	245.0	780	PA66	Natural (NA)	25 pcs.	10,11	111-15419
T150M	530.0	8.9	150.0	780	PA66	Natural (NA)	25 pcs.	10,11	111-15619
T150XL	1,095.0	8.9	330.0	780	PA66	Natural (NA)	25 pcs.	10,11	111-15519
T150XLL	1,325.0	8.9	405.0	780	PA66	Natural (NA)	25 pcs.	10,11	111-15304
T250S	225.0	12.5	55.0	1,115	PA66	Natural (NA)	100 pcs.	11	111-24705
T250R	515.0	12.5	125.0	1,115	PA66	Natural (NA)	25 pcs.	11	111-24803
T250M	565.3	12.5	150.0	1,115	PA66	Natural (NA)	25 pcs.	11	111-25002
T250I	730.0	12.5	203.0	1,115	PA66	Natural (NA)	25 pcs.	11	111-25219
T250L	880.0	12.5	254.0	1,115	PA66	Natural (NA)	25 pcs.	11	111-24601
T250XL	1,030.0	12.5	305.0	1,115	PA66	Natural (NA)	25 pcs.	11	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.

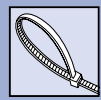
Recommended Tools				
	2	6	10	11
	MK20	EVO7	MK9/EVO9	MK9HT/EVO9HT
	192	190	191	191

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



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





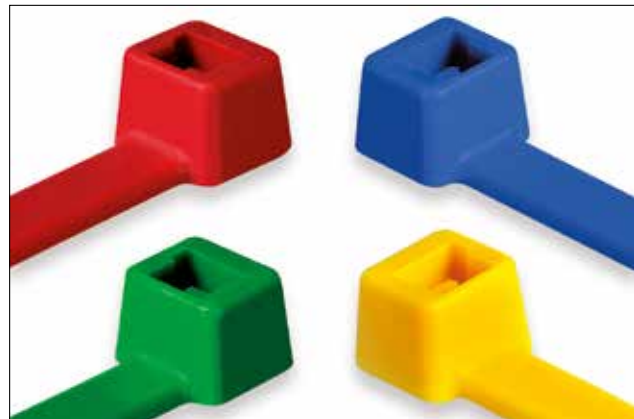
### Cable Ties Polyamide 6.6 standard (Coloured)

#### T-Series in PA66 coloured

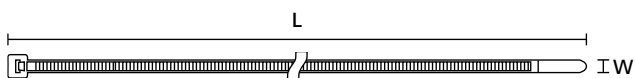
T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for almost any type of application.

#### Features and Benefits

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



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



T-Series

TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T18R	100.0	2.5	22.0	80	PA66	Blue (BU)	1000 pcs.	2,6	111-01845
	100.0	2.5	22.0	80	PA66	Green (GN)	1000 pcs.	2,6	111-01855
	100.0	2.5	22.0	80	PA66	Red (RD)	1000 pcs.	2,6	111-01822
	100.0	2.5	22.0	80	PA66	Yellow (YE)	1000 pcs.	2,6	111-01898
T30R	150.0	3.5	35.0	135	PA66	Blue (BU)	1000 pcs.	2,6	111-03036
	150.0	3.5	35.0	135	PA66	Green (GN)	1000 pcs.	2,6	111-03014
	150.0	3.5	35.0	135	PA66	Red (RD)	100 pcs.	2,6	116-03012
	150.0	3.5	35.0	135	PA66	Yellow (YE)	1000 pcs.	2,6	111-03065
T50R	200.0	4.6	50.0	225	PA66	Blue (BU)	100 pcs.	2,6,10	116-05016
	200.0	4.6	50.0	225	PA66	Green (GN)	100 pcs.	2,6,10	116-05015
	200.0	4.6	50.0	225	PA66	Red (RD)	100 pcs.	2,6,10	116-05012
	200.0	4.6	50.0	225	PA66	Yellow (YE)	100 pcs.	2,6,10	116-05014
	200.0	4.6	50.0	225	PA66	Violet (VI)	100 pcs.	2,6,10	111-04875
	200.0	4.6	50.0	225	PA66	Grey (GY)	100 pcs.	2,6,10	111-04870
	200.0	4.6	50.0	225	PA66	Brown (BR)	100 pcs.	2,6,10	116-05011
T50L	390.0	4.6	110.0	225	PA66	Blue (BU)	100 pcs.	2,6,10	111-05431
	390.0	4.6	110.0	225	PA66	Green (GN)	100 pcs.	2,6,10	111-05445
	390.0	4.6	110.0	225	PA66	Red (RD)	100 pcs.	2,6,10	111-05457
	390.0	4.6	110.0	225	PA66	Yellow (YE)	100 pcs.	2,6,10	111-05467

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

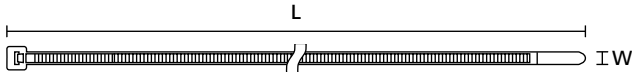


For product specific approvals and specifications please refer to the Appendix.



## Cable Ties Polyamide 6.6 standard (Coloured)

### T-Series in PA66 coloured



T-Series



Material specification  
please see page 16.

TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T80R	210.0	4.7	55.0	355	PA66	Blue (BU)	100 pcs.	2,6,10,11	116-08016
	210.0	4.7	55.0	355	PA66	Green (GN)	100 pcs.	2,6,10,11	116-08015
	210.0	4.7	55.0	355	PA66	Red (RD)	100 pcs.	2,6,10,11	116-08012
	210.0	4.7	55.0	355	PA66	Yellow (YE)	100 pcs.	2,6,10,11	116-08014
T80L	390.0	4.7	110.0	355	PA66	Blue (BU)	100 pcs.	2,6,10,11	116-05416
	390.0	4.7	110.0	355	PA66	Green (GN)	100 pcs.	2,6,10,11	116-05415
	390.0	4.7	110.0	355	PA66	Red (RD)	100 pcs.	2,6,10,11	116-05412
	390.0	4.7	110.0	355	PA66	Yellow (YE)	100 pcs.	2,6,10,11	116-05414
T150R(H)	365.0	7.6	100.0	670	PA66	Blue (BU)	100 pcs.	3,10,11	116-15016
	365.0	7.6	100.0	670	PA66	Red (RD)	100 pcs.	3,10,11	116-15012
	365.0	7.6	100.0	670	PA66	Yellow (YE)	100 pcs.	3,10,11	116-15014
T120R(E)	387.0	7.6	100.0	535	PA66	Green (GN)	100 pcs.	3,10,11	111-12001
	387.0	7.6	100.0	535	PA66	Red (RD)	100 pcs.	3,10,11	111-12002

All dimensions in mm. Subject to technical changes.

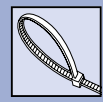
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools				
	2	6	10	11
	MK20	EVO7	MK9/EVO9	MK9HT/EVO9HT
	192	190	191	191

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



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



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

#### T-Series in E/TFE (Tefzel®) blue

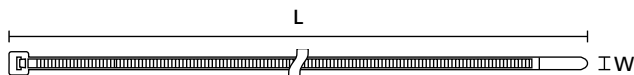
T-Series cable ties for bundling and securing of cables, pipes and hoses. These cable ties can be used for almost any type of application, especially when a high chemical resistance is required.

#### Features and Benefits


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




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




T-Series

 For more information on E/TFE sockets please refer to KR-Series on page 73.

TYPE	Length (L)	Width (W)	Bundle Ø max.		Material	Colour	Pack Cont.	Tools	Article-No.
T18R	100.0	2.5	22.0	80	E/TFE	Blue (BU)	100 pcs.	2,6	111-01845
T30R	150.0	3.5	36.0	133	E/TFE	Blue (BU)	100 pcs.	2,6	111-00698
T50R	201.0	4.7	50.0	222	E/TFE	Blue (BU)	100 pcs.	2,6,10	111-05016
T50L	382.0	4.7	105.0	222	E/TFE	Blue (BU)	100 pcs.	2,6,10	111-00718
T120R	387.0	7.4	105.0	535	E/TFE	Blue (BU)	50 pcs.	3,10,11	111-01125

All dimensions in mm. Subject to technical changes.

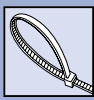
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available. General linguistic usage for cable ties made from raw material E/TFE is Tefzel®-Tie. In addition to Tefzel® from DuPont HellermannTyton is also using equivalent E/TFE raw material from other suppliers.

Recommended Tools				
	2	6	10	11
	MK20	EVO7	MK9/EVO9	MK9HT/EVO9HT
	192	190	191	191

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



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



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

### T-Series in PA66HS natural and black

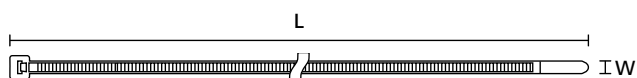
T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for almost any type of application.

#### Features and Benefits

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



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



T-Series

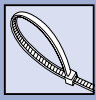
TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T18S	83.0	2.3	16.0	80	PA66HS	Natural (NA)	1000 pcs.	2,6	111-00962
T18R	100.0	2.5	22.0	80	PA66HS	Black (BK)	100 pcs.	2,6	111-01950
	100.0	2.5	22.0	80	PA66HS	Natural (NA)	1,000 pcs.	2,6	111-01866
T18I	145.0	2.5	35.0	80	PA66HS	Black (BK)	100 pcs.	2,6	111-02358
	145.0	2.5	35.0	80	PA66HS	Natural (NA)	1,000 pcs.	2,6	111-02359
T18L	205.0	2.5	55.0	80	PA66HS	Black (BK)	100 pcs.	2,6	111-02049
	205.0	2.5	55.0	80	PA66HS	Natural (NA)	100 pcs.	2,6	111-02159
T30R	150.0	3.5	35.0	135	PA66HS	Natural (NA)	100 pcs.	2,6	111-03259
	150.0	3.5	35.0	135	PA66HS	Black (BK)	100 pcs.	2,6	111-03250
	150.0	3.5	35.0	135	PA66HSW	Black (BW)	100 pcs.	2,6	111-01211
T30L	198.0	3.5	50.0	135	PA66HS	Black (BK)	100 pcs.	2,6	111-03450
	198.0	3.5	50.0	135	PA66HS	Natural (NA)	100 pcs.	2,6	111-03459
T30LL	290.0	3.5	80.0	135	PA66HS	Black (BK)	1,000 pcs.	2,6	111-03640
	290.0	3.5	80.0	135	PA66HS	Natural (NA)	100 pcs.	2,6	111-01555
T40R	175.0	4.0	40.0	180	PA66HS	Black (BK)	100 pcs.	2,6	111-01618
	175.0	4.0	40.0	180	PA66HS	Natural (NA)	100 pcs.	2,6	111-03859
T50S	150.0	4.6	35.0	225	PA66HS	Natural (NA)	100 pcs.	2,6,10	111-05859
	150.0	4.6	35.0	225	PA66HS	Black (BK)	100 pcs.	2,6,10	111-05850
T50R	200.0	4.6	50.0	225	PA66HSW	Black (BK)	100 pcs.	2,6,10	111-01278
	200.0	4.6	50.0	225	PA66HS	Natural (NA)	100 pcs.	2,6,10	111-04855
T50I	300.0	4.6	85.0	225	PA66HS	Black (BK)	100 pcs.	2,6,10	111-05250
	300.0	4.6	85.0	225	PA66HS	Natural (NA)	100 pcs.	2,6,10	111-00953
	300.0	4.6	85.0	225	PA66HSW	Black (BK)	100 pcs.	2,6,10	111-00954

All dimensions in mm. Subject to technical changes.

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

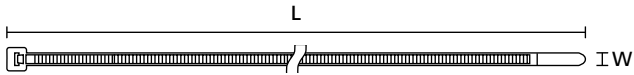


For product specific approvals and specifications please refer to the Appendix.



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

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



T-Series



Material specification please see page 16.

TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T50L	390.0	4.6	110.0	225	PA66HS	Black (BK)	100 pcs.	2,6,10	111-05450
	390.0	4.6	110.0	225	PA66HS	Natural (NA)	100 pcs.	2,6,10	111-05655
	390.0	4.6	110.0	225	PA66HSW	Black (BK)	100 pcs.	2,6,10	111-01226
T80R	210.0	4.7	55.0	355	PA66HS	Black (BK)	1,000 pcs.	2,6,10,11	117-08005
	210.0	4.7	55.0	355	PA66HS	Natural (NA)	100 pcs.	2,6,10,11	111-05059
T80I	300.0	4.7	85.0	355	PA66HS	Black (BK)	100 pcs.	2,6,10,11	111-08250
	300.0	4.7	85.0	355	PA66HS	Natural (NA)	100 pcs.	2,6,10,11	111-08259
T80L	390.0	4.7	110.0	355	PA66HS	Black (BK)	100 pcs.	2,6,10,11	111-00388
	390.0	4.7	110.0	355	PA66HS	Natural (NA)	100 pcs.	2,6,10,11	111-05459
T120S	225.0	7.6	55.0	535	PA66HS	Black (BK)	50 pcs.	3,10,11	111-12850
	225.0	7.6	55.0	535	PA66HS	Natural (NA)	50 pcs.	3,10,11	111-12824
T150R	365.0	7.6	100.0	670	PA66HS	Black (BK)	100 pcs.	3,10,11	111-01636
T150R(H)	365.0	7.6	100.0	670	PA66HS	Black (BK)	100 pcs.	3,10,11	111-01156
	365.0	7.6	100.0	670	PA66HS	Natural (NA)	100 pcs.	3,10,11	111-15069
T120R(E)	387.0	7.6	100.0	535	PA66HS	Black (BK)	100 pcs.	3,10,11	111-12050
	387.0	7.6	100.0	535	PA66HS	Natural (NA)	100 pcs.	3,10,11	111-12059
T120M	460.0	7.6	125.0	535	PA66HS	Black (BK)	100 pcs.	3,10,11	111-00153
T120XM	600.0	7.6	175.0	535	PA66HS	Black (BK)	50 pcs.	3,10,11	111-12700
	600.0	7.6	175.0	535	PA66HS	Natural (NA)	50 pcs.	3,10,11	111-12719
T120L	760.0	7.6	225.0	535	PA66HS	Black (BK)	50 pcs.	3,10,11	111-12440
	760.0	7.6	225.0	535	PA66HS	Natural (NA)	50 pcs.	3,10,11	111-12449
T150L	820.0	8.8	245.0	780	PA66HS	Black (BK)	25 pcs.	10,11	111-15410
T150M	530.0	8.9	150.0	780	PA66HS	Black (BK)	25 pcs.	10,11	111-15609
T150XL	1,095.0	8.9	330.0	780	PA66HS	Black (BK)	25 pcs.	10,11	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	6	10	11
	MK20	EVO7	MK9/EVO9	MK9HT/EVO9HT
	192	190	191	191

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



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



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

#### LK-Series natural and black

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

#### Features and Benefits

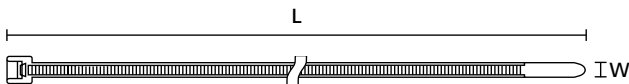
- Available in a wide range of materials and sizes
- Inside serrated ties for a strong hold around bundles
- High tensile strength with very low insertion force
- Simple and quick to install
- Easy application either manually or with a processing tool



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



**Material specification please see page 16.**



LK-Series

TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
LK2A	270.0	4.6	73.0	225	PA66	Black (BK)	100 pcs.	2,6,10	111-60110
	270.0	4.6	73.0	225	PA66	Natural (NA)	100 pcs.	2,6,10	111-60119
	270.0	4.6	73.0	225	PA66HIR(S)	Black (BK)	100 pcs.	2,6,10	111-00127
	270.0	4.6	73.0	225	PA66HS	Black (BK)	100 pcs.	2,6,10	111-60150
	270.0	4.6	73.0	225	PA66HS	Natural (NA)	100 pcs.	2,6,10	111-60159
	270.0	4.6	73.0	225	PA66W	Black (BK)	100 pcs.	2,6,10	111-60160
LK2	120.0	4.8	28.0	135	PA66	Natural (NA)	200 pcs.	2,6	111-60219
LK5	535.0	13.2	150.0	1,115	PA66	Black (BK)	50 pcs.	11	111-60510
	535.0	13.2	150.0	1,115	PA66	Natural (NA)	50 pcs.	11	111-60519
	535.0	13.2	150.0	1,115	PA66HIR(S)	Black (BK)	50 pcs.	11	111-60501
	535.0	13.2	150.0	1,115	PA66HS	Natural (NA)	50 pcs.	11	111-60559
	535.0	13.2	150.0	1,115	PA66W	Black (BK)	50 pcs.	11	111-60560

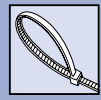
All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Recommended Tools				
	2	6	10	11
	MK20	EVO7	MK9/EVO9	MK9HT/EVO9HT
	192	190	191	191

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



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



### Cable Ties for parallel routing

#### DH-Series

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

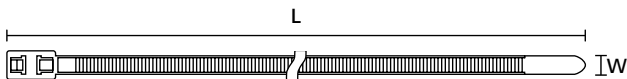
The DH ties are also widely used within the packaging industry - the first loop closes and secures the bag, whilst the second loop can be made into a carrying handle (subject to weight).

#### Features and Benefits

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



DH-Series cable ties for parallel routing.



DH-Series



**Material specification please see page 16.**

TYPE	Length (L)	Width (W)	Ø max. side loops		Min. Tensile Strength 2nd loop (N)	Material	Colour	Pack Cont.	Tools	Article-No.
T50RDH	210.0	4.7	19.0	225	180 N	PA46	Grey (GY)	100 pcs.	2,6;8	117-05168
	210.0	4.7	19.0	225	180 N	PA66	Black (BK)	100 pcs.	2,6;8	117-05000
	210.0	4.7	19.0	225	180 N	PA66	Natural (NA)	100 pcs.	2,6;8	117-05002
	210.0	4.7	19.0	225	180 N	PA66HS	Black (BK)	100 pcs.	2,6;8	117-05050
	210.0	4.7	19.0	225	180 N	PA66W	Black (BK)	500 pcs.	2,6;8	117-05060
T50IDH	305.0	4.7	38.1	225	180 N	PA66	Natural (NA)	1,000 pcs.	2,6;8	117-05303
	305.0	4.7	38.1	225	180 N	PA66HS	Black (BK)	1,000 pcs.	2,6;8	117-05350
	305.0	4.7	38.1	225	180 N	PA66W	Black (BK)	100 pcs.	2,6;8	117-05360
T50LDH	395.0	4.7	50.8	225	180 N	PA66	Natural (NA)	1,000 pcs.	2,6;8	117-05461
	395.0	4.7	50.8	225	180 N	PA66HS	Black (BK)	100 pcs.	2,6;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	6	10	11
	MK20	EVO7	MK9/EVO9	MK9HT/EVO9HT
	192	190	191	191

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 installation of cabling in and around the manufacturing process.

#### Features and Benefits

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



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

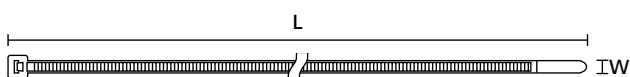


**Material specification please see page 16.**



**Supports quality processes around the production of food stuffs, such as e.g. HACCP.**

#### MCT-Series



MCT

TYPE	Length (L)	Width (W)	Bundle Ø max.		Material	Colour	Pack Cont.	Tools	Article-No.
MCT18R	100.0	2.5	22.0	80	PA66MP	Blue (BU)	100 pcs.	2,6	111-01225
MCT30R	150.0	3.5	35.0	135	PA66MP	Blue (BU)	100 pcs.	2,6	111-00829
MCT50R	202.0	4.6	50.0	225	PA66MP	Blue (BU)	100 pcs.	2,6,10	111-00830
MCT50L	380.0	4.7	110.0	225	PA66MP	Blue (BU)	100 pcs.	2,6,10	111-00831
MCT120R	387.0	7.6	100.0	535	PA66MP	Blue (BU)	100 pcs.	3,10,11	111-01136

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

#### MCT-Series releasable

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Tools	Article-No.
MCTRELK2M	4.6	250.0	65.0	225	PA66MP	Blue (BU)	100 pcs.	2-11	111-00937

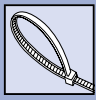
All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

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

Recommended Tools				
	2	6	10	11
	MK20	EVO7	MK9/EVO9	MK9HT/EVO9HT
	192	190	191	191

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





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

#### MCTS-Series

Our MCTS cable ties have been specifically developed to be used in the food & beverage as well as in the pharmaceutical industry. A unique manufacturing process in combination with a unique material formulation is offering outstanding performance 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

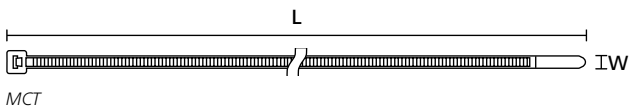
- Total metal dispersion throughout the tie
- Available in different sizes and colours
- Supports quality processes around the production of food stuffs
- Blue colour most common for easy visual detection
- Greatly reduces risk of contamination
- Magnetic and X-Ray detectable (detection level depending on specific application)
- MCTS ties have very good corrosion resistance



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

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

**i Supports quality processes around the production of food stuffs, such as e.g. HACCP.\***



TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
MCTS100	100.0	2.5	22.0	60	PA66MP+	Blue (BU)	100 pcs.	2,6	111-01341
MCTS150	153.0	3.5	36.0	110	PA66MP+	Blue (BU)	100 pcs.	2,6	111-01342
MCTS200	203.0	4.7	50.0	150	PA66MP+	Blue (BU)	100 pcs.	2,6,10	111-01343
MCTS300	301.0	4.8	80.0	150	PA66MP+	Blue (BU)	100 pcs.	2,6,10	111-01399

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

Recommended Tools			
	2	6	10
	MK20	EVO7	MK9/EVO9
	192	190	191

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

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



### Cable Ties for food industry, detectable

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

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

#### Features and Benefits

- High chemical 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)
- MCTS ties have very good corrosion resistance
- Usable as part of HACCP process\*
- PP cable ties tend to float in various liquids



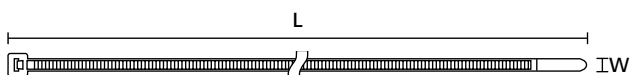
MCTPP ties will float to the surface of liquids so they can easily be seen and removed.



The MCT ties made of PA66MP are the ideal complement for MCMB mounts on page 84.



Supports quality processes around the production of food stuffs, such as e.g. HACCP.



MCT

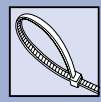
TYPE	Length (L)	Width (W)	Bundle Ø max.		Material	Colour	Pack Cont.	Tools	Article-No.
MCTPP18R	100.0	2.5	22.0	85	PPMP	Blue (BU)	100 pcs.	2,6	111-01664
MCTPP30R	150.0	3.5	35.0	130	PPMP	Blue (BU)	100 pcs.	2,6	111-01665
MCTPP50R	200.0	4.6	50.0	150	PPMP	Blue (BU)	100 pcs.	2,6,10	111-01666
MCTPP50L	390.0	4.6	110.0	150	PPMP	Blue (BU)	100 pcs.	2,6,10	111-01667
MCTS200	201.0	4.7	50.0	140	PPMP+	Blue (BU)	100 pcs.	2,6,10	111-01386
MCTPP120R	387.0	7.6	100.0	380	PPMP	Blue (BU)	100 pcs.	10,11	111-01668

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

Recommended Tools				
	2	6	10	11
	MK20	EVO7	MK9/EVO9	MK9HT/EVO9HT
	192	190	191	191

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

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



### Cable Ties inside serrated with kickdown lever

#### REL-Series

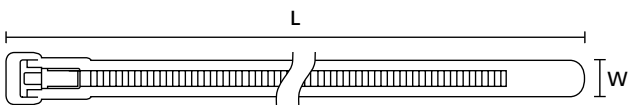
Ideal for use in applications where there is the need to repeatedly open and close the tie.

#### Features and Benefits

- Releasable and reusable cable tie in black and natural colour (even UV-resistant)
- Extremely easy-to-operate release mechanism
- Opens simply and quickly with one hand
- Inside serrated



Releasable and reusable cable tie, REL-Series.



REL-Series

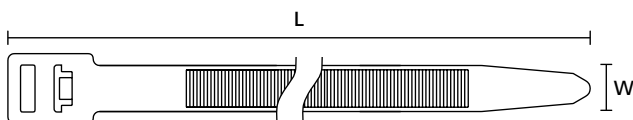
TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
REL180	180.0	6.5	46.0	150	PA66	Black (BK)	100 pcs.	115-00027
REL100	100.0	6.7	21.0	180	PA66	Black (BK)	100 pcs.	131-21010
	100.0	6.7	21.0	180	PA66	Natural (NA)	100 pcs.	131-21019
REL140	150.0	7.6	35.0	200	PA66	Black (BK)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

All dimensions in mm. Subject to technical changes.

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



Releasable cable tie REL250-Series.



Releasable cable tie REL250-Series

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



### Cable Ties for thin-walled bundles

#### OS-Series

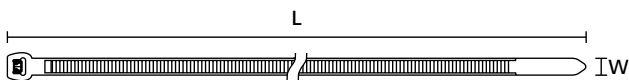
OS-Series cable ties are used in many areas where thin-walled or soft insulation wires and cable are being installed, e. g. automotive and aircraft industry. OS ties made from material PA66V0 are suitable for applications where safety regulations, e. g. reduction of smoke and dangerous gases, are required.

#### Features and Benefits

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



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



OS-Series



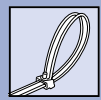
The curved head design of the OS-Series

TYPE	Length (L)	Width (W)	Bundle Ø min.	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T18ROS	100.0	2.5	1.6	20.0	80	PA66HS	Black (BK)	500 pcs.	2,6	118-04701
	100.0	2.5	1.6	20.0	80	PA66HS	Natural (NA)	1,000 pcs.	2,6	118-00035
	100.0	2.5	1.6	20.0	80	PA66V0	White (WH)	100 pcs.	2,6	118-00079
T30ROS	145.0	3.4	1.6	35.0	135	PA66HS	Natural (NA)	100 pcs.	2,6	118-00064
	145.0	3.4	1.6	35.0	135	PA66HS	Black (BK)	100 pcs.	2,6	118-04800
T30LOS	200.0	3.4	1.6	50.0	135	PA66HS	Natural (NA)	100 pcs.	2,6	118-00044
	200.0	3.4	1.6	50.0	135	PA66V0	White (WH)	100 pcs.	2,6	118-00080
	200.0	3.4	1.6	50.0	135	PA66HS	Black (BK)	100 pcs.	2,6	118-04900
T50SOS	150.0	4.6	1.6	35.0	225	PA66HS	Black (BK)	100 pcs.	2,6	118-05850
T50ROS	200.0	4.6	1.6	50.0	225	PA46	Grey (GY)	500 pcs.	2,6	118-05078
	200.0	4.6	1.6	50.0	225	PA66HS	Black (BK)	500 pcs.	2,6	118-05040
	200.0	4.6	1.6	50.0	225	PA66HS	Natural (NA)	100 pcs.	2,6	118-05059
T50MOS	245.0	4.6	1.6	66.0	225	PA66HS	Black (BK)	100 pcs.	2,6	118-00018
	245.0	4.6	1.6	66.0	225	PA66HS	Natural (NA)	100 pcs.	2,6	118-00055
	245.0	4.6	1.6	66.0	225	PA66V0	White (WH)	100 pcs.	2,6	118-00081
T50LOS	384.0	4.6	1.6	110.0	225	PA66HS	Black (BK)	100 pcs.	2,6	118-05900
T120ROS	385.0	7.6	5.0	105.0	535	PA66HS	Black (BK)	100 pcs.	10,11	118-00066
	385.0	7.6	5.0	105.0	535	PA66HS	Natural (NA)	100 pcs.	10,11	118-00067
	385.0	7.6	5.0	105.0	535	PA66V0	White (WH)	100 pcs.	10,11	118-00082

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

Recommended Tools				
	2	6	10	11
	MK20	EVO7	MK9/EVO9	MK9HT/EVO9HT
	192	190	191	191

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



### Cable Tie locked by glass fibre pin

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

#### Features and Benefits

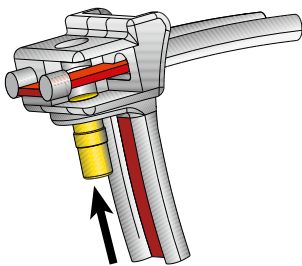
- Patented cable tie system
- Smooth strap which is locked into place with a glass-fibre reinforced pin
- For assembly a special KR-tool is needed
- Very secure and vibration resistant fixing
- KR-ties up to 426 mm are made as one piece
- Available in various materials, even in PA12, which is less hygroscopic



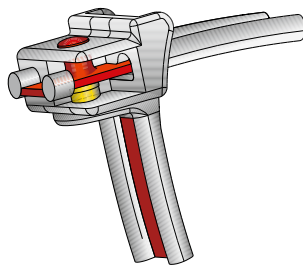
The KR-Series has been repeatedly proven in high vibration applications.



Patented



The unlocked head of a KR-tie.

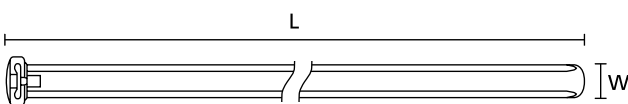


The cable tie (red) is locked into place with the pin.



KR-Series is available in different sizes.

#### KR-Series, 1-Piece



Cable tie KR-Series

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

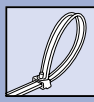
All dimensions in mm. Subject to technical changes.

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

Recommended Tools	
	13 KR6/8
	167

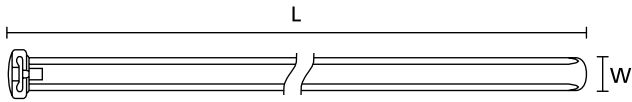
For more information on toolings please refer to the Application Tooling chapter.





### Cable Tie locked by glass fibre pin

#### KR-Series, 1-Piece



Cable tie KR-Series

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

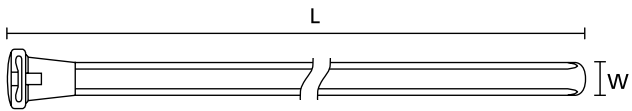
All dimensions in mm. Subject to technical changes.

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



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

#### KR-Series, ultrasonic welded



Cable tie KR-Series, ultrasonic welded

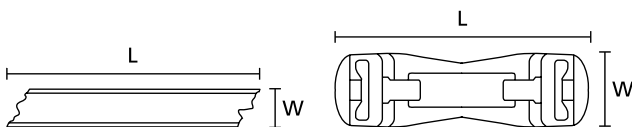
**i** Other dimensions are available on request.

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



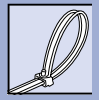
Cable tie KR8S1

Double-head KR8C5

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

All dimensions in mm. Subject to technical changes.

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



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

#### SpeedyTie

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

#### Features and Benefits

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



Patented



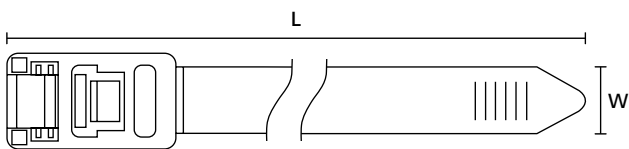
Application video: SpeedyTie



SpeedyTie - Patented quick release mechanism for quick and easy application.



Excess tails can be neatly tucked away.



SpeedyTie



SpeedyTie - Quick and easy.



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

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

## 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 mm<sup>2</sup>) and Ø 13 mm (50 mm<sup>2</sup>), each with 3 cables 8 m in length in trefoil formation, were tested with short circuit times between 0.2 and 0.5 seconds at various current levels.

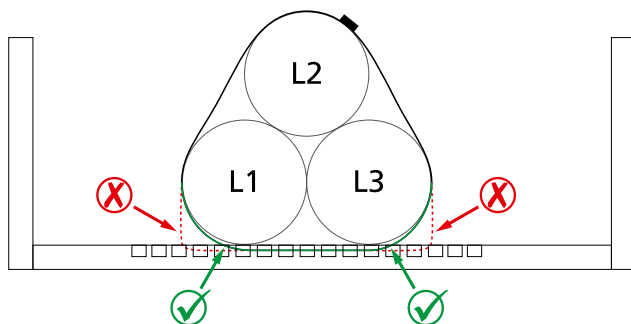
### Advantages of using HellermannTyton stainless steel cable ties over cable cleats:

- 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.**



*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

#### SST-Series, Stainless Steel SS316

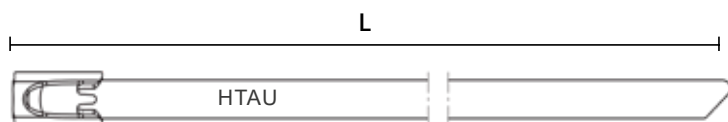
Metal ties are ideal for all applications that require high strength, reliability and fire resistance. The SST range of stainless steel cable ties can be used in chemical industries and on oil platforms as well as in mass transit, shipbuilding and mining industries. SST ties are also suitable for machine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

#### Features and Benefits

- Cable ties SST, made from stainless steel 316
- Patented non-releasable locking feature
- Corrosion resistant
- Weather resistant
- Outstanding chemical resistance
- High temperature resistant -80 °C to +538 °C
- Non-burning
- Non-flammable
- UL62275



Stainless Steel Cable Ties, uncoated.

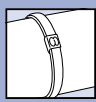


SST-Series 4.6 mm and 7.9 mm width

TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Tools	Pack Cont.
SST125X4.6	125	4.6	25	670	SS316	15	100 pcs.
SST150X4.6	150	4.6	46	670	SS316	15	100 pcs.
SST200X4.6	200	4.6	50	670	SS316	15	100 pcs.
SST260X4.6	260	4.6	81	670	SS316	15	100 pcs.
SST290X4.6	290	4.6	90.6	670	SS316	15	100 pcs.
SST360X4.6	360	4.6	102	670	SS316	15	100 pcs.
SST520X4.6	520	4.6	152	670	SS316	15	100 pcs.
SST680X4.6	680	4.6	203	670	SS316	15	100 pcs.
SST840X4.6	840	4.6	254	670	SS316	15	100 pcs.
SST1050X4.6	1050	4.6	318	670	SS316	15	100 pcs.
SST200X7.9	200	7.9	50	1115	SS316	15	100 pcs.
SST290X7.9	290	7.9	90.6	1115	SS316	15	100 pcs.
SST360X7.9	360	7.9	102	1115	SS316	15	100 pcs.
SST520X7.9	520	7.9	152	1115	SS316	15	100 pcs.
SST680X7.9	680	7.9	203	1115	SS316	15	100 pcs.
SST840X7.9	840	7.9	254	1115	SS316	15	100 pcs.
SST1050X7.9	1050	7.9	318	1115	SS316	15	100 pcs.

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 with Ball-Lock and Coating

#### Stainless Steel 316

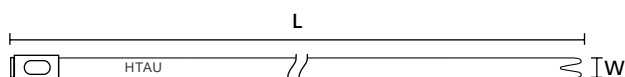
The range of stainless steel cable ties can be used in the most arduous of conditions or where the additional security, strength and fire resistance of a metal fixing is required. Used in all industries from mass transit, ship building, oil rigs, mining and chemical industry, theatres and exhibition 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

- Cable ties made from type 316 stainless steel
- Patented non-releasable locking feature
- Coated cable tie with smooth edges
- Comfortable handling and installation
- Eliminates contact corrosion between dissimilar materials during application
- Coated with polyester for insulation and outdoor applications
- UL62775



Stainless Steel Cable Ties, coated



4.6 mm and 7.9 mm width

TYPE	Length (L)	Width (W)	Bundle Ø max.		Material	Tools	Pack Cont.
SSCCTB125X4.6	125	4.6	38	670	SS316	15	100 pcs.
SSCCTB150X4.6	150	4.6	46	670	SS316	15	100 pcs.
SSCCTB200X4.6	200	4.6	61.9	670	SS316	15	100 pcs.
SSCCTB260X4.6	260	4.6	81	670	SS316	15	100 pcs.
SSCCTB290X4.6	290	4.6	90.6	670	SS316	15	100 pcs.
SSCCTB360X4.6	360	4.6	112.8	670	SS316	15	100 pcs.
SSCCTB520X4.6	520	4.6	163.8	670	SS316	15	100 pcs.
SSCCTB680X4.6	680	4.6	214.8	670	SS316	15	100 pcs.
SSCCTB840X4.6	840	4.6	265.7	670	SS316	15	100 pcs.
SSCCTB1050X4.6	1050	4.6	318.0	670	SS316	15	100 pcs.
SSCCTB200X7.9	200	7.9	61.9	1115	SS316	15	100 pcs.
SSCCTB290X7.9	290	7.9	90.6	1115	SS316	15	100 pcs.
SSCCTB360X7.9	360	7.9	112.8	1115	SS316	15	100 pcs.
SSCCTB520X7.9	520	7.9	163.8	1115	SS316	15	100 pcs.
SSCCTB680X7.9	680	7.9	214.8	1115	SS316	15	100 pcs.
SSCCTB840X7.9	840	7.9	265.7	1115	SS316	15	100 pcs.
SSCCTB1050X7.9	1050	7.9	318.0	1115	SS316	15	100 pcs.

Recommended Tools	
	15 MK9SST
	191

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



### Colour Cable Ties with Ball-Lock

#### SST-Series, Stainless Steel SS316

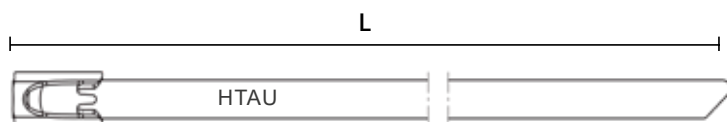
Metal ties are ideal for all applications that require high strength, reliability and fire resistance. The SST range of stainless steel cable ties can be used in chemical industries and on oil platforms as well as in mass transit, shipbuilding and mining industries. SST ties are also suitable for machine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

#### Features and Benefits

- Cable ties SST, made from stainless steel 316
- Patented non-releasable locking feature
- Corrosion resistant
- Weather resistant
- Outstanding chemical resistance
- High temperature resistant -80 °C to +538 °C
- Non-burning
- Non-flammable
- UL62275



Stainless Steel Cable Ties, colour coated

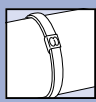


SST-Series 4.6 mm and 7.9 mm width

TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Colour	Pack Cont.
SSCCTBL200X4.6	200	4.6	50	670	SS316	Blue (BU)	100 pcs.
SSCCTGR200X4.6	200	4.6	50	670	SS316	Green (GN)	100 pcs.
SSCCTRD200X4.6	200	4.6	50	670	SS316	Red (RD)	100 pcs.
SSCCTWH200X4.6	200	4.6	50	670	SS316	White (WH)	100 pcs.
SSCCTYE200X4.6	200	4.6	50	670	SS316	Yellow (YE)	100 pcs.
SSCCTBL360X4.6	360	4.6	102	670	SS316	Blue (BU)	100 pcs.
SSCCTGR360X4.6	360	4.6	102	670	SS316	Green (GN)	100 pcs.
SSCCTRD360X4.6	360	4.6	102	670	SS316	Red (RD)	100 pcs.
SSCCTWH360X4.6	360	4.6	102	670	SS316	White (WH)	100 pcs.
SSCCTYE360X4.6	360	4.6	102	670	SS316	Yellow (YE)	100 pcs.
SSCCTBL520X4.6	520	4.6	152	670	SS316	Blue (BU)	100 pcs.
SSCCTGR520X4.6	520	4.6	152	670	SS316	Green (GN)	100 pcs.
SSCCTRD520X4.6	520	4.6	152	670	SS316	Red (RD)	100 pcs.
SSCCTWH520X4.6	520	4.6	152	670	SS316	White (WH)	100 pcs.
SSCCTYE520X4.6	520	4.6	152	670	SS316	Yellow (YE)	100 pcs.

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 with Ball-Lock

#### MBT-Series, Stainless Steel 316

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

#### Features and Benefits

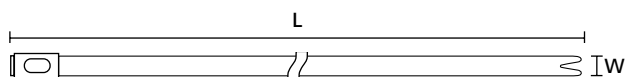
- Cable ties MBT, made from stainless steel 316
- Patented non-releasable locking feature
- Corrosion resistant
- Weather resistant
- Outstanding chemical resistance
- High temperature resistant
- Non-burning



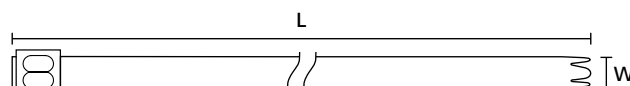
Stainless Steel Cable Ties, uncoated, MBT.



Stainless Steel Cable Ties, uncoated, MBT\_XH.



MBT-Series 4.6 mm and 7.9 mm width



MBT-Series 12.3 mm width

TYPE	Length (L)	Width (W)	Bundle Ø min.	Bundle Ø max.	Thickness	N	Material	Pack Cont.	Tools	Article-No.
MBT8S	127	4.6	15.0	25.0	0.27	900	SS304	100 pcs.	15	MBT8S
MBT14S	201	4.6	15.0	50.0	0.27	900	SS304	100 pcs.	15	MBT14S
MBT20S	362	4.6	17.0	102	0.27	900	SS304	100 pcs.	15	MBT20S
MBT27S	521	4.6	17.0	152	0.27	900	SS304	100 pcs.	15	MBT27S
MBT33S	681	4.6	17.0	203	0.27	900	SS304	100 pcs.	15	MBT33S
MBT8H	838	4.6	17.0	254	0.27	900	SS304	50 pcs.	15	MBT8H
MBT14H	201	7.9	17.0	50.0	0.27	2,000	SS304	50 pcs.	15	MBT14H
MBT20H	362	7.9	17.0	102	0.27	2,000	SS304	50 pcs.	15	MBT20H
MBT27H	521	7.9	17.0	152	0.27	2,000	SS304	50 pcs.	15	MBT27H
MBT33H	681	7.9	17.0	203	0.27	2,000	SS304	50 pcs.	15	MBT33H
MBT14XH	838	7.9	17.0	254	0.27	2,000	SS304	50 pcs.	15	MBT14XH
MBT20XH	362	12.3	17.0	102	0.27	2,700	SS304	50 pcs.	15	MBT20XH
MBT27XH	521	12.3	17.0	152	0.27	2,700	SS304	50 pcs.	15	MBT27XH
MBT33XH	681	12.3	17.0	203	0.27	2,700	SS304	50 pcs.	15	MBT33XH

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
	191

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



### Protective Channel for Stainless Steel Ties

#### LFPC

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

#### Features and Benefits

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



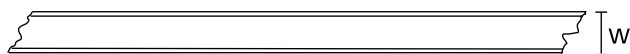
Protective channel LFPC, polyolefin, black.



**Material specification please see page 16.**



**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

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

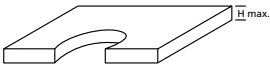
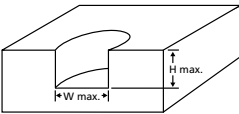
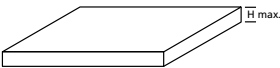
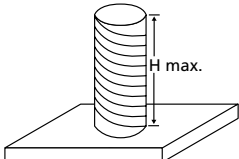
All dimensions in mm. Subject to technical changes.

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



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

### User guide for fixing ties

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



#### Arrowhead

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



#### Arrowhead with disc

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



#### Arrowhead with supporting legs

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



#### Arrowhead without supporting legs

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



#### Fir Tree Mount

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



## Weld Stud Mount

Many of the HellermannTyton weld stud mounts can easily be attached by hand ("soft push"). The design offers very low insertion forces that require no tools. The mounts can be removed by twisting to the left.



## Weld Stud Fixings with Lateral Adjustment

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



## EdgeClip

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



## EdgeClip Twistable

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



## Cable and Hose Attachment

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



## Heavy Duty Application

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



## Two Piece Fixing Ties with Clip Coupler

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



## 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.



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



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

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

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

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



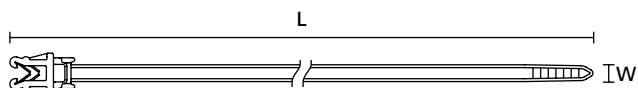


### Fixing Ties for Edges

#### EdgeClip-Family




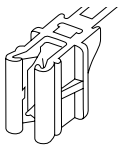
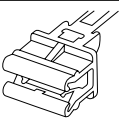
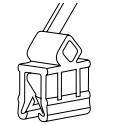
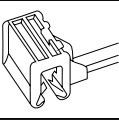
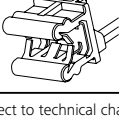
Material specification please see page 16.




T50SOSEC12E



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

TYPE	Drawing	Length (L)	Width (W)	Bundle Ø max.		Panel Thickness	Material	Colour	Tools	Article-No.
T50SOSEC12E		160.0	4.6	35.0	180	1.0 - 3.0	PA66HS	Black (BK)	2,6,10	148-00200
T50SOSEC13E		160.0	4.6	35.0	180	1.0 - 3.0	PA66HS	Black (BK)	2,6,10	126-00000
T40XEC5SP-E		85.0	4.0	15.0	178	1.0 - 3.0	PA66HS	Black (BK)	2,6	133-00059
T50SOSEC34E		155.0	4.6	35.0	180	1.0 - 3.0	PA66HS	Black (BK)	2,6,10	126-00036
T50SOSEC20-E		161.0	4.6	35.0	180	3.0 - 6.0	PA66HS	Black (BK)	2,6,10	126-00235

All dimensions in mm. Subject to technical changes.

Recommended Tools			
	2	6	10
	MK20	EVO7	MK9/EVO9
	192	190	191

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

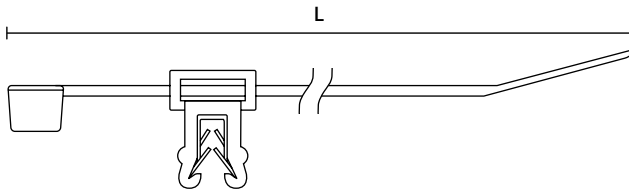


## 2-Piece Fixing Ties for Edges, 1.0 - 3.0 mm, Top Fixing

### 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



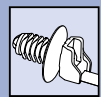
Fixing Tie with EC4



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

TYPE	Drawing	Length (L)	Width (W)	Bundle Ø max.	N	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
T30REC4A		148.0	3.6	33.0	135	PA66HS	PA66HIRHS	Black (BK)	2,6	156-00811
T50SOSEC4A		150.0	4.6	35.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	150-76093
T50ROSEC4A		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00461
T50ROSEC4A-W		200.0	4.6	45.0	225	PA66W	PA66W	Black (BK)	2,6,10	156-00570
T50REC4A		202.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-01114
T30REC4B		148.0	3.6	35.0	135	PA66HS	PA66HIRHS	Black (BK)	2,6	156-00893
T50SOSEC4B		150.0	4.6	35.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00109
T50ROSEC4B		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00462
T18REC10SD		100.0	2.5	22.0	80	PA66HS	PA66HIRHS	Black (BK)	2,6	156-01253
T50SOSEC10		150.0	4.6	31.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00015
T50ROSEC10		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-05904
T18REC9SD		100.0	2.5	22.0	80	PA66HS	PA66HIRHS	Black (BK)	2,6	156-01255
T50SOSEC9SD		150.0	4.6	31.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00019
T50ROSEC9		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-05903
T50REC9SD		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-01280
Q50REC4A		210.0	4.7	45.0	220	PA66W	PA66W	Black (BK)	2,6,10	156-01085
Q50REC4B		210.0	4.7	45.0	220	PA66W	PA66W	Black (BK)	2,6,10	156-01086

All dimensions in mm. Subject to technical changes.



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

#### EdgeClip-Family

#### Features and Benefits

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



T50ROSEC23 - the cable bundle runs parallel with the edge.



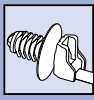
**Material specification please see page 16.**

TYPE	Drawing	Length (L)	Width (W)	Bundle Ø max.	N	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
T30REC5A		148.0	3.6	33.0	135	PA66HS	PA66HIRHS	Black (BK)	2,6	156-00003
T40REC5A		175.0	4.0	45.0	180	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00559
T50SOSEC5A		150.0	4.6	31.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00788
T50ROSEC5A		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00463
T50REC5A		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-01037
T50SOSEC5B		150.0	4.6	31.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00789
T50REC5B		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	150-40582
T50ROSEC5B		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00464
T18REC21		100.0	2.5	18.0	80	PA66W	PA66HIRHS	Black (BK)	2,6	156-01258
T50SOSEC21		150.0	4.6	35.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00017
T50ROSEC21		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00951
T18REC21		100.0	2.5	20.0	80	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-01254
T50ROSEC22		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00011
T50REC22		200.0	4.6	45.0	225	PA66W	PA66HIRHS	Black (BK)	2,6,10	156-00576
Q50REC5A		210.0	4.7	45.0	220	PA66W	PA66W	Black (BK)	2,6,10	156-01087
Q50REC5B		210.0	4.7	45.0	220	PA66W	PA66W	Black (BK)	2,6,10	156-01088

All dimensions in mm. Subject to technical changes.

Recommended Tools			
	2	6	10
	MK20	EVO7	MK9/EVO9
	192	190	191

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



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

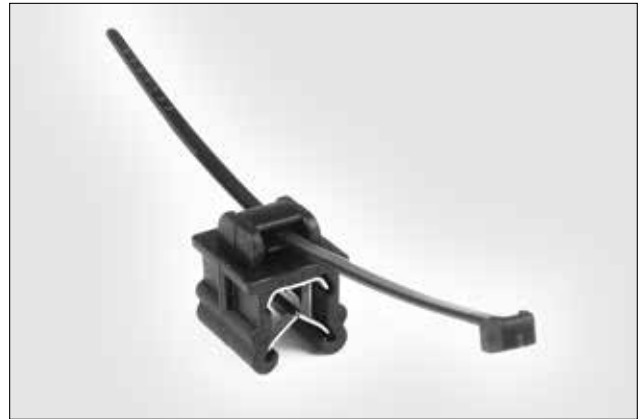
#### EdgeClip-Family

#### 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



**Material specification please see page 16.**



Pre-assembled 2-piece fixing tie with EdgeClip.

TYPE	Drawing	Length (L)	Width (W)	Bundle Ø max.	N	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
T18ROSEC19		100.0	2.5	20.0	80	PA66HS	PA66HIRHS	Black (BK)	2,6	156-04600
T50SOSEC19		150.0	4.6	35.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-01309
T50REC19		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00907
T50ROSEC19		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-01038
T50SOSEC20		150.0	4.6	35.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00016
T50ROSEC20		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00834

All dimensions in mm. Subject to technical changes.



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

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

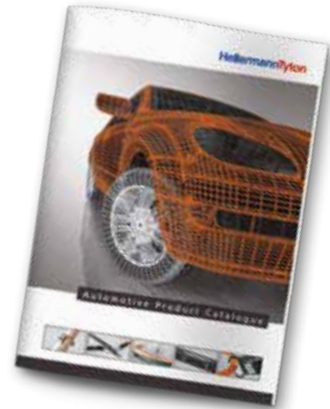
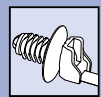
TYPE	Drawing	Length (L)	Width (W)	Bundle Ø max.	N	Material Cable Tie	Material Foot Part	Colour	Tools	Article-No.
T50ROSEC23		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00774
T50ROSEC24		200.0	4.6	45.0	225	PA66HS	PA66HIRHS	Black (BK)	2,6,10	156-00775

All dimensions in mm. Subject to technical changes.

#### Recommended Tools

	2	6	10
	MK20	EVO7	MK9/EVO9
	192	190	191

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



Comprehensive brochure available on request.

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

TYPE	Drawing	Length (L)	Width (W)	Bundle Ø max.	Attach to Ø	Material	Colour	Tools	Article-No.
T50SVC4S		155.0	4.7	35.0	3,8 - 4,2	PA66HS, PP	Black (BK), Natural (NA)	2,6,10	156-00447
T50SVC6,5		155.0	4.7	35.0	6,5 - 8,0	PA66HS, PA66HIRHS	Black (BK)	2,6,10	156-01371
T50SVCOC10-14		155.0	4.7	35.0	10,0 - 14,0	PA46	Grey (GY)	2,6,10	156-00134
T50SVCOC19-24,5		155.0	4.7	35.0	19,0 - 24,5	PA66HS, PA66HIRHS	Black (BK)	2,6,10	156-00136

All dimensions in mm. Subject to technical changes.

### 2-Piece Fixing Ties with Pipe Clip

TYPE	Drawing	Length (L)	Width (W)	Bundle Ø max.	Attach to Ø	Material	Colour	Tools	Article-No.
T50ROC1B		202.0	4.6	45.0	4,0 - 10,0	PA66HS, PA66HIRHS	Black (BK)	2,6,10	156-00306

All dimensions in mm. Subject to technical changes.

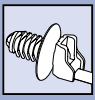
### 2-Piece Fixing Ties with Pipe, twistable 90°

TYPE	Drawing	Length (L)	Width (W)	Bundle Ø max.	Attach to Ø	Material	Colour	Tools	Article-No.
T50ROC15CBTO-SD-SET		202.0	4.6	45.0	15,0 - 18,0	PA66HS, PA66HIRHS	Black (BK)	2,6,10	156-00419

All dimensions in mm. Subject to technical changes.

Recommended Tools			
	2	6	10
	MK20	EVO7	MK9/EVO9
	192	190	191

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



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

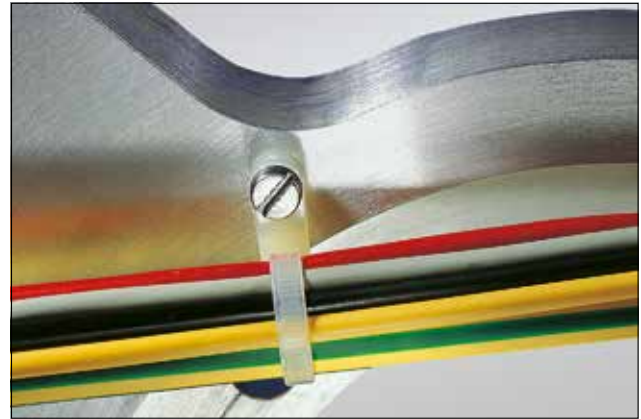
#### Screw Mount Ties

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.

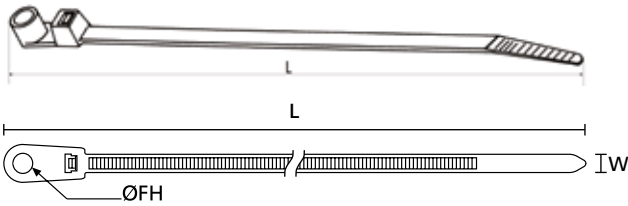
The tie is fitted to the panel first and then the cables can be added.

#### Features and Benefits

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



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



T( )MR Series with Mounting Head for Screw fixing



**Material specification please see page 16.**

TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Hole Ø (FH)	Mounting	Material	Colour	Tools	Pack Cont.	Article-No.
T18MR	110.0	2.5	20.0	80	3.1	# 4 screw	PA66	Black (BK)	2,6	100 pcs.	113-00022
	110.0	2.5	20.0	80	3.1		PA66	Black (BK)	2,6	1000 pcs.	113-00024
	110.0	2.5	20.0	80	3.1		PA66	Natural (NA)	2,6	100 pcs.	113-00026
	110.0	2.5	20.0	80	3.1		PA66	Natural (NA)	2,6	1000 pcs.	113-00028
T30MR	160.0	3.5	32.0	135	4.3	# 8 screw	PA66	Black (BK)	2,6	100 pcs.	113-03010
	160.0	3.5	32.0	135	4.3		PA66	Natural (NA)	2,6	100 pcs.	113-03019
T50MR	215.0	4.7	45.0	225	5.4	# 10 screw	PA66	Black (BK)	2,6,10	100 pcs.	113-05000
	215.0	4.7	45.0	225	5.4		PA66	Natural (NA)	2,6,10	100 pcs.	113-05004
T50MI	315.0	4.7	85.0	225	5.5	# 10 screw	PA66W	Natural (NA)	2,6,10	100 pcs.	113-00032
	215.0	4.7	45.0	225	5.5		PA66W	Black (BK)	2,6,10	100 pcs.	113-00038
T50ML T120MR	390.0	4.7	100.0	225	5.5	# 10 screw	PA66	Natural (NA)	2,6,10	100 pcs.	113-05419
	390.0	4.7	100.0	225	5.5		PA66	Black (BK)	2,6,10	100 pcs.	113-00007
T120ML T120MR	395.0	7.6	102.0	535	6.5	# 1/4" screw	PA66	Black (BK)	10,11	50 pcs.	113-12020
	395.0	7.6	102.0	535	6.5		PA66	Natural (NA)	10,11	50 pcs.	113-12029

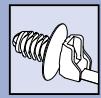
All dimensions in mm. Subject to technical changes.

Recommended Tools				
	2	6	10	11
	MK20	EVO7	MK9/EVO9	MK9HT/EVO9HT
	192	190	191	191

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 single hole application (Chassis Tie)

#### Button Head Ties

Button Head ties provide a one-piece mounting solutions for bundles, eliminating the need for additional mounts and fasteners. The strap contains serrations on both sides and has two opposing pawls recessed within the domed head, enabling the strap to be directed either way through the buttonhead.

#### Features and Benefits

##### A. Pilot Bushing

Protects the strap from abrasion on the mounting hold edge

##### B. Ribs

Add stability on the bottom of the head

##### C. Strap

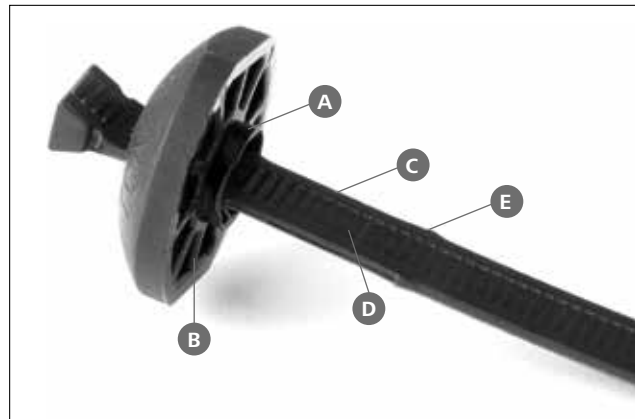
Enhances flexibility due to its edge radiuses

##### D. Serrations and Wedge

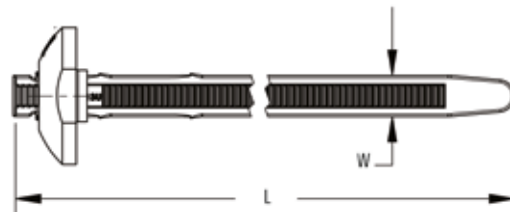
Provides optimal strength when the strap serrations are seated in the head

##### E. Lower Retainers


Holds HellermannTyton's MSBT120 saddle mounts in place during assembly (BT130 only)



BT130RDP - Button head tie with pilot bushing




Fixing tie with deep hole anchor

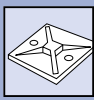
TYPE	Description	Length (L)	Width (W)	Bundle Ø max.		Material	Colour	Tools	Pack Cont.	Article-No.
BT105R	Button Head Ties	244.4	5.6	66.7	467	PA66HS	Black (BK)	2,6,10	50 pcs.	132-00010
BT105L		381.5	5.6	110	467	PA66HS	Black (BK)	2,6,10	50 pcs.	132-00011
BT130RDP	Button Head Ties with Retainers and Pilot Bushing	267.0	7.6	73.0	578	PA66HIRHS	Black (BK)	2,6,10	50 pcs.	132-00008
		381.5	7.6	110.0	578	PA66HIRHS	Black (BK)	2,6,10	50 pcs.	132-00009

All dimensions in mm. Subject to technical changes.

Note: In order to assure the strap is fully locked in its final secure position, the installer must make sure that the "wedge" located at the end of the strap is fully seated in the button and flush with the top of the bottom. The EVO9 cable tie tool is recommended and end use testing is advised.

Recommended Tools			
	2	6	10
	MK20	EVO7	MK9/EVO9
	192	190	191

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



### Fixing Parts with Special Adhesive

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

FlexTack cable tie mounts offering an innovative fixing solution especially for round and angled low energy surfaces like PP, PE or if drilling a hole is not possible. Suitable for a wide range of in- and outdoor applications on varnished or plastic or metal surfaces in many areas e. g. electrical cabinet, railway, aerospace, automotive and agriculture machinery.

#### Features and Benefits

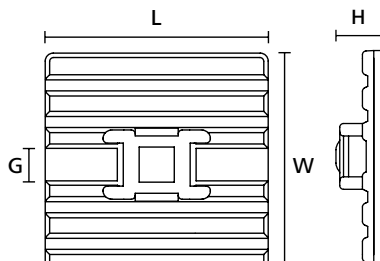
- Flexible Mount for round and angled surfaces
- FMB mounts with homogeneous system of acrylic adhesive
- Allows greater design freedom and offers uniform stress distribution along with weight reduction
- High cohesive strength combined with good weathering resistance
- Innovative fixing solution for low energy surfaces like PP, PE or painted / varnished surfaces
- Protection foil with finger lift for easy peel off
- Temperature resistance up to +105°C



Flexible cable tie mount (FlexTack) in a concave application.

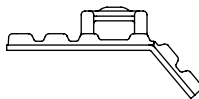


**Material specification please see page 16.**

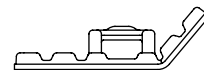


Flexible Adhesive Mount FMB4APT-I (plan view)

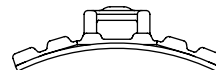
Flexible Adhesive Mount FMB4APT-I (side view)



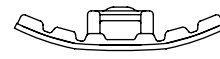
Flexible Adhesive Mount FMB4APT-I (down angled, side view)



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



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

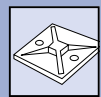


Flexible Adhesive Mount FMB4APT-I (concave, side view)

TYPE	Length (L)	Width (W)	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.





### Fixing Parts with Special Adhesive

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

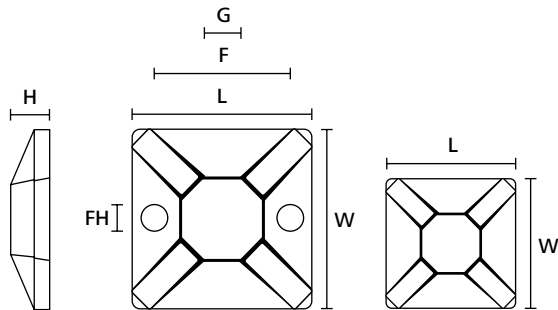
#### Features and Benefits

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



SolidTack products work on varnished and powder coated surfaces.

#### SolidTack-Series MB



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



One Step to the Web!

TYPE	Length (L)	Width (W)	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.



### Flat Ribbon Clips

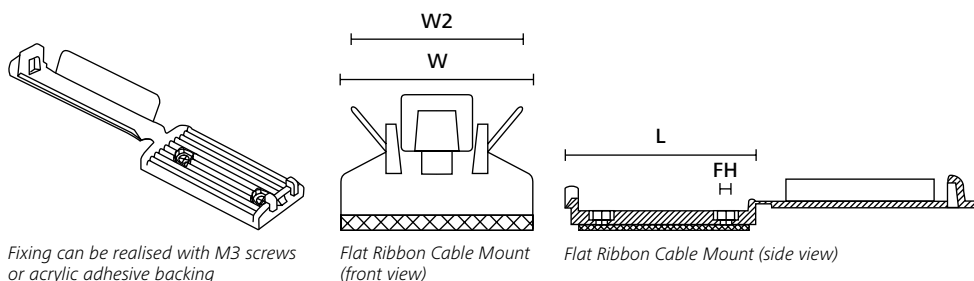
These clips are ideal for use in applications which are difficult to access, or for areas where a self adhesive is the only possible fixing method (for example 'holes' would be unacceptable). The FKH clips are designed to retain flat ribbon cables - ideal for use in computer equipment, gaming machines and domestic appliances. Available in self-adhesive mount or screw mount.

#### Features and Benefits

- One-piece fixing clips for flat ribbon cables
- Quick and easy installation
- Easily releasable and re-usable



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



#### FKH-Series, Self Adhesive, Screw Fixing

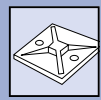
TYPE	Length (L)	Width (W)	Width (W2)	Hole Ø (FH)	Material	Colour	Adhesive	Article-No.
FKH25A	31.0	25.0	22.0	3,1	PA66HIR	Black (BK)	Acrylate	151-15250
FKH30A	35.0	25.0	22.0	3,1	PA66HIR	Black (BK)	Acrylate	151-15300
FKH50A	56.5	25.0	22.0	3,1	PA66HIR	Black (BK)	Acrylate	151-15500
FKH80A	86.0	25.0	22.0	3,1	PA66HIR	Black (BK)	Acrylate	151-15800

All dimensions in mm. Subject to technical changes.

#### FKH-Series, Screw Fixing

TYPE	Length (L)	Width (W)	Width (W2)	Hole Ø (FH)	Material	Colour	Article-No.
FKH25	31.0	25.0	22.0	3,1	PA66HIR	Black (BK)	151-16250
FKH30	35.0	25.0	22.0	3,1	PA66HIR	Black (BK)	151-16300
FKH50	56.5	25.0	22.0	3,1	PA66HIR	Black (BK)	151-16500
FKH80	86.0	25.0	22.0	3,1	PA66HIR	Black (BK)	151-16800

All dimensions in mm. Subject to technical changes.



### 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.

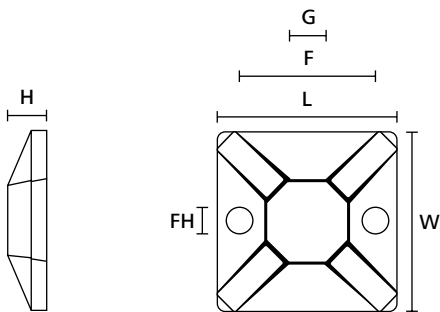
#### Features and Benefits

- 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 Mounts with square design / screwable, self adhesive.

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



MB3-MB5 (side view)

MB3-MB5 (plan view)

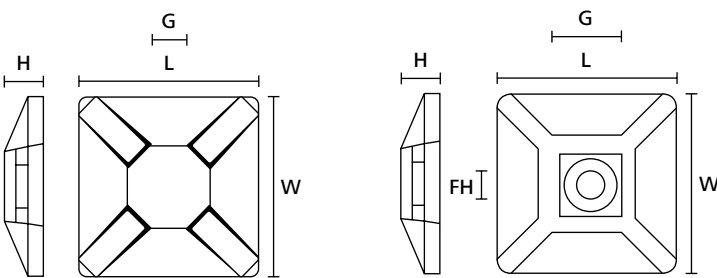


Material specification please see page 16.

TYPE	Length (L)	Width (W)	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

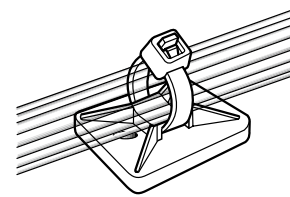
All dimensions in mm. Subject to technical changes. Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

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



Cable Tie Mount MB2A (side and plan view)

Cable Tie Mount MB4CA (side and plan view)



Cable Tie Mount MB3A in application

TYPE	Length (L)	Width (W)	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



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

Further information at [www.hellermannTyton.com.au/fixings](http://www.hellermannTyton.com.au/fixings)





#### 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



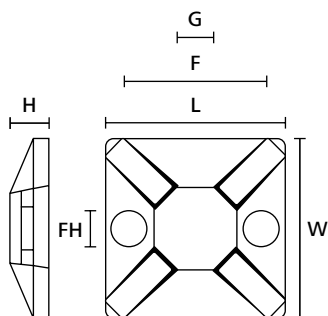
Detectable fixing solution containing of MCMB mount and MCT cable tie.



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)



One Step to the Web!

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

All dimensions in mm. Subject to technical changes.

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

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

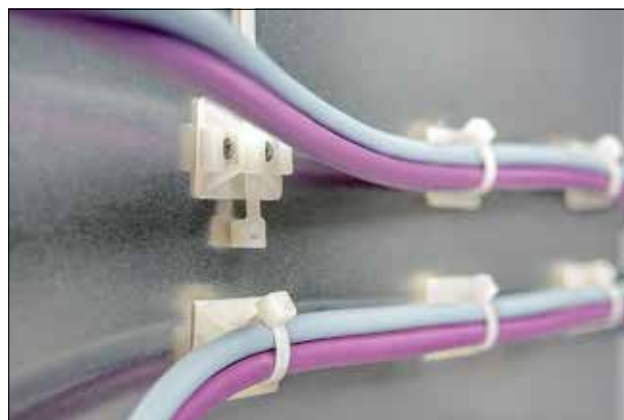


### Screw Fixing Cable Tie Mounts

These products are designed for simple, yet robust, installation in a wide variety of applications - particularly used in telecoms equipment, switchgear and control cabinets.

#### Features and Benefits

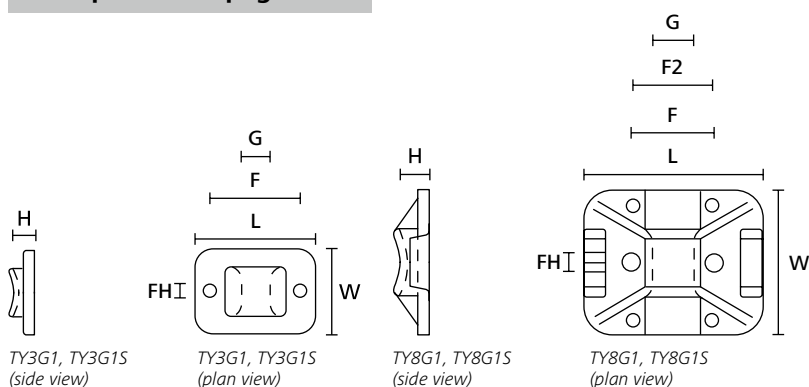
- Screwable or self-adhesive versions
- Concave design to support larger diameter cables and bundles
- 2-way mounting base for safe guiding of cables and conduits
- Suitable for applications with minimal space
- Mounted before cable installation
- Usable with standard cable ties



TY-Series mounts with rectangle design / screwable, self adhesive.



**Material specification please see page 16.**



#### TY-Series Rectangle Design, screwable

TYPE	Length (L)	Width (W)	Height (H)	Hole Ø (FH)	Fixing Hole Centres (F)	Fixing Hole Centres (F2)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
TY3G1	20.0	14.0	3.7	2,2	15.0	-	4.0	PA66	Natural (NA)	100 pcs.	151-21319
TY8G1	32.0	25.0	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	Length (L)	Width (W)	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	20.0	14.0	3.7	2,2	15.0	-	4.0	PA66	Natural (NA)	Acrylate	100 pcs.	151-11319
	20.0	14.0	3.7	2,2	15.0	-	4.0	PA66W	Black (BK)	Acrylate	100 pcs.	151-11310
TY8G1S	32.0	25.0	5.5	3,2	15.0	14.0	8.0	PA66	Natural (NA)	Acrylate	100 pcs.	151-11819
	32.0	25.0	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

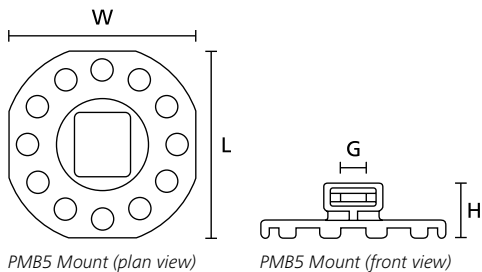
PMB5 pasty mount offers a fixing solution wherever screw fixing is not allowed. Due to a larger diameter the mount can even be installed onto uneven surfaces. PMB5 pasty mount is used in the railway industry as well as in the renewable energy industry. Further applications are in the ship building industry,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



**Material specification  
please see page 16.**

TYPE	Length (L)	Width (W)	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

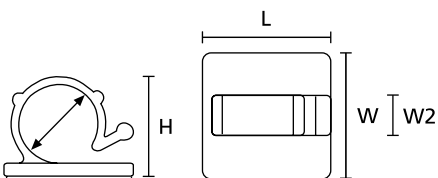
These mounts are ideal for use in applications which are difficult to access or for areas where self adhesive is the only possible fixing method and fixing holes would be unacceptable. The round self adhesive mounts can be used without cable ties. Offering process optimization in industries like automotive,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



RA3-18 Series  
(side view)

RA3-18 Series (plan view)

TYPE	Length (L)	Width (W)	Width (W2)	Height (H)	Bundle Ø max.	Material	Colour	Adhesive	Article-No.
RA3	13.0	13.0	5.0	5.0	3.0	PA66	Natural (NA)	Synthetic rubber T60	151-13018
RA6APT-I	19.0	19.0	5.0	9.0	6.0	PA66	Natural (NA)	mod. Acrylate	151-01635
RA6	19.0	19.0	5.0	9.0	6.0	PA66	Natural (NA)	Synthetic rubber T60	151-13019
RA9	19.0	19.0	7.5	12.5	9.0	PA66	Natural (NA)	Synthetic rubber T60	151-13020
RA13APT-I	25.0	25.0	10.0	16.5	13.0	PA66	Natural (NA)	mod. Acrylate	151-01636
RA13	25.0	25.0	10.0	16.5	13.0	PA66	Natural (NA)	Synthetic rubber T60	151-13021
RA18	28.5	28.5	10.0	23.0	18.0	PA66	Natural (NA)	Synthetic rubber T60	151-13119

All dimensions in mm. Subject to technical changes.



### Screw Fixing Mounts

#### LKC- and NY-Series with overlapping curved design

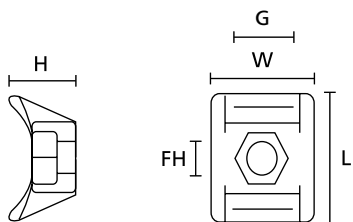
Designed specifically for holding heavier cable bundles, these mounting bases can be used in many industries from agriculture to truck manufacturing, they offer a very secure fixing and can be used with a wide variety of heavy duty cable ties up to 13 mm width.

#### 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



Cable Tie Mounts LKC Series.



NY3256 (side view)

NY3256 (plan view)

TYPE	Drawing	Length (L)	Width (W)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
LKC		25.0	17.0	13.5	5,5	8.0	PA66	Black (BK)	100 pcs.	151-27010
		25.0	17.0	13.5	5,5	8.0	PA66	Natural (NA)	100 pcs.	151-27019
LKCSF1		40.0	19.0	16.0	6,0	13.0	PA66W	Black (BK)	100 pcs.	151-01679
		40.0	19.0	16.8	6,0	13.0	PA66	Natural (NA)	100 pcs.	151-27219
		40.0	19.0	16.8	6,0	13.0	PA66	Black (BK)	100 pcs.	151-27202
NY3256		13.5	12.0	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

#### Cable Tie Mounts with curved design

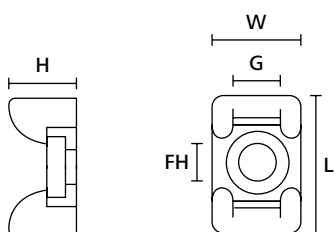
Designed specifically for holding heavier cable bundles these mounting bases can be used in many industries from agriculture to truck manufacture, they offer a very secure fixing and can be used with a wide variety of heavy duty cable ties up to 8.3 mm width.

#### 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



**Material specification please see page 16.**



KR6G5, KR8G5 and CTM (side view)

KR6G5, KR8G5 and CTM (plan view)



Cable Tie Mounts KR6G5, KR8G5 and CTM.



**The KR-E/TFE mounts can ideally be combined with the E/TFE-cable ties on page 36.**



**Supports quality processes around the production of food stuffs, such as e.g. HACCP.\***

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





### 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.

#### 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



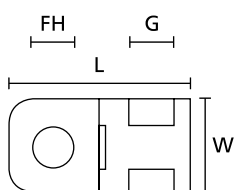
CTAM mounts, for applications with limited space.



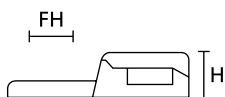
The CTAM mounts made of PA66MP+ are the ideal complement for MCTS ties on page 43.



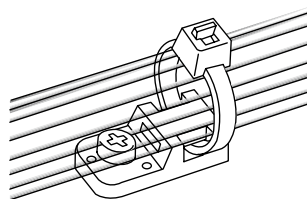
Supports quality processes around the production of food stuffs, such as e.g. HACCP.\*



CTAM-Series (plan view)



CTAM-Series (side view)



CTAM-Series in application



One Step to the Web!

TYPE	Length (L)	Width (W)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
CTAM1	20.4	10.2	5.1	4,3	5.0	PA66	White (WH)	100 pcs.	151-31109
CTAM2	20.4	10.2	5.1	5,2	5.0	PA66	White (WH)	100 pcs.	151-31203
CTAM1	20.5	10.2	5.5	4,3	5.0	PEEK	Light Beige (LTBGE)	100 pcs.	151-00757
CTAM2	20.5	10.2	5.5	5,2	5.0	PEEK	Light Beige (LTBGE)	100 pcs.	151-00758
MCCTAM1	20.7	10.3	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.



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

Primarily designed for use in the automotive / truck industry, these parts can be used in a wide variety of industries and applications where bundles need mounting.

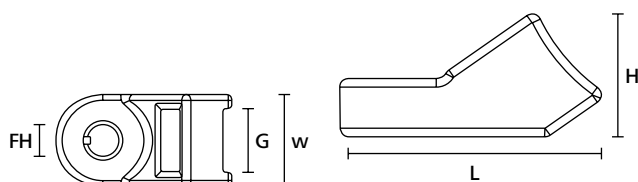
#### Features and Benefits

- Secure alignment to the bundle due to H-design
- Pre-fixing of clip with integrated nose (standard types)
- For cable ties up to 12.7 mm wide
- High tightening torque through metal bushing
- Easy maintenance of bundle by simply changing the cable tie



Heavy Duty Mounts HDM-Series, Patent Number US5820083.

#### Standard Torque Mounts



HDM19, 25, 312



Material specification please see page 16.

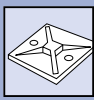
TYPE	Drawing	Length (L)	Width (W)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
HDM25		35.8	19.0	16.7	6,2	12.7	PA66HIR	Black (BK)	100 pcs.	151-00437
HDM19		36.3	19.3	16.7	4,7	12.7	PA66HIRHS	Black (BK)	100 pcs.	151-00134
HDM312		36.3	19.3	16.7	7,8	12.7	PA66HIRHSW	Black (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	Length (L)	Width (W)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
HDM321		46.0	24.0	20.7	8,31	12.7	PA66HSW	Black (BK)	500 pcs.	151-07100
HDM501		46.0	24.0	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)


The high torque mount is designed for use with power-assisted impact wrenches and is molded with a metal housing to withstand the forces required to tighten grade 8 bolts. The arched "H" profile of the saddle surface allows for a broad surface contact with the bundle, minimizing pinching and crushing of bundles, and it adjusts to a wide variety of bundle diameters.

TYPE	Drawing	Length (L)	Width (W)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
HDM320		47.0	25.0	20.7	8,31	12.7	PA66HIR	Black (BK)	500 pcs.	151-07000
HDM400		47.0	25.0	20.7	10,29	12.7	PA66HIRHSW	Black (BK)	500 pcs.	151-07200
HDM500		47.0	25.0	20.7	12,95	12.7	PA66HIRHSW	Black (BK)	500 pcs.	151-07400

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

### High Torque Double Mounts (metal bushing)


This mount is designed for use with power-assisted impact wrenches and is molded with a metal brushing to withstand the forces required to tighten grade 8 bolts. The high torque double mount secures the bundle directly over the mounting fastener. The arched saddle surface allows for a broad surface contact with the bundle, minimising pinching and crushing of the paddles, and accommodates a wide variety of bundle diameters.

TYPE	Drawing	Length (L)	Width (W)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
HDM375		89.0	34.5	25.2	10,29	12.7	PA66HIRHSW	Black (BK)	100 pcs.	151-00756

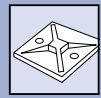
All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

### Low Profile Mount

The Low Profile Mount is used in conjunction with a cable tie to attach a bundle to a flat surface, making it ideal for application where space is limited for positioning a bundle. This device is secured to the mounting surface with a mechanical fastener and features a counter bore for easy access with a socket. HellermannTyton cable ties, up to 12.7mm wide, are used to fasten bundles to the Low Profile Mount. Single bundles can be positioned on top of the mount, or two bundles can be separated using the two side saddles.

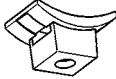
TYPE	Drawing	Length (L)	Width (W)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
LPM25		45.1	24.9	16.7	6.7	12.7	PA66HIRHSUV	Black (BK)	500 pcs.	151-01122

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



### Mounting Cradle

The mounting cradle holds cables and harnesses secure yet clear of the panel surface. This cradle is for use with HellermannTyton cable ties.

TYPE	Drawing	Length (L)	Width (W)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Cable Tie Series	Material	Colour	Pack Cont.	Article-No.
LKC		25.0	17.0	13.5	5.5	8.0	T50 - T250	PA66	Black (BK)	100 pcs.	151-27010
LKC		25.0	17.0	13.5	5.5	8.0	T50 - T250	PA66	Natural (NA)	100 pcs.	151-27019
LKCSF1		40.0	19.0	16.8	6.0	13.0	T50 - T250	PA66	Black (BK)	100 pcs.	151-27202
LKCSF1		40.0	19.0	16.8	6.0	13.0	T50 - T250	PA66	Natural (NA)	100 pcs.	151-27219

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

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

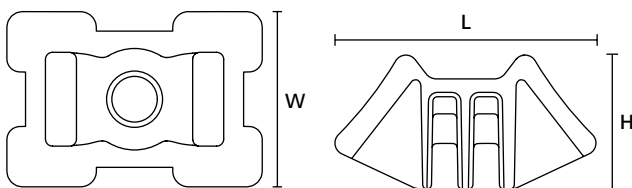
This heavy duty harness clip helps to fix and secure cables and wires in railway, truck and agricultural vehicle construction, and is also used in the ship building industry.

#### Features and Benefits

- For parallel routing of bundles
- Secure alignment to the bundle due to H-design
- Cable tie head can be moved after bundling
- For cable ties up to 12.7 mm wide
- Easy maintenance of bundle by simply changing the cable tie



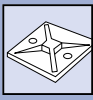
This saddle mount is installed between two bundles to separate them and prevent chafing and wear.



S2CM25

TYPE	Length (L)	Width (W)	Height (H)	Hole Ø (FH)	Bundle Ø max.	Cable Tie Series	Material	Colour	Pack Cont.	Article-No.
S2CM25	45.0	30.0	23.0	6.0	89.0	T50 - T250	PA66HIRHS	Grey (GY)	500 pcs.	151-29400
S2HM25	45.0	30.0	23.0	6.0	89.0	T50 - T250	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.



### Fixing elements for Parallel Routing, twistable

#### DSWS4

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. The mounts can be easily rotated by hand, allowing the bundles to be crossed and rotated at any angle. Cable ties, which secures the bundles, are used with the mounts. The dual swivel saddle spacers accommodate cable ties up to 12.7mm wide.

The "H" profile of the saddles allows for broad surface contact with the bundle, minimizing pinching and crushing of the bundle, and it accepts a wide range of bundle diameters from 6.35mm to 76.2mm.

#### Features and Benefits

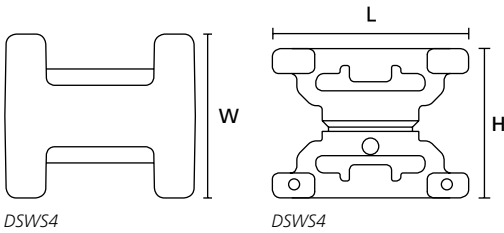
- For parallel routing of bundles that can be twisted 360° even after setting
- Secure alignment to the bundle due to H-design
- Cable tie head can be moved after bundling
- For cable ties up to 12.7 mm wide
- For post-installation of bundles



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



DSWS4 provides a 17.8mm separation between bundles.



DSWS4

DSWS4

TYPE	Length (L)	Width (W)	Height (H)	Bundle Ø min.	Bundle Ø max.	Cable Tie Series	Material	Colour	Pack Cont.	Article-No.
DSWS4	23.6	20.3	18.0	6.0	76.0	T50 - T250	PA66HS, POM	Black (BK)	50 pcs.	151-00644
	23.6	20.3	18.0	6.0	76.0	T50 - T250	PA66HS, POM	Black (BK)	2,200 pcs.	151-06500

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



### Fixing elements for Parallel Routing, twistable

#### DSWS5

These saddle spacers are installed between two bundles (such as wires, cables, hoses, tubing, conduit, etc.) to separate them and prevent chafing and wear. The spacers can be easily rotated by hand, allowing the bundles to be crossed and rotated at any angle. Cable ties, which secure the bundles, are used with the spacers.

The DSWS5 accepts bundle diameter ranging from 15.8mm to 152.4mm. The DSWS5 provides a 23.6mm separation between bundles. The dual swivel saddle spacers accommodate cable ties up to 25.4mm wide.

#### Features and Benefits

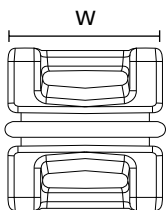
- For parallel routing of bundles that can be twisted 360° even after setting
- Secure alignment to the bundle due to H-design
- Cable tie head can be moved after bundling
- For cable ties up to 12.7 mm wide
- For post-installation of bundles



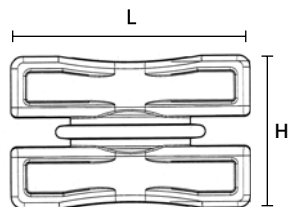
DSWS5 - The spacers can be easily rotated by hand, allowing the bundles to be crossed and rotated at any angle.



DSWS5 provides a 23.6mm separation between bundles.



DSWS5



DSWS5

TYPE	Length (L)	Width (W)	Height (H)	Bundle Ø min.	Bundle Ø max.	Cable Tie Series	Material	Colour	Pack Cont.	Article-No.
DSWS50HSK2	40.6	25.4	23.6	16.0	152.0	T50 - T250	PA66HS	Black (BK)	50 pcs.	151-06502

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



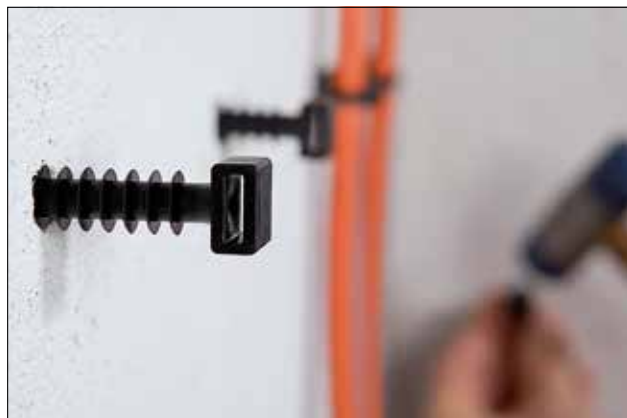
### Fixing Base

#### 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

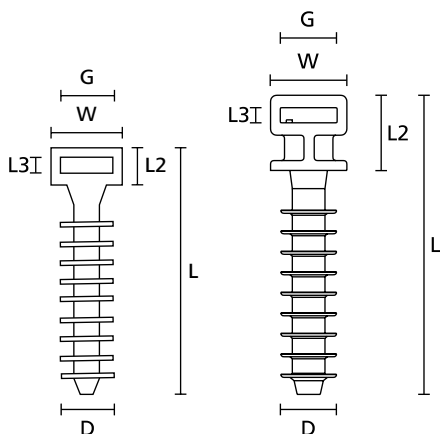
- LOK01 - LOK05 usable with any cable ties up to 9 mm wide
- Suitable for a wide range of materials, including concrete, brick, block and wood
- Installed by knocking into 7 mm or 8 mm diameter hole
- LOK01B is designed for soft brickwork and 6 mm holes
- Elongated head of LOK05 for setting bundles at a distance from brickwork



LOK01 fixing bases for indoor and outdoor use.

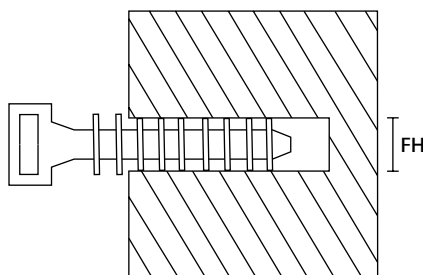


The whole LOK-Series can ideally be combined with cable ties up to 9 mm cable tie width.



LOK01 fixing base (front view)

LOK05 fixing base (front view)



LOK01 pushed into a wall bore hole.

TYPE	Length (L)	Width (W)	Length (L2)	Length (L3)	Ø D	Strap Width max. (G)	Hole Ø (FH)	Material	Colour	Article-No.
LOK01B	30.0	12.0	6.5	2.5	7.2	9.0	6,0	PA6HIR	Black (BK)	151-80500
LOK01S	34.0	12.0	6.5	2.5	9.2	9.0	7,0 - 8,0	PA6HIR	Black (BK)	151-80600
LOK01	44.0	12.0	6.5	2.5	9.2	9.0	7,0 - 8,0	PA11	Black (BK)	151-01277
	44.0	12.0	6.5	2.5	9.2	9.0	7,0 - 8,0	PA6HIR	Black (BK)	151-80110
LOK05	49.0	12.0	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.





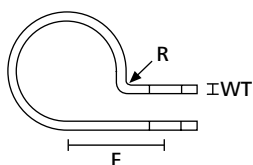
### Plastic P-Clips

#### HP-Series

For permanent, or semi-permanent, cable fixings this range of P-Clips 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



P-Clip H1P - H18P (side view)

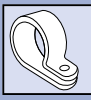
P-Clip H1P - H18P (plan view)



P-Clips H1P - H18P in different dimensions.

TYPE	Width (W)	Wall (WT)	Hole Ø (FH)	Bundle Ø max.	Fixing Hole Centres (F)	Radius (R)	Material	Colour	Article-No.
H1P	10.0	0.80	4,2	3.2	8.5	0.5	PA66	Natural (NA)	211-60019
	10.0	0.80	4,2	3.2	8.5	0.5	PA66HS	Black (BK)	211-60000
H2P	10.0	1.00	4,2	5.0	9.5	1.0	PA66	Natural (NA)	211-60029
	10.0	1.00	4,2	5.0	9.5	1.0	PA66HS	Black (BK)	211-60001
H3P	10.0	1.00	4,2	6.5	10.0	1.0	PA66	Natural (NA)	211-60039
	10.0	1.00	4,2	6.5	10.0	1.0	PA66HS	Black (BK)	211-60002
H4P	10.0	1.20	4,2	8.0	10.0	1.0	PA66	Natural (NA)	211-60049
	10.0	1.20	4,2	8.0	10.0	1.0	PA66HS	Black (BK)	211-60003
H5P	10.0	1.20	4,2	9.5	11.0	1.0	PA66	Natural (NA)	211-60059
	10.0	1.20	4,2	9.5	11.0	1.0	PA66HS	Black (BK)	211-60004
H6P	10.0	1.20	4,2	11.0	13.0	1.0	PA66	Natural (NA)	211-60069
	10.0	1.20	4,2	11.0	13.0	1.0	PA66HS	Black (BK)	211-60005
H7P	10.0	1.20	4,2	12.5	14.0	1.5	PA66	Natural (NA)	211-60079
	10.0	1.20	4,2	12.5	14.0	1.5	PA66HS	Black (BK)	211-60006
H8P	10.0	1.50	4,2	14.0	15.0	1.5	PA66	Natural (NA)	211-60089
	10.0	1.50	4,2	14.0	15.0	1.5	PA66HS	Black (BK)	211-60007
H9P	10.0	1.50	4,2	16.0	16.0	1.5	PA66	Natural (NA)	211-60099
	10.0	1.50	4,2	16.0	16.0	1.5	PA66HS	Black (BK)	211-60008
H10P	10.0	1.50	4,2	17.5	17.0	1.5	PA66	Natural (NA)	211-60109
	10.0	1.50	4,2	17.5	17.0	1.5	PA66HS	Black (BK)	211-60009
H11P	10.0	1.50	4,2	19.0	18.0	2.0	PA66	Natural (NA)	211-60119
H12P	10.0	1.50	4,2	20.5	19.0	2.0	PA66	Natural (NA)	211-60129
H13P	12.0	1.50	5,2	22.0	20.5	2.0	PA66	Natural (NA)	211-60139
H14P	12.0	1.50	5,2	24.0	21.5	2.0	PA66	Natural (NA)	211-60149
H15P	12.0	1.50	5,2	25.5	23.0	2.5	PA66	Natural (NA)	211-60159
H16P	12.0	1.50	5,2	28.5	24.0	2.5	PA66	Natural (NA)	211-60169
H17P	12.0	1.50	5,2	31.5	26.0	2.5	PA66	Natural (NA)	211-60179
H18P	12.0	1.50	5,2	35.0	27.5	2.5	PA66	Natural (NA)	211-60189

All dimensions in mm. Subject to technical changes.



## Snapper Hose Clips for Tubes and Harnesses

### SNP-Series

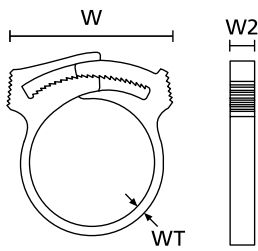
SNP range may replace metal hose clamps. Snapper can be used in markets as diverse as automotive, agriculture, white goods, venting systems, pumps and hydraulic systems to medical engineering.

#### 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 16.

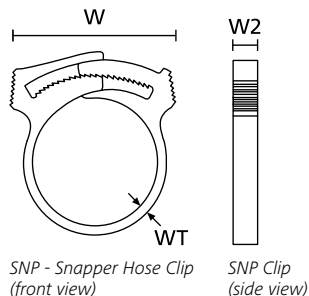
TYPE	Bundle Ø min.	Bundle Ø max.	Width (W) min.	Width (W) max.	Width (W2)	Wall (WT)	Material	Colour	Article-No.
SNP1	6.0	6.5	8.33	11.73	3.8	1.00	POM	White (WH)	190-00022
	6.0	6.8	8.56	11.79	3.8	1.00	PA66GF13	Black (BK)	192,6,10010
SNP1.25	7.1	7.7	10.57	12.62	3.8	1.10	PA66GF13	Black (BK)	190-00029
SNP1.5	7.8	9.2	13.00	17.00	3.7	1.40	PA66GF15	Black (BK)	193-00150
SNP2(E)	8.7	10.0	17.00	21.00	6.0	1.50	POM	Natural (NA)	191-10029
SNP2	9.3	10.5	12.22	17.48	5.9	1.70	PA66GF13	Black (BK)	192,6,10020
SNP3(E)	10.0	11.4	19.00	25.00	6.0	1.80	POM	Natural (NA)	191-10039
SNP4	10.4	11.7	13.39	19.15	5.9	1.70	PA66GF13	Black (BK)	192,6,10040
SNP4(E)	10.8	12.3	19.00	23.00	6.0	1.80	POM	Natural (NA)	191-10049
SNP7	11.4	13.7	18.62	28.73	5.9	1.70	PA66GF13	Black (BK)	192,6,10070
SNP6	11.7	13.3	14.71	21.54	5.9	1.70	PA66GF13	Black (BK)	192,6,10060
SNP6(E)	12.0	13.7	19.00	24.00	6.0	1.80	POM	Natural (NA)	191-10069
SNP8	13.1	15.0	16.69	24.89	5.7	1.70	PA66GF13	Black (BK)	192,6,10080
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)	192,6,10100
SNP10(E)	15.0	16.8	19.00	24.00	6.0	1.80	POM	Natural (NA)	191-10109
SNP12A	15.9	18.2	20.96	29.90	5.9	1.80	PA66GF13	Black (BK)	190-00254
SNP12(E)	16.8	18.4	19.00	24.00	6.0	1.80	POM	Natural (NA)	191-10129
SNP14(E)	18.1	19.9	19.00	24.00	6.0	1.80	POM	Natural (NA)	191-10149
SNP14A	18.5	21.0	20.90	30.10	5.9	1.80	PA66GF13	Black (BK)	190-00300
SNP16	19.1	21.7	19.89	30.81	5.8	1.50	PA66GF13	Black (BK)	192,6,10160
SNP16(E)	19.9	21.7	19.00	24.00	6.0	1.90	POM	Natural (NA)	191-10169
SNP18A	19.9	23.6	24.03	35.51	5.9	1.80	PA66GF13	Black (BK)	190-00258
SNP18(E)	21.4	23.0	16.00	22.00	6.0	1.90	POM	Natural (NA)	191-10189
SNP19	22.3	25.3	22.30	36.09	5.9	1.80	PA66GF13	Black (BK)	190-00090

All dimensions in mm. Subject to technical changes.



## Snapper Hose Clips for Tubes and Harnesses

### SNP-Series



TYPE	Bundle Ø min.	Bundle Ø max.	Width (W) min.	Width (W) max.	Width (W2)	Wall (WT)	Material	Colour	Article-No.
SNP20(E)	22.7	24.7	20.00	26.00	6.0	1.80	POM	Natural (NA)	191-10209
SNP22	23.7	27.4	23.90	37.69	6.0	1.80	PA66GF13	Black (BK)	192,6,10220
SNP22(E)	25.3	27.3	20.00	26.00	6.0	1.60	POM	Natural (NA)	191-10229
SNP24	25.8	29.2	26.49	39.40	7.3	1.70	PA66GF13	Black (BK)	192,6,10240
SNP24(E)	26.5	28.6	26.50	39.40	7.4	2.50	POM	Natural (NA)	191-10249
SNP28	29.1	33.6	25.91	41.81	7.3	1.70	PA66GF13	Black (BK)	190-00127
SNP32(E)	30.3	33.1	27.00	34.00	7.5	2.00	POM	Natural (NA)	191-10329
SNP32	31.2	35.8	27.33	44.40	7.3	1.80	PA66GF13	Black (BK)	192,6,10320
SNP34(E)	32.5	35.1	27.00	34.00	7.5	2.00	POM	Natural (NA)	191-10349
SNP36(E)	34.8	37.1	27.00	34.00	7.5	2.00	POM	Natural (NA)	191-10369
SNP38(E)	36.7	38.9	27.00	34.00	7.5	2.00	POM	Natural (NA)	191-10389
SNP36	37.8	44.0	32.41	43.99	7.3	1.70	PA66GF13	Black (BK)	192,6,10360
SNP42(E)	41.0	44.2	32.00	45.00	7.5	2.00	POM	Natural (NA)	191-10429
SNP38	41.0	48.1	35.61	57.51	7.3	1.80	PA66GF13	Black (BK)	192,6,10380
SNP42N	44.5	52.2	35.10	58.93	7.3	1.70	PA66GF13	Black (BK)	191-00005
SNP50(E)	48.8	52.0	32.00	45.00	7.5	2.00	POM	Natural (NA)	191-10509
SNP50	52.2	58.6	36.50	60.40	7.3	1.70	PA66GF13	Black (BK)	192,6,10500
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.



1	<b>S3STM500HIRHSF1</b>	<b>Fir Tree Saddle Mount</b> Elevates bundles from frame rails • 12.7 mm mounting hole • 200 pounds extraction force • Works with cable ties up to 0.5" wide
2	<b>SAOM820HIRHSH1</b>	<b>Axial Oval Mount</b> Stands off bundles from frame rails and cross members • 8.0 mm mounting hole • Works with cable ties up to 0.5" wide
3	<b>151-00978</b>	<b>Axial Mount</b> Stands off bundles from frame rails and cross members • Metal bushing allows high impact installation • Available for 8.0, 10.0 and 13.0 mm hole diameters
4	<b>S2HM250HIRHSH1</b>	<b>Two-Way Saddle Mount</b> Separates two bundles • 0.25" stud diameter • Works with cable ties up to 0.5" wide
5	<b>132-00009</b>	<b>Button Head Tie</b> Harnesses bundles without additional fasteners • Serrations on both sides • Holds bundles up to 4.3" in diameter
6	<b>MSBT1200HIRHSH1</b>	<b>Saddle Mount for Button Head Tie</b> Secures up to three bundles • 0.5" mounting hole • For panel thicknesses 0.075" - 0.5"
7	<b>HDM250HIRC2</b>	<b>Heavy Duty Mount</b> Eliminates need for multiple sized p-clamps • Provides 115 inch pounds of torque • Available for 5.0, 6.0 and 8.0 mm hole diameters
8	<b>HDM400BHIHSUVH4</b>	<b>Heavy Duty Mount w/ Metal Bushing</b> Eliminates need for multiple sized p-clamps • Provides 114 foot pounds of torque • Available for 8.0, 9.5 and 12.7 mm hole diameters
9	<b>WSM60IMHSUVH1</b>	<b>Weld Stud Mount</b> Welds to painted frame rails without the need to grind surface • Secures bundles up to 6.0" • 0.25" stud diameter
10	<b>151-00663</b>	<b>Bundling Clip</b> Works with cables ties or tape • Available for mounting hole diameters 6.2 - 6.8 mm • For panel thicknesses 0.7 - 5.75 mm
11	<b>151-00813</b>	<b>H-Mount</b> Fastens onto bolts and secures up to three bundles • Installs quickly with drill and HBIT • Available in 0.375", 0.5", 0.625" and 0.75" hole diameters
12	<b>151-01122</b>	<b>Low Profile Mount</b> Low profile design for tight spaces • Mounts and separates bundles • 0.25" mounting hole diameter
13	<b>133-00993</b>	<b>HC Clamp</b> Separates and secures two or three bundles • Secures bundles up to 1.0" in diameter
14	<b>151-01231</b>	<b>Heavy Duty Hinge Clamp</b> Separates and secures bundles • Hinge and snap features allow quick and easy installation • High heat resistance up to 275°F
15	<b>151-01390</b>	<b>Ratchet P Clamp</b> Offered in four clamp sizes ranging from ¼" to 2.0" and several mounting configurations • One-piece adjustable clamp closes to the desired diameter • Non-destructive, releasable design
16	<b>151-01857</b>	<b>Wide Strap Adhesive Mount</b> Provides stability when securing bundles • For use with 120 pound wide-strap cable ties • Features 3M™ VHB™ (Very High Bond) adhesive





FASTENERS

<b>17</b> SR255X0HIHSUVH1	<b>Heavy Duty Releasable Tie</b> Designed for easy removal and reuse • 250 pound tensile strength • Available in 9.0" and 14.0" length
<b>18</b> MBT8S	<b>Stainless Steel Tie</b> Excellent resistance to salt and chemicals • Withstands temperatures up to 1,000°F • 202 pound tensile strength • Available in various lengths and tensile strengths
<b>19</b> FT9A0IMHSUVH4 <b>20</b> FT9B0IMHSUVH4	<b>Heavy Duty Fir Tree</b> For use with heavy duty cable ties • Fits mounting hole diameters 8.75 - 9.25 mm • Works on panel thicknesses 1.0 - 6.5 mm or 1.0 - 15.8 mm
<b>21</b> 111-12302	<b>Heavy Duty Wide Strap Cable Tie</b> Heavy duty 120 pound tensile strength • Wide 0.5" strap to prevent pinching • Available in 9.0", 12.0" and 15.0" lengths
<b>22</b> 111-85871	<b>Fir Tree with Cable Tie</b> Provides low insertion force with high extraction force • Serves as a locating feature in blind assembly applications • Disc provides additional stability in high vibration applications • Available in various hole sizes and cable tie lengths
<b>23</b> 156-00539	<b>Edge Clip with Cable Tie</b> Fastens onto plastic or metal sheets without a mounting hole • Provides low insertion force and high extraction force • Clip slides up and down tie to allow proper orientation • Available in various orientations and thickness
<b>24</b> 157-00097	<b>Fir Tree Mount Cable Tie</b> One piece design for fast and simple application • Disc feature covers holes to minimize ingress of water and dirt • Mount slides up and down tie to allow proper orientation • Available in various hole sizes
<b>25</b> 111-01670	<b>PAEK Cable Tie</b> Extreme heat resistance up to 392° F (200° C) • 100 pound tensile strength in small footprint • Available in various lengths
<b>26</b> 157-00286	<b>Wide Strap Stud Mount Cable Tie</b> Mount provides low insertion and high extraction forces • Thinner strap provides increased flexibility for improved ergonomics • Tie utilizes a strong hinge between the stud mount and strap head to provide superior holding ability
<b>27</b> 151-01566	<b>Wedge Clip</b> Edge clip for use with heavy duty cable ties • Closes with adjustable ratcheting action that creates extreme hold • Fits edge and rail thicknesses up to 51 mm • Available in three sizes

SEPARATORS

<b>28</b> DSWS50SH1 <b>29</b> 151-06500	<b>Dual Swivel Saddle Spacer</b> "H" saddle-style profile minimizes pinching and crushing of bundles • Swivels 360 degrees to accommodate any orientation • Works with cable ties up to 0.5" wide
<b>30</b> DCT110HIRK2	<b>Dual Clamp Tie</b> Separates two parallel bundles • 150 pound tensile strength • Available in 13.0" and 19.0" lengths
<b>31</b> 117-00012	<b>Standoff Mounting Dual Clamp Tie</b> Stands off and separates two parallel bundles • 150 pound tensile strength • Available in 20.0" and 26.0" lengths
<b>32</b> ISO4X250H1	<b>Isolator</b> Aligns and separates up to four 1/4" tubes or brake lines • Dampens vibration • TPV material withstands temperatures up to 329°F





### Heavy Duty Harness Clips

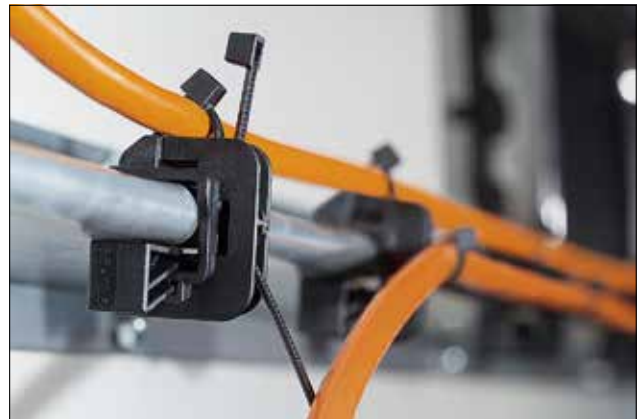
#### Beam Clamps

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

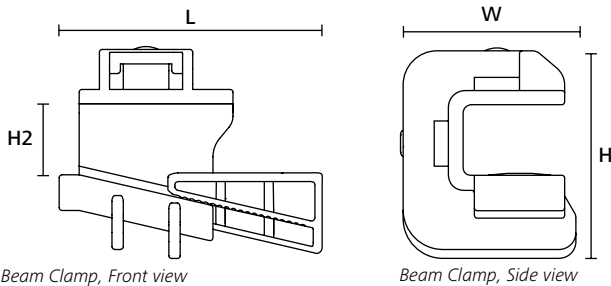
- Easy to install
- No damage to surfaces
- Easy maintenance of bundle by simply changing cable tie
- Cable tie head can be moved after bundling
- Applicable to a wide range of panel thicknesses



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.



Our two Beam Clamps with 3 different wedges for diverse sheet thicknesses.



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

All dimensions in mm. Subject to technical changes.

## Rugged Bundle Management for Heavy Duty Applications

Comprehensive brochure  
available on request.



The Ratchet P-Clamp's patent-pending design makes it extremely versatile for managing wire harnesses and cables. Its rugged construction and specialized materials are perfect for heavy duty applications, indoors and out.

Offered in four sizes and in several mounting configurations, the reusable design minimizes part inventory, speeds fastening and simplifies maintenance. Ratchet P-Clamp is available with zinc-plated or stainless steel mounting plates, options that make it ideal even when conditions are extremely harsh or dissimilar metals are used.

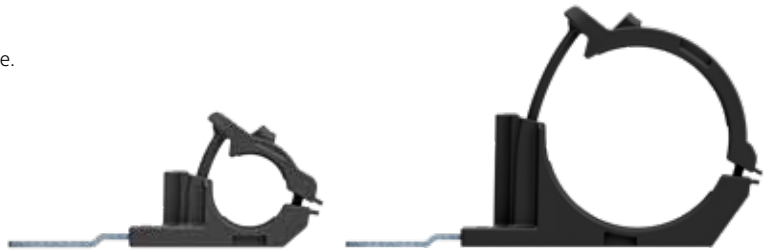


## How to Choose a Ratchet P-Clamp

### STEP 1: Determine bundle diameter

Match the bundle diameter range to the wire bundles you use.

SIZE	BUNDLE DIAMETER RANGE
A	0.24" - 0.54" (6.2mm - 13.7mm)
B	0.50" - 0.77" (12.7mm - 19.5mm)
C	0.76" - 1.42" (19.4mm - 36.0mm)
D	1.42" - 2.0" (36.0mm - 51.0mm)

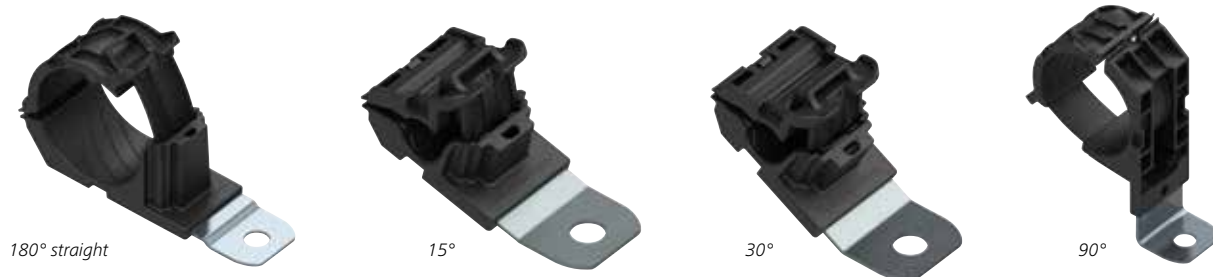


### STEP 2: Select mounting plate material

The coated, high-grade steel mounting plate is suited for most applications. Opt for the stainless steel mounting plate when conditions are exceptionally severe or galvanic corrosion is possible.

### STEP 3: Choose routing orientation/variant

Choose from 180° straight, 15°, 30° or 90° angles.



### STEP 4: Specify the length of the mounting plate

We designed the mounting plate specification to be equal to the distance from center of clamp to center of mounting hole. (Some angles/variants are not offered in all three lengths.)



### STEP 5: Choose bolt size/mounting hole diameter

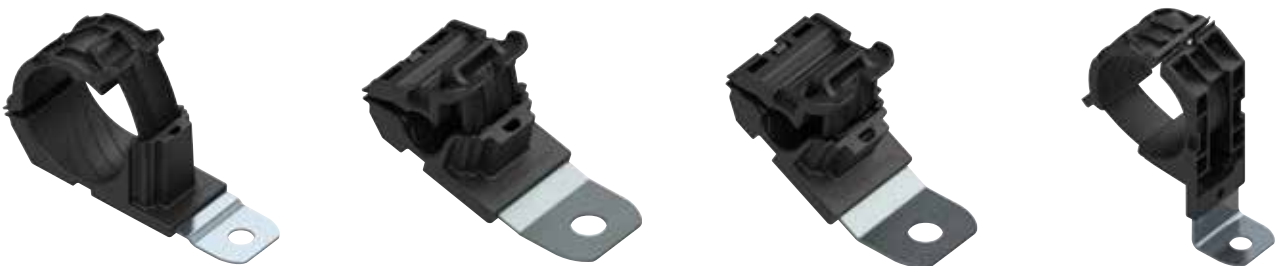
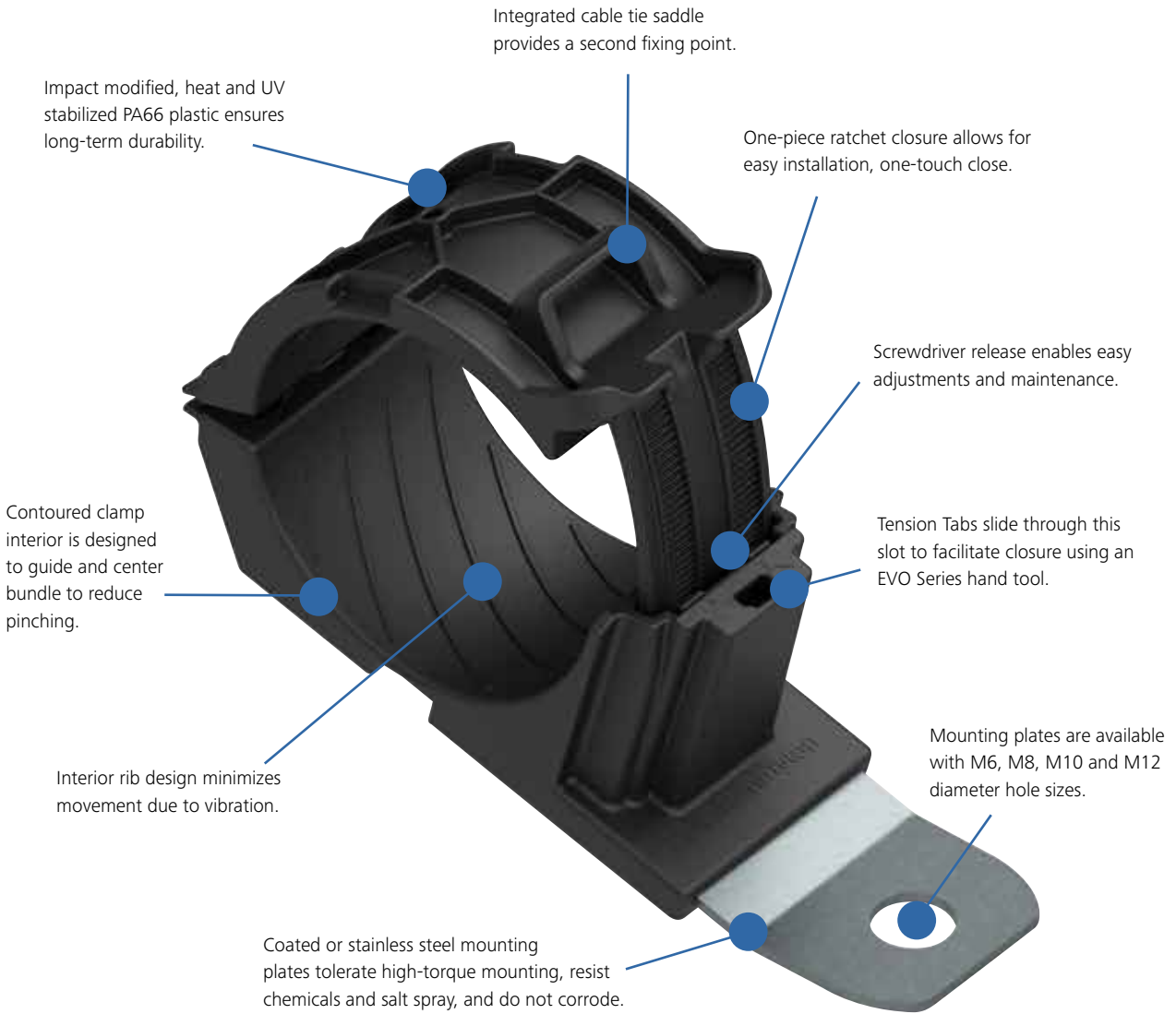
Each mounting plate option is offered in four different mounting hole diameters to accommodate the most common bolt sizes: M6 (6mm), M8 (8mm), M10 (10mm) and M12 (12mm).

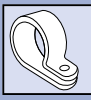






### Features





### Ratchet P-Clamp

**For bundle diameters from 6.2 mm to 51.0 mm**

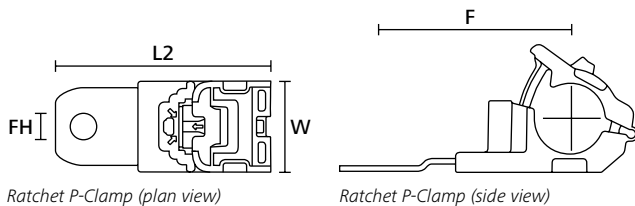
The Ratchet P-Clamp family offers versatility when managing wires, cables and hoses. The robust design and durable materials make it ideal for heavy duty applications, both in- and outdoors. The one-piece adjustable clamp can be closed by hand to the desired diameter. The release feature provides easy 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.



Ratchet P-Clamp (plan view)

Ratchet P-Clamp (side view)



One Step to the Web!

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

TYPE	Length (L)	Width (W)	Bundle Ø min.	Bundle Ø max.	Hole Ø (FH)	Fixing Hole Centres (F)	Variant	Material	Colour	Article-No.
RCA90SM6	101.9	34.9	6.2	13.7	M6	24.9	90° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01643
RCA180SM6	116.2	34.9	6.2	13.7	M6	50.5	180° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01637
RCA180SM8	116.2	34.9	6.2	13.7	M8	50.5	180° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01416
RCA180SM10	116.2	34.9	6.2	13.7	M10	50.5	180° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01417
RCA180SM12	116.2	34.9	6.2	13.7	M12	50.5	180° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01418
RCA90LM6	129.9	34.9	6.2	13.7	M6	24.9	90° Long	PA66HIRHSUV, ST, ZN	Black (BK)	151-01644
RCA90LM8	129.9	34.9	6.2	13.7	M8	24.9	90° Long	PA66HIRHSUV, ST, ZN	Black (BK)	151-01437
RCA180MM6	138.2	34.9	6.2	13.7	M6	72.5	180° Medium	PA66HIRHSUV, ST, ZN	Black (BK)	151-01638
RCA180MM8	138.2	34.9	6.2	13.7	M8	72.5	180° Medium	PA66HIRHSUV, ST, ZN	Black (BK)	151-01419
RCA180LM6	167.2	34.9	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	Length (L)	Width (W)	Bundle Ø min.	Bundle Ø max.	Hole Ø (FH)	Fixing Hole Centres (F)	Variant	Material	Colour	Article-No.
RCB90SM6	101.9	34.9	12.7	19.5	M6	26.7	90° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01651
RCB90SM8	101.9	34.9	12.7	19.5	M8	26.7	90° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01457
RCB180SM6	116.2	34.9	12.7	19.5	M6	52.8	180° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01645
RCB180SM8	116.2	34.9	12.7	19.5	M8	52.8	180° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01440
RCB180SM10	116.2	34.9	12.7	19.5	M10	52.8	180° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01390
RCB180SM12	116.2	34.9	12.7	19.5	M12	52.8	180° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01441
RCB90LM6	129.9	34.9	12.7	19.5	M6	26.7	90° Long	PA66HIRHSUV, ST, ZN	Black (BK)	151-01652
RCB90LM8	129.9	34.9	12.7	19.5	M8	26.7	90° Long	PA66HIRHSUV, ST, ZN	Black (BK)	151-01460
RCB180MM6	138.2	34.9	12.7	19.5	M6	74.8	180° Medium	PA66HIRHSUV, ST, ZN	Black (BK)	151-01646
RCB180LM6	167.2	34.9	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	Length (L)	Width (W)	Bundle Ø min.	Bundle Ø max.	Hole Ø (FH)	Fixing Hole Centres (F)	Variant	Material	Colour	Article-No.
RCC90SM6	141.8	34.9	19.4	36.0	M6	39.9	90° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01659
RCC90SM8	141.8	34.9	19.4	36.0	M8	39.9	90° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01492
RCC180SM6	156.1	34.9	19.4	36.0	M6	62.3	180° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01653
RCC180SM8	156.1	34.9	19.4	36.0	M8	62.3	180° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01474
RCC180SM10	156.1	34.9	19.4	36.0	M10	62.3	180° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01475
RCC180SM12	156.1	34.9	19.4	36.0	M12	62.3	180° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01476
RCC90LM6	169.8	34.9	19.4	36.0	M6	39.9	90° Long	PA66HIRHSUV, ST, ZN	Black (BK)	151-01660
RCC90LM8	169.8	34.9	19.4	36.0	M8	39.9	90° Long	PA66HIRHSUV, ST, ZN	Black (BK)	151-01495
RCC180MM6	178.1	34.9	19.4	36.0	M6	84.3	180° Medium	PA66HIRHSUV, ST, ZN	Black (BK)	151-01654
RCC180LM6	207.1	34.9	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	Length (L)	Width (W)	Bundle Ø min.	Bundle Ø max.	Hole Ø (FH)	Fixing Hole Centres (F)	Variant	Material	Colour	Article-No.
RCD180SM8	181.5	34.9	36.0	51.0	M8	70.0	180° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01499
RCD180SM10	181.5	34.9	36.0	51.0	M10	70.0	180° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01501
RCD180SM12	181.5	34.9	36.0	51.0	M12	70.0	180° Short	PA66HIRHSUV, ST, ZN	Black (BK)	151-01502
RCD90LM8	195.2	34.9	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.



### Heavy Duty Metal Edge Clip

#### MSC2

HellermannTyton's Metal Edge Clip provides an excellent alternative to managing wire and PV cables where plastic fasteners are not the preferred method. Designed for effortless insertion, the Metal Edge Clip has a high extraction force that tolerates extreme environments and provides assurance that the cables are secure on a panel. The Metal Edge Clip is simple to install and can easily be removed with a flathead screwdriver.

#### Features and Benefits

- Integrated design allows for easy insertion by hand
- Large thumb surface for simple installation
- Coined edges prevent clip from chafing and damaging cables
- 1-3mm panel thickness range allows for multiple applications
- Double-compression design that accommodates various sizes of wire and cable
- Presents a high extraction force for withstanding extreme conditions.



MSC2 fitted onto a metal panel to hold a cable bundle.

<b>MATERIAL</b>	Stainless Steel (SS304)
<b>Operating Temperature</b>	-80 °C to 538 °C



TYPE	Drawing	Length (L)	Width (W)	Bundle Ø max.	Panel Thickness	Material	Colour	Pack Cont.	Article-No.
MSC2		24.0	13.0	7.6	1.0 - 3.0	SS304	Metal (ML)	100 pcs.	151-00982

All dimensions in mm. Subject to technical changes.

### 90-Degree Metal Edge Clip

#### MSC90

HellermannTyton's 0-Degree Metal Edge Clip provides an excellent alternative to managing wire and PV cables where plastic fasteners are not the preferred method. Designed for effortless insertion, this edge clip also has a high extraction force. The 90-degree configuration secures cables to a panel in a perpendicular orientation. Metal construction tolerates extreme environments, and a low-profile design allows the clip to be installed on a wide variety of module edges.



MSC90 made of stainless steel SS304.

<b>MATERIAL</b>	Stainless Steel (SS304)
<b>Operating Temperature</b>	-80 °C to 538 °C



TYPE	Length (L)	Width (W)	Bundle Ø max.	Panel Thickness	Material	Colour	Pack Cont.	Article-No.
MSC90	18.44	11.57	7.0	1.5 - 2.0	SS304	Metal (ML)	100 pcs.	151-01699

All dimensions in mm. Subject to technical changes.



## Solar Edge Clip and Cable Tie Assemblies

### Solar EdgeClip Family

These cable ties and EdgeClip assemblies are made up of a proprietary reinforced HIRHSUV to ensure years of reliable performance in any weather. The clip delivers high extraction force due to the integrated metal clamp, eliminating the need for mounting holes or adhesives, which can fail under temperature extremes. This combination part is perfect for routing one to eight cables along any solar module edge or similar application.

### Features and Benefits

- EdgeClip attaches without the need for a mounting hole, for quick non-destructive mounting
- Two-piece assembly allows mount to slide along the strap, ensuring proper orientation
- EdgeClip provides low insertion force and high extraction force - ideal for assembly and reliable performance
- Reinforced material designed for harsh weather



T50REC4B for application on thin edges.



**Material specification please see page 16.**

TYPE	Drawing	Length (L)	Width (W)	Bundle Ø max.	N	Panel Thickness	Material Cable Tie	Material Foot Part	Pack Cont.	Article-No.
T50REC5A		202.0	4.6	50.8	225	1.0 - 3.0	PA66HIRHSUV	PA66HIRHSUVR5	100 pcs.	156-02226
		202.0	4.6	50.8	225	1.0 - 3.0	PA66HIRHSUV	PA66HIRHSUVR5	500 pcs.	156-02227
T50REC5B		202.0	4.6	50.8	225	1.0 - 3.0	PA66HIRHSUV	PA66HIRHSUVR5	100 pcs.	156-02224
		202.0	4.6	50.8	225	1.0 - 3.0	PA66HIRHSUV	PA66HIRHSUVR5	500 pcs.	156-02225
T50REC4A		202.0	4.6	50.8	225	1.0 - 3.0	PA66HIRHSUV	PA66HIRHSUVR5	100 pcs.	156-02230
		202.0	4.6	50.8	225	1.0 - 3.0	PA66HIRHSUV	PA66HIRHSUVR5	500 pcs.	156-02231
T50REC4B		202.0	4.6	50.8	225	1.0 - 3.0	PA66HIRHSUV	PA66HIRHSUVR5	100 pcs.	156-02228
		202.0	4.6	50.8	225	1.0 - 3.0	PA66HIRHSUV	PA66HIRHSUVR5	500 pcs.	156-02229
T50REC23		202.0	4.6	50.8	225	3.0 - 6.0	PA66UV	PA66HIRHSUV	500 pcs.	156-00592
T50REC24		202.0	4.6	50.8	225	3.0 - 6.0	PA66UV	PA66HIRHSUV	100 pcs.	156-00593
T50REC19		202.0	4.6	50.8	225	3.0 - 6.0	PA66UV	PA66HIRHSUV	100 pcs.	156-00590
T50REC20		202.0	4.6	50.8	225	3.0 - 6.0	PA66UV	PA66HIRHSUV	100 pcs.	156-00591

All dimensions in mm. Subject to technical changes.



### Which is Better: Plastic or Metal?

There was a time when metal rivaled available plastics in withstanding the harsh conditions delivered by Mother Nature. Today, however, we're making highly sophisticated plastics for the most extreme industrial applications, including heavy equipment, military, aerospace – and yes, solar. Which is better depends on your application and, just as important, your supplier. Metal offers long service life, and so do the engineered plastics HellermannTyton makes for solar. Metal is conductive, and plastic is not. If a cable becomes nicked by the fastener, metal can cause a short. Our metal fasteners have coined edges to reduce the chances of this happening. Plastic is softer than metal and less likely to slice through a cable jacket. When opting for plastic, controlling O&M costs requires choosing a material engineered for tough solar conditions. Climate and site conditions will determine which products make the most sense for a given application.

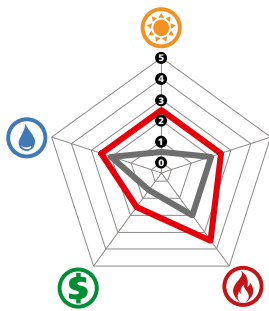
### How Our Materials Compare

Consider the environmental factors working against the wire management in a PV system. Temperatures alone routinely reach 150 degrees Fahrenheit at the module – and 170 F at the racking. Fasteners must be able to consistently withstand exposure to UV light, moisture, chemicals and more, and only those engineered for the harshest weather will suffice. Extreme cold also takes its toll on wire management products. Fasteners can become brittle and dry, leading to premature failure.

UV exposure can be an issue even on the back of a panel. Up to 40 percent of the sunlight hitting the front of the panel can be deflected off the ground, especially where there is bright sand, soil or a lack of vegetation.

#### PA66HIRHSUV

As a base material, PA66 is a weak UV resistant material. HellermannTyton's unique blend includes an added UV stabilizer, high-impact resin and heat stabilizers. This material offers excellent cost savings while withstanding the everyday wear and tear in most solar applications.



#### POMUV

Also known as Polyacetal, a crystalline copolymer. With added UV stabilizers, this material delivers predictable, long-term performance over a wide range of temperatures. It has good chemical resistance with increased strength and rigidity.



#### Nylon 12

This material absorbs minimal moisture, even in environments with frequent humidity cycling. Basic PA12 provides strong resistance to chemicals, oils and salts, while providing excellent UV resistance. We add UV and heat stabilizers to enhance strength and durability.



#### PVDF

Our fluoropolymer-based material provides some of the highest UV, chemical and thermal resistance of any plastic resin. Tough and extraordinarily long lasting, PVDF is designed to virtually eliminate wire management failure over the life of a PV system.



Moisture Resistance



UV Resistance



Chemical Resistance



Cost



Temperature Range



Featured Solar Tie Material

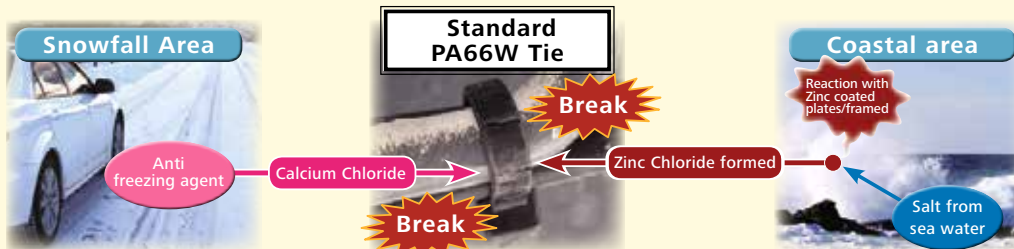


PA66 Cable Tie



## Why are GalvaLok ties necessary?

Most polyamide 66 (PA66) cable ties are affected by zinc chloride, calcium chloride, and other chemical substances (corrosive agents). Polyamide 66 cable ties have low resistance to certain chemical substances and may deteriorate or break when solvent cracking occurs\*.

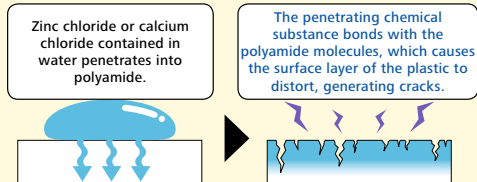


When the zinc of a zinc coated steel sheet and the salt in seawater react, zinc chloride is generated, which causes a polyamide 66 cable tie to deteriorate and break in a short time. Calcium chloride, the main ingredient in snow-melting and de-icing agents used in snowy areas and mountainous areas, also causes polyamide 66 cable ties to deteriorate and break.

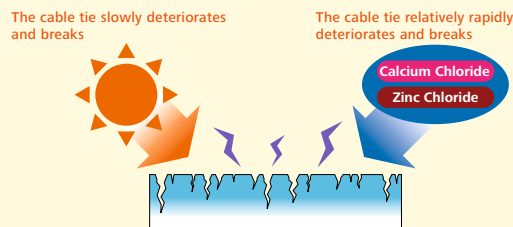
### Risk of solvent cracking

\*Solvent cracking

A phenomenon called environmental stress cracking or chemical cracking that causes a plastic material to generate cracks when a chemical substance penetrates into the plastic.

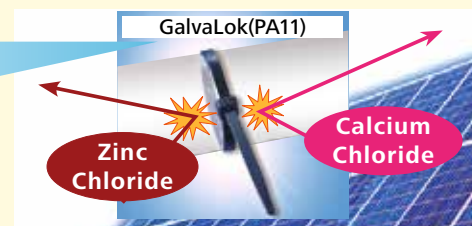


There are two main reasons for polyamide 66 cable ties breaking: solvent cracking due to the effect of salt damage and breaking because of the deterioration of their weather resistance due to ultraviolet rays.



## GalvaLok is Promising!!

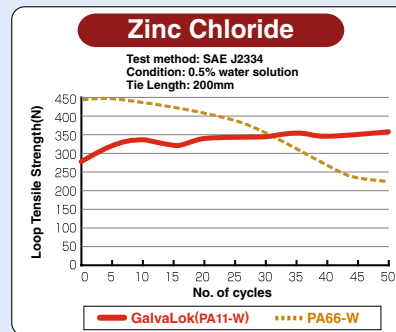
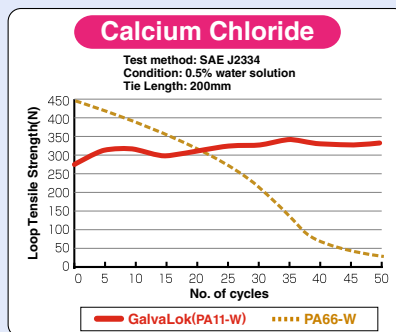
GalvaLok, which is made of polyamide11(PA11), will maintain its strength for a long period of time without being affected by corrosion organisms such as calcium chloride and zinc chloride.



### Salt damage resistance: Combined cycle test

While the strength of a conventional polyamide 66 cable tie dropped sharply, GalvaLok maintained its initial strength, demonstrating excellent salt damage resistance.

Generally, the salt damage resistance / corrosion resistance evaluation performed by a combined cycle test is considered to be the closest to use in an actual outdoor environment in coastal areas.

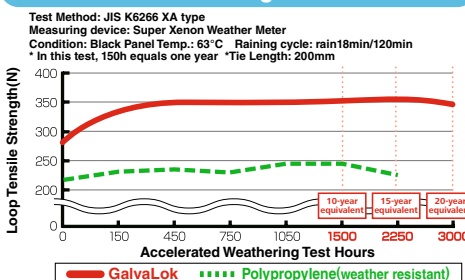


### Accelerated weathering test

GalvaLok showed almost no deterioration of strength even after an accelerated weathering test equivalent to approximately 20 years of weather exposure.

GalvaLok has exceedingly superior mechanical strength and weather resistance compared to polypropylene cable ties with the same salt damage resistance as polyamide 11 GalvaLok.

### Accelerated Weathering Test: 3000Hours(20 years)



Caution: The specified data are measured values and are not guaranteed. Note that they are reference data obtained under certain conditions and they do not indicate the durability (service life) in actual use.



### Cable Ties for bundling wires in solar power systems

#### GalvaLok-Series in PA11 black

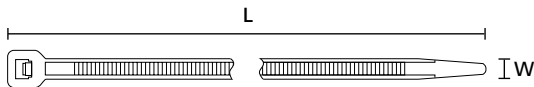
Galvalok® is a cable tie that has excellent weather resistance, salt damage resistance, and mechanical strength, making it perfect for cabling work around solar panel base frames and galvanized steel plates.

#### Features and Benefits

- Manufactured from polyamide 11
- High UV resistance for long-term outdoor applications
- Measures against salt damage
- Protection from calcium chloride contained in snow-melting and de-icing agents
- Stable technical performance even at very low temperatures
- Demonstrated almost no deterioration of strength even after an accelerated weathering test equivalent to approximately 20 years of exposure to the elements.



Galvalok-Series cable ties - ideally suited for solar panel cabling work.



Galvalok-Series

TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
GL100	100	2.5	22.0	80	PA11	Black (BK)	100 pcs.	2,6	111-01565
GL150	153	3.5	36.0	130	PA11	Black (BK)	100 pcs.	2,6	111-01546
GL200	202	4.7	50.0	200	PA11	Black (BK)	100 pcs.	2,6	111-01264
GL250	252	4.8	65.0	250	PA11	Black (BK)	100 pcs.	2,6	111-01265
GL300	301	4.8	80.0	250	PA11	Black (BK)	100 pcs.	2,6	111-01266
GL380	383	4.8	105	135	PA11	Black (BK)	100 pcs.	2,6	111-01641
GL460	465	9.6	130	480	PA11	Black (BK)	100 pcs.	2,6	111-02052
GL600	605	9.6	175	480	PA11	Black (BK)	100 pcs.	2,6	111-02053
T50RPA11	200	4.6	50.0	225	PA11	Black (BK)	100 pcs.	2,6	N/A
T50IPA11	300	4.6	85.0	225	PA11	Black (BK)	100 pcs.	2,6	N/A

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	6
	MK20	EVO7
	192	190

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





## Cable Ties with release mechanism

### GalvaLok Repeat Tie (Releasable Type)

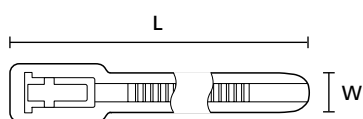
With this product, you can release the lock by pressing the lever after tying the cable. It save you money because you can use it over and over again. Use this product when you want to remove the cable after routing wires and then tie it again.

#### Features and Benefits

- Manufactured from polyamide 11
- Releasable and reusable cable tie
- Bear loads of up to 200 N



Releasable and reusable cable tie, ECO250RF-W.



TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
ECO250RF-W	250	7.4	72.0	200	PA11	Black (BK)	100 pcs.	115-00109

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

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

### GalvaLok Pushmount Tie

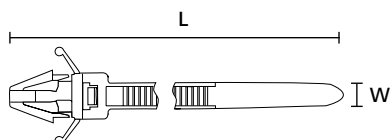
By inserting this product to the hole of solar panel base frame, you can easily secure cables. Its polyamide 11 housing with insulating properties has excellent weather resistance, salt damage resistance, and chemical resistance.

#### 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
- Releasable and therefore reusable
- "Ladder style" types are very flexible



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



TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
ECO250RF-W	250	7.4	72.0	200	PA11	Black (BK)	100 pcs.	115-00109

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



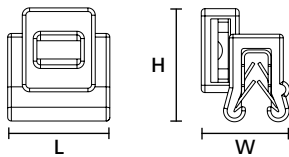
### 2-Piece Fixing Ties for Edges

#### GalvaLok® Edge Clip

By simply clipping this product to the edge of a base frame, you can easily secure a GalvaLok cable tie. Its polyamide 11 housing with insulating properties has excellent weather resistance, salt damage resistance, and chemical resistance. Eliminating the need to make holes and tighten screws, this product improves your work efficiency. You can insert GalvaLok cable ties into a GalvaLok Edge Clip from any direction.

#### Features and Benefits

- GalvaLok cable ties can be inserted into the Edge Clip from any direction that make cable management more flexible.



GLEC5-S



GLEC5-S — the cable bundle runs parallel with the edge.

TYPE	Length (L)	Width (W)	Height (H)	Panel Thickness	Applicable GalvaLok Ties	Material	Colour	Pack Cont.	Article-No.
GLEC5-S	14.0	12.0	15.5	1.0 - 3.0	GL100 - GL300	PA11	Black (BK)	100 pcs.	151-01181
GLEC1640-S	153	3.5	36.0	1.6 - 4.0	GL100 - GL380	PA11	Black (BK)	100 pcs.	151-01590

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

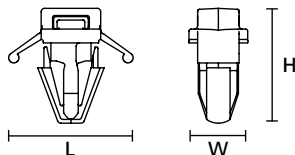
### Push-Mount Arrowhead Type

#### GalvaLok® Push Mount

This product is an aligned type that is used by inserting it into a hole in the mount frame, allowing a cable to be fixed stably right above the mounting hole. When used with up to the GL380 size GalvaLok, this product can support small to large diameter cables.

#### Features and Benefits

- Wiring fixture that can be installed stably on the panel surface with the support of the wings.
- Can secure the wiring directly above the panel mounting hole.



GLPM7



GLPM7.

TYPE	Length (L)	Width (W)	Height (H)	Panel Hole Ø	Panel Thickness	Material	Colour	Pack Cont.	Article-No.
GLPM7	18.2	8.5	16.6	6.0 - 7.5	1.0 - 2.6	PA11	Black (BK)	100 pcs.	151-01340

All dimensions in mm. Subject to technical changes.



## Endless Strap

### EL-TY®

With its superior strength, this reel strap type cable tie is perfect for firmly fixing large diameter trunk cables and pipes. This product is made of waterproof polyacetal, which shows almost no deterioration of strength even after an accelerated weathering test equivalent to approximately 20 years of weather exposure. As this product is a reel strap, you can use it by cutting it into pieces of any desired length.

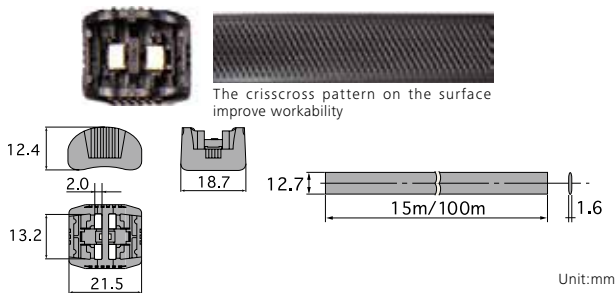
### Features and Benefits

- Consists of a smooth strap and a separate, compact plastic head
- Encloses a copper alloy gripper
- Strength properties retained even after 20 years of outdoor exposure
- Combine with Reel Cable Tie strap
- Excellent durability and workability
- Weather resistance feature withstand long-term outdoor use

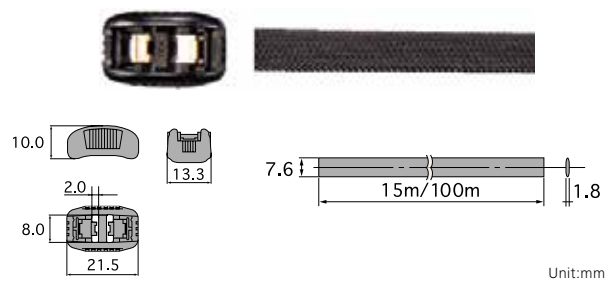


Reel strap cable tie, EL-R2-15.

### EL-TY (Wide width type)



### Small EL-TY (Slim width type)



### Locking Head

TYPE		Material	Pack Cont.	Article-No.
EL-H3	1,110	POM	25 pcs.	111-01450

### Locking Head

TYPE		Material	Pack Cont.	Article-No.
SEL-H2	780	POM	25 pcs.	111-01451

### Reel Strap

TYPE	Length	Material	Pack Cont.	Article-No.
EL-R2-15	15m	POM	10	111-01445
EL-R2-100	100m	POM	5	111-01444

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

### Reel Strap

TYPE	Length	Material	Pack Cont.	Article-No.
SEL-R1-15	15m	POM	10	111-01446
SEL-R1-100	100m	POM	5	111-01447

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

#### POMUV (Polyacetal) Solar Ties

Made of non-hygroscopic acetal, these Solar Ties are extremely UV and chemical resistant. Because the acetal material is non-hygroscopic, meaning it will not absorb or lose moisture, these ties are ideal for use in areas with extremely dry or humid conditions, as the material will remain stable and performance will not be affected over time.

#### Features and Benefits

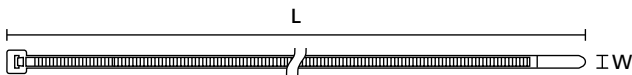
- Available in a wide range of materials and sizes
- High tensile strength with very low insertion force
- Ergonomic bent tail offers quick and simple installation
- Easy application either manually or with an application tool



POMUV Solar Ties.



**Material specification please see page 16.**



T-Series

TYPE	Length (L)	Width (W)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Tools	Article-No.
T50R	202	4.6	50.0	220	POM	Black (BK)	1,000 pcs.	2,6,10	111-01569
T50L	390	4.6	110	220	POM	Black (BK)	1,000 pcs.	2,6,10	111-01571
T150M	530	8.9	150	667	POM	Black (BK)	25 pcs.	2,6,10	111-01572

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	6	10
	MK20	EVO7	MK9/EVO9
	192	190	191

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



## Cable Ties Inside Serrated

### PA12 Solar Ties

These inside serrated Solar Ties are manufactured from Polyamide 12, which provides excellent UV, chemical and moisture resistance, allowing a longer lifespan in outdoor use. Polyamide 12 material absorbs slightly less moisture than Polyamide 11, yet is equally resistant to metal oxides. The bent tail allows for quick and simple installation through the head of the tie. The tie strap has smooth edges to prevent bundle damage.

### Features and Benefits

- Available in a wide range of materials and sizes
- High tensile strength with very low insertion force
- Ergonomic bent tail offers quick and simple installation
- Easy application either manually or with an application tool




PA12 Solar Ties



**Material specification please see page 16.**




T-Series

TYPE	Length (L)	Width (W)	Bundle Ø max.		Material	Colour	Pack Cont.	Tools	Article-No.
T50R	202	4.6	50.0	220	PA12	Black (BK)	100 pcs.	2,6,10	111-01560
	202	4.6	50.0	220	PA12	Black (BK)	1,000 pcs.	2,6,10	111-01564
T50L(US)	390	4.6	110	220	PA12	Black (BK)	100 pcs.	2,6,10	111-01562
	390	4.6	110	220	PA12	Black (BK)	1,000 pcs.	2,6,10	111-01561
T50XL(US)	467.6	4.8	134	220	PA12	Black (BK)	100 pcs.	2,6,10	111-01563
T150M	530	8.9	150	780	PA12	Black (BK)	25 pcs.	2,6,10	111-01752

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	6	10
	MK20	EVO7	MK9/EVO9
	192	190	191

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



### Cable Ties Inside Serrated

#### PVDF Solar Ties

HellermannTyton is the solar industry's only manufacturer to offer 25-year-rated plastic wire management products. These extraordinarily tough cable ties are manufactured from Polyvinylidene fluoride and feature some of the highest UV, chemical and thermal resistance of any plastic resin. PVDF is designed to virtually eliminate wire management failure over the life of a PV system. The tie strap has smooth edges to prevent bundle damage.

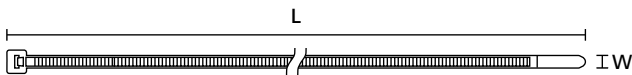
#### Features and Benefits

- Available in a wide range of materials and sizes
- High tensile strength with very low insertion force
- Ergonomic bent tail offers quick and simple installation
- Easy application either manually or with an application tool




PVDF Solar Ties.


<b>MATERIAL</b>	Polyvinylidene Fluoride (PVDF)
<b>Operating Temperature</b>	-40 °C to 140 °C
<b>Flammability</b>	UL 94 V0



T-Series

TYPE	Length (L)	Width (W)	Bundle Ø max.		Material	Colour	Pack Cont.	Tools	Article-No.
<b>T50R</b>	202	4.6	50.0	225	PVDF	Grey (GY)	100 pcs.	2,6,10	111-02390
<b>T120R</b>	387	7.6	105	535	PVDF	Grey (GY)	100 pcs.	2,6,10	111-02391

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	6	10
	MK20	EVO7	MK9/EVO9
	192	190	191

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

## Nylon Cable Glands

### NG Series

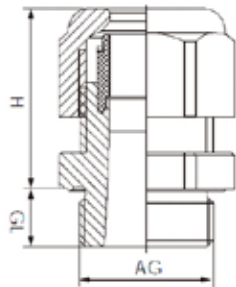
#### Features and Benefits

- Black material for exterior use
- Working Temperature -40°C to 100°C
- Instantaneous heat up to 120°C
- IP68 rating
- 5 bar pressure
- High torque tightening
- Large cable range
- Long metric thread
- EPDM rubber Washer



Nylon Cable Glands, NG25.

**AG:** Thread Diameter  
**GL:** Thread Length  
**H:** Height

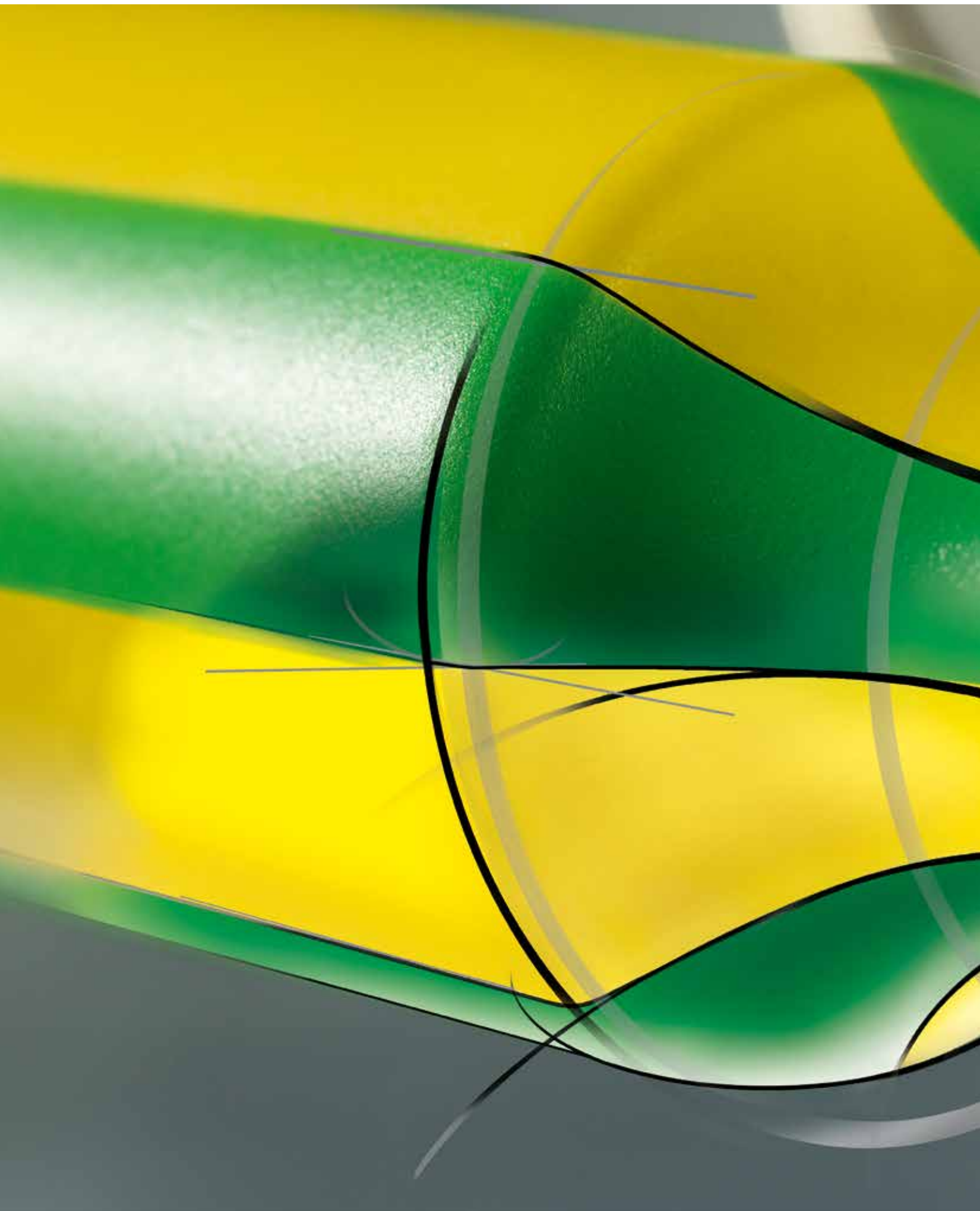


<b>MATERIAL</b>	Nylon 66
<b>Operating Temperature</b>	-40 °C to 100 °C
<b>Colour</b>	Black (BK)
<b>Protection</b>	IP68
<b>Properties</b>	UV Stabilised Vibration Resistant
<b>Packaging</b>	Gland complete with rubber gasket Lock Nuts included

TYPE	Cable Size	Nut Size (AG)	Thread Length (GL)	Thread Dia.	Height (H)	Qty
NG12	3 - 6.5	22	8	M12	25	100
NG16	5 - 10	22	15	M16	25	50 pcs.
NG20	10 - 14	27	15	M20	28	40 pcs.
NG25	13 - 18	33	15	M25	31	20 pcs.
NG32	18 - 25	42	15	M32	39	15 pcs.
NG40	22 - 32	53	18	M40	48	6 pcs.
NG50	32 - 38	60	18	M50	49	3 pcs.
NG63	37 - 44	65/68	18	M63	49	2 pcs.

All dimensions in mm. Subject to technical changes.

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





**Inspired by Paul Hellermann**

Heat-shrinkable tubes have always made it easy to repair cables and pipes. Strictly speaking, however, Paul Hellermann used rubber bike valves to bring the insulation of damaged household cables to a mass market from 1935. The idea is the only thing that our modern heat-shrinkable tubes have in common with these simple chloroprene sleeves. Take SA47 (see page 250 ), which was specially developed in line with customer specifications and offers outstanding protection against moisture and corrosion, thus enabling vehicles to retain their functionality.



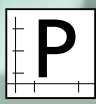
2.1 Heat Shrinkable Tubing

108



2.2 Heat Shrinkable Moulded Shapes

117



### Overview of Applications for Heat Shrink Tubing

When selecting the correct heat shrink tubing size, it is important to bear in mind the 80:20 rule. The heat shrink tubing must shrink by at least 20 % and not more than 80 % of its complete shrinkage capacity to achieve the right result. In our overview of applications you will find the best heat shrink tube for every cable diameter. The 80:20 rule has of course been taken into account in the table.

#### Heat Shrinkable Tubing with a shrink ratio of 2:1

HFT-A, TL27, TF21, TF24, VITON®-E, TK20, TK29, TFE-2, TR27, TCN20, SE28

Shrink ratio 2:1 Size mm		Cable/Wire Diameter
1,2/0,6		0,7 mm
		1,1 mm
3,2/1,6	2,4/1,2	1,4 mm
		1,9 mm
		2,2 mm
		2,9 mm
6,4/3,2	4,8/2,4	3,8 mm
		4,3 mm
		5,7 mm
12,7/6,4	9,5/4,7	5,8 mm
		7,7 mm
		8,6 mm
		11,4 mm
25,4/12,7	19,1/9,5	15,2 mm
		17,2 mm
		22,9 mm
50,8/25,4	38,1/19,1	30,5 mm
		34,3 mm
		45,7 mm
101,6/50,8	76,2/38,1	61,0 mm
		68,6 mm
		91,4 mm

#### Heat Shrinkable Tubing with a shrinkage ratio of 3:1

With the optimal shrinkage ratio of 3:1, you can cover a wide range of applications with just a few sizes. This leads to reduced stock expenditure and requires less space. 3:1 heat shrink tubes: TF34, TF31, EPS-300, TCN20 overexpanded, TA32, TA37

Shrink ratio 3:1 Size mm		Cable/Wire Diameter
1,5/0,5		0,7 mm
		1,3 mm
6/2	3/1	1,4 mm
		2,6 mm
		2,8 mm
		5,2 mm
18/6	12/4	5,6 mm
		8,4 mm
		10,4 mm
40/13	24/8	11,2 mm
		15,6 mm
		18,4 mm
		20,8 mm
		34,6 mm

#### Conversion from imperial to metric

<b>Inch</b>	1/32"	3/64"	1/16"	5/64"	3/32"	1/8"	3/16"	1/4"	3/8"
<b>mm</b>	0,8	1,2	1,6	2,0	2,4	3,2	4,8	6,4	9,5
<b>Inch</b>	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	2"	3"	4"
<b>mm</b>	12,7	15,9	19,1	25,4	31,8	38,1	50,8	76,2	101,6

VITON® is a registered trademark of DuPont.

## The Right Heat Shrink Tube

The 80:20 rule means that a heat shrink tube should shrink by a maximum of 80 % and a minimum of 20 %.

### For example:

A cable with a diameter of 5mm is to be wrapped in heat shrink tubing. In theory both sizes 6/2 and 12/4 would be suitable, since the required diameter of 5mm lies within the shrink range of both tube sizes.

#### Size 6/2

##### Maximum shrink (100 %)



Shrinkage of 4 mm

##### Optimum shrinkage max. (80 %)



Shrinkage of 0.8 mm

##### Optimum shrinkage min. (20 %)



Shrinkage of 3.2 mm

#### Size 12/4

##### Maximum shrink (100 %)



Shrinkage of 8 mm

##### Optimum shrinkage max. (80 %)



Shrinkage of 6.4 mm

##### Optimum shrinkage min. (20 %)



Shrinkage of 1.6 mm

Size 6/2 has a range of application of between 2.8 mm and 5.2 mm and is therefore suitable for the cable diameter of 5 mm.

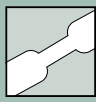
The smallest application diameter of size 12/4 is 5.6 mm. This size is therefore unsuitable for a cable diameter of 5 mm.

#### Calculator tool for Heat Shrink Tubing

The calculator tool for heat shrink tubing is a selection guide for shrink tubing sizes based on the object to be covered. Fill in your specification and the calculator presents the right tubing size according to the 80:20 rule.

Find more information under <http://www.HellermannTyton.co.uk/heatshrink-calculator!>

The calculator tool also checks if the heat shrink tubing you have chosen is suitable for your application. For example you can find the heat shrink tubing with the Product Search on the HellermannTyton website.



## Heat Shrinkable Tubing up to 4:1 - 1 m lengths

Insulation and protection of low voltage cable joints and terminations above and below ground.

### Features and Benefits

- Medium walled tubing with robust insulation characteristics
- Shrink tubing for above and underground cable applications
- Protects cable joints and terminations in low voltage applications
- Coated inside with thermoplastic adhesive
- Protects against humidity and other environmental impacts after shrinking



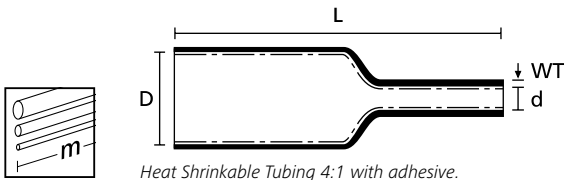
Medium wall tubing - lined or unlined.



**Cut lengths available on request.  
Please contact us!**

<b>MATERIAL</b>	Polyolefin, cross-linked (PO-X)
<b>Shrink Ratio</b>	up to 4:1
<b>Operating Temperature</b>	-55 °C to +110 °C
<b>Min. Shrink Temperature</b>	+120 °C
<b>Softening Point Adhesive</b>	+85 °C
<b>Longitudinal change after shrinkage</b>	-10 % max.
<b>Dielectric Strength</b>	20 kV/mm
<b>Flammability</b>	not flame retarded
<b>Insulation Class</b>	A (VDE 0530)

### MA47 - medium wall adhesive lined



Heat Shrinkable Tubing 4:1 with adhesive.

HF ✓

RoHS ✓

TYPE	Supplied Ø D min.	Recov. Ø d max.	Wall (WT)	Length (L)	Colour	Article-No.
MA47-12/3	12.0	3.0	2.00	1.0 m	Black (BK)	323-20120
MA47-19/6	19.0	6.0	2.50	1.0 m	Black (BK)	323-20190
MA47-30/8	30.0	8.0	2.50	1.0 m	Black (BK)	323-20300
MA47-40/12	40.0	12.0	2.50	1.0 m	Black (BK)	323-20400
MA47-50/16	50.0	16.0	2.70	1.0 m	Black (BK)	323-20500
MA47-63/19	63.0	19.0	2.80	1.0 m	Black (BK)	323-20630
MA47-75/22	75.0	22.0	3.00	1.0 m	Black (BK)	323-20750
MA47-95/30	95.0	30.0	3.00	1.0 m	Black (BK)	323-20950
MA47-115/34	115.0	34.0	3.00	1.0 m	Black (BK)	323-21150
MA47-140/42	140.0	42.0	3.00	1.0 m	Black (BK)	323-21400

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



### Heat Shrinkable Cable Repair Sleeves

#### RMS

RMS sleeves are wrapped around the cable and closed with a steel channel. The inside of the sleeve is adhesive lined and will effectively seal the cable after shrinkage. RMS sleeves provide fast, watertight and reliable insulation.

#### Features and Benefits

- Fast, moisture proof and permanent repair of cable jackets
- Only 6 sizes for a wide range of cable diameters: from 15 mm up to 160 mm
- Available in 4 standard lengths and also available in custom lengths.
- Each RMS kit is ready for use and comes with instruction sheet, abrasive strip and cleaning sachet.
- The metal closure is made of 316 stainless steel for high overall corrosion resistance.
- Weather resistant and halogen free
- TCP (thermo chromatic paint) spots indicate the sleeve has been sufficiently heated



Application video: RMS

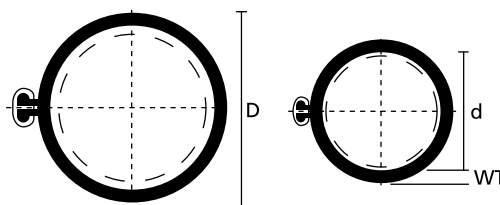


RMS wrap-around sleeves for rapid and secure cable repair on site.



RMS: Repair sleeve, steel closure, abrasive strip, cleaning sachet, instruction sheet.

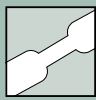
<b>MATERIAL</b>	Polyolefin, chemically cross linked (PO-X)
<b>Shrink Ratio</b>	up to 4.5:1
<b>Operating Temperature</b>	-40 °C to +120 °C
<b>Min. Shrink Temperature</b>	+110 °C
<b>Softening Point Adhesive</b>	+105 °C
<b>Longitudinal change after shrinkage</b>	-10 % max.
<b>Dielectric Strength</b>	30 kV/mm
<b>Flammability</b>	not flame retarded



Cable Repair Sleeve RMS with adhesive

TYPE	Supplied Ø D min.	Recov. Ø d max.	Wall (WT)	Suitable for Cable Ø from/to	Length (L)	Colour	Article-No.
RMS 43-10	43	10.0	2.30	15 - 35	250.0	Black (BK)	450-20000
	43	10.0	2.30	15 - 35	500.0	Black (BK)	450-20001
	43	10.0	2.30	15 - 35	750.0	Black (BK)	450-20004
	43	10.0	2.30	15 - 35	1,000.0	Black (BK)	450-20002
RMS 52-15	52	15.0	2.30	20 - 45	250.0	Black (BK)	450-20010
	52	15.0	2.30	20 - 45	500.0	Black (BK)	450-20011
	52	15.0	2.30	20 - 45	750.0	Black (BK)	450-20014
	52	15.0	2.30	20 - 45	1,000.0	Black (BK)	450-20012
RMS 76-22	76	22.0	2.50	28 - 65	500.0	Black (BK)	450-20021
	76	22.0	2.50	28 - 65	750.0	Black (BK)	450-20024
	76	22.0	2.50	28 - 65	1,000.0	Black (BK)	450-20022
RMS 100-30	100	30.0	2.54	35 - 85	500.0	Black (BK)	450-20030
	100	30.0	2.54	35 - 85	1,000.0	Black (BK)	450-20031
RMS 139-38	139	38.0	2.77	45 - 120	1,000.0	Black (BK)	450-20041
RMS 185-55	185	55.0	2.74	65 - 160	1,000.0	Black (BK)	450-20050

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



## Heat Shrinkable Tubing 2:1 - Elastomer

### SE28

SE28 is used for long-term protection of cables and wire harnesses in military equipment, motor sports and aviation.

#### Features and Benefits

- Flexible, high performance elastomeric heat shrink tubing
- Used in aerospace, defence, railway and automotive applications
- Resistant to diesel fuel, aviation and hydraulic fluids
- Provides a reliable protection against abrasion and mechanical damage
- Very suitable for protecting cables and wire harnesses



SE28 tubing.

<b>MATERIAL</b>	Elastomer, cross-linked (POA)
<b>Shrink Ratio</b>	2:1
<b>Operating Temperature</b>	-75 °C to +150 °C
<b>Min. Shrink Temperature - °C</b>	+170 °C
<b>Longitudinal change after shrinkage</b>	-10 % max.
<b>Dielectric Strength</b>	20 kV/mm
<b>Flammability</b>	VG 95343



SE28 is mainly used in high performance applications.

RoHS



Heat Shrinkable Tubing 2:1

TYPE	Supplied Ø D min.	Recov. Ø d max.	Wall (WT)	Reel Length	Colour	Designation as per VG-Norm	Article-No.
SE28 3,2/1,6	3.2	1.6	0.70	150 m	Black (BK)	VG 95343 T05 D 001 A	342-20000
SE28 4,8/2,4	4.8	2.4	0.80	60 m	Black (BK)	VG 95343 T05 D 002 A	342-20010
SE28 6,4/3,2	6.4	3.2	0.90	60 m	Black (BK)	VG 95343 T05 D 003 A	342-20020
SE28 9,5/4,8	9.5	4.8	1.00	60 m	Black (BK)	VG 95343 T05 D 004 A	342-20030
SE28 12,7/6,4	12.7	6.4	1.20	60 m	Black (BK)	VG 95343 T05 D 005 A	342-20040
SE28 19,0/9,5	19.0	9.5	1.40	30 m	Black (BK)	VG 95343 T05 D 006 A	342-20050
SE28 25,4/12,7	25.4	12.7	1.80	30 m	Black (BK)	VG 95343 T05 D 007 A	342-20060
SE28 38,0/19,0	38.0	19.0	2.40	30 m	Black (BK)	VG 95343 T05 D 008 A	342-20070
SE28 51,0/25,4	51.0	25.4	2.80	30 m	Black (BK)	VG 95343 T05 D 009 A	342-20080
SE28 76,0/38,0	76.0	38.0	3.20	15 m	Black (BK)	VG 95343 T05 D 010 A	342-20090
SE28 101,2/51,0	102.0	51.0	3.50	10 m	Black (BK)	VG 95343 T05 D 011 A	342-20100

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.





### Heat shrinkable tubing 2:1 - flexible and coloured

HS-1,2m

#### Features and benefits

- Thin wall, flexible polyolefin tubing
- Fast shrinking and low shrink temperature
- Meets and exceeds lots of industrial standards
- Big variety of different colours and sizes
- Flame retarded and UL224 VW1 listed



Available in a wide range of colours and sizes.

<b>MATERIAL</b>	Polyolefin, cross-linked (PO-X)
<b>Shrink Ratio</b>	2:1
<b>Operating Temperature</b>	-55 °C to +125 °C
<b>Min. Shrink Temperature</b>	+70 °C
<b>Longitudinal change after shrinkage</b>	+/- 5 %
<b>Dielectric Strength</b>	32 kV/mm
<b>Flammability</b>	ASTM D2671, UL22
<b>Voltage Rating</b>	600V

RoHS



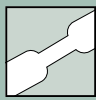
Heat Shrinkable Tubing 2:1

PART NUMBER	LV Heatshrink 2:1 Polyolefin 1.2 Metre Lengths	Wall (WT)	Colour	Pack Size
HS1.5BK/L	HEATSHRINK 1.5MM BLACK x 1.2m	0.32	Black (BK)	10
HS1.5BL/L	HEATSHRINK 1.5MM BLUE x 1.2m	0.32	Blue (BU)	10
HS1.5CL/L	HEATSHRINK 1.5MM CLEAR x 1.2m	0.32	Clear (CL)	10
HS1.5GN/L	HEATSHRINK 1.5MM GREEN x 1.2m	0.32	Green (GN)	10
HS1.5RD/L	HEATSHRINK 1.5MM RED x 1.2m	0.32	Red (RD)	10
HS1.5WH/L	HEATSHRINK 1.5MM WHITE x 1.2m	0.32	White (WH)	10
HS1.5YL/L	HEATSHRINK 1.5MM YELLOW x 1.2m	0.32	Yellow (YE)	10
HS2.5RD/L	HEATSHRINK 2.5MM RED x 1.2m	0.44	Red (RD)	10
HS2.5WH/L	HEATSHRINK 2.5MM WHITE x 1.2m	0.44	White (WH)	10
HS2.5BL/L	HEATSHRINK 2.5MM BLUE x 1.2m	0.44	Blue (BU)	10
HS2.5BK/L	HEATSHRINK 2.5MM BLACK x 1.2m	0.44	Black (BK)	10
HS2.5YG/L	HEATSHRINK 2.5MM YELLOW/GREEN x 1.2m	0.44	Yellow-Green (YEGN)	10
HS3.5RD/L	HEATSHRINK 3.5MM RED x 1.2m	0.44	Red (RD)	10
HS3.5WH/L	HEATSHRINK 3.5MM WHITE x 1.2m	0.44	White (WH)	10
HS3.5BL/L	HEATSHRINK 3.5MM BLUE x 1.2m	0.44	Blue (BU)	10
HS3.5BK/L	HEATSHRINK 3.5MM BLACK x 1.2m	0.44	Black (BK)	10
HS3.5YG/L	HEATSHRINK 3.5MM YELLOW/GREEN x 1.2m	0.44	Yellow-Green (YEGN)	10
HS3.5CL/L	HEATSHRINK 3.5MM CLEAR x 1.2m	0.44	Clear (CL)	10

All dimensions in mm. Subject to technical changes. Minimum Order Quantity (MOQ) may differ from package content.



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



PART NUMBER	LV Heatshrink 2:1 Polyolefin 1.2 Metre Lengths	Wall (WT)	Colour	Pack Size
HS5BK/L	HEATSHRINK 5MM BLACK x 1.2m	0.56	Black (BK)	5
HS5BL/L	HEATSHRINK 5MM BLUE x 1.2m	0.56	Blue (BU)	5
HS5CL/L	HEATSHRINK 5MM CLEAR x 1.2m	0.56	Clear (CL)	5
HS5GN/L	HEATSHRINK 5MM GREEN x 1.2m	0.56	Green (GN)	5
HS5RD/L	HEATSHRINK 5MM RED x 1.2m	0.56	Red (RD)	5
HS5WH/L	HEATSHRINK 5MM WHITE x 1.2m	0.56	White (WH)	5
HS5YL/L	HEATSHRINK 5MM YELLOW x 1.2m	0.56	Yellow (YE)	5
HS5YG/L	HEATSHRINK 5MM YELLOW/GREEN x 1.2m	0.56	Yellow-Green (YEGN)	5
HS7CL/L	HEATSHRINK 7MM CLEAR x 1.2m	0.56	Clear (CL)	5
HS7GN/L	HEATSHRINK 7MM GREEN x 1.2m	0.56	Green (GN)	5
HS7RD/L	HEATSHRINK 7MM RED x 1.2m	0.56	Red (RD)	5
HS7WH/L	HEATSHRINK 7MM WHITE x 1.2m	0.56	White (WH)	5
HS7BK/L	HEATSHRINK 7MM BLACK x 1.2m	0.56	Black (BK)	5
HS7BL/L	HEATSHRINK 7MM BLUE x 1.2m	0.56	Blue (BU)	5
HS7YL/L	HEATSHRINK 7MM YELLOW x 1.2m	0.56	Yellow (YE)	5
HS7YG/L	HEATSHRINK 7MM YELLOW/GREEN 1.2m	0.56	Yellow-Green (YEGN)	5
HS10BK/L	HEATSHRINK 10MM BLACK x 1.2m	0.56	Black (BK)	5
HS10BL/L	HEATSHRINK 10MM BLUE x 1.2m	0.56	Blue (BU)	5
HS10CL/L	HEATSHRINK 10MM CLEAR x 1.2m	0.56	Clear (CL)	5
HS10GN/L	HEATSHRINK 10MM GREEN x 1.2m	0.56	Green (GN)	5
HS10RD/L	HEATSHRINK 10MM RED 1.2m	0.56	Red (RD)	5
HS10WH/L	HEATSHRINK 10MM WHITE x 1.2m	0.56	White (WH)	5
HS10YL/L	HEATSHRINK 10MM YELLOW x 1.2m	0.56	Yellow (YE)	5
HS10YG/L	HEATSHRINK 10MM YELLOW/GREEN x 1.2m	0.56	Yellow-Green (YEGN)	5
HS13BK/L	HEATSHRINK 13MM BLACK x 1.2m	0.56	Black (BK)	5
HS13BL/L	HEATSHRINK 13MM BLUE x 1.2m	0.56	Blue (BU)	5
HS13CL/L	HEATSHRINK 13MM CLEAR x 1.2m	0.56	Clear (CL)	5
HS13GN/L	HEATSHRINK 13MM GREEN x 1.2m	0.56	Green (GN)	5
HS13RD/L	HEATSHRINK 13MM RED 1.2m	0.56	Red (RD)	5
HS13WH/L	HEATSHRINK 13MM WHITE x 1.2m	0.56	White (WH)	5
HS13YL/L	HEATSHRINK 13MM YELLOW x 1.2m	0.56	Yellow (YE)	5
HS13YG/L	HEATSHRINK 13MM YELLOW /GREEN x 1.2m	0.56	Yellow-Green (YEGN)	5
HS20BK/L	HEATSHRINK 20MM BLACK x 1.2m	0.76	Black (BK)	5
HS20BL/L	HEATSHRINK 20MM BLUE x 1.2m	0.76	Blue (BU)	5
HS20CL/L	HEATSHRINK 20MM CLEAR x 1.2m	0.76	Clear (CL)	5
HS20GN/L	HEATSHRINK 20MM GREEN x 1.2m	0.76	Green (GN)	5
HS20RD/L	HEATSHRINK 20MM RED x 1.2m	0.76	Red (RD)	5
HS20WH/L	HEATSHRINK 20MM WHITE x 1.2m	0.76	White (WH)	5
HS20YL/L	HEATSHRINK 20MM YELLOW x 1.2m	0.76	Yellow (YE)	5
HS20YG/L	HEATSHRINK 20MM YELLOW/GREEN x 1.2m	0.76	Yellow-Green (YEGN)	5
HS25BK/L	HEATSHRINK 25MM BLACK x 1.2m	0.86	Black (BK)	5
HS25BL/L	HEATSHRINK 25MM BLUE x 1.2m	0.86	Blue (BU)	5
HS25CL/L	HEATSHRINK 25MM CLEAR x 1.2m	0.86	Clear (CL)	5
HS25GN/L	HEATSHRINK 25MM GREEN x 1.2m	0.86	Green (GN)	5
HS25RD/L	HEATSHRINK 25MM RED x 1.2m	0.86	Red (RD)	5
HS25WH/L	HEATSHRINK 25MM WHITE x 1.2m	0.86	White (WH)	5
HS25YL/L	HEATSHRINK 25MM YELLOW x 1.2m	0.86	Yellow (YE)	5
HS25YG/L	HEATSHRINK 25MM YELLOW/GREEN x 1.2m	0.86	Yellow-Green (YEGN)	5

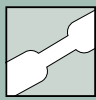
All dimensions in mm. Subject to technical changes. Minimum Order Quantity (MOQ) may differ from package content.





PART NUMBER	LV Heatshrink 2:1 Polyolefin 1.2 Metre Lengths	Wall (WT)	Colour	Pack Size
HS40BK/L	HEATSHRINK 40MM BLACK x 1.2m	0.97	Black (BK)	5
HS40BL/L	HEATSHRINK 40MM BLUE x 1.2m	0.97	Blue (BU)	5
HS40CL/L	HEATSHRINK 40MM CLEAR x 1.2m	0.97	Clear (CL)	5
HS40GN/L	HEATSHRINK 40MM GREEN x 1.2m	0.97	Green (GN)	5
HS40RD/L	HEATSHRINK 40MM RED x 1.2m	0.97	Red (RD)	5
HS40WH/L	HEATSHRINK 40MM WHITE x 1.2m	0.97	White (WH)	5
HS40YL/L	HEATSHRINK 40MM YELLOW x 1.2m	0.97	Yellow (YE)	5
HS40YG/L	HEATSHRINK 40MM YELLOW/GREEN x 1.2m	0.97	Yellow-Green (YEGN)	5
HS50BK/L	HEATSHRINK 50MM BLACK x 1.2m	0.97	Black (BK)	1
HS50BL/L	HEATSHRINK 50MM BLUE x 1.2m	0.97	Blue (BU)	1
HS50CL/L	HEATSHRINK 50MM CLEAR x 1.2m	0.97	Clear (CL)	1
HS50GN/L	HEATSHRINK 50MM GREEN x 1.2m	0.97	Green (GN)	1
HS50RD/L	HEATSHRINK 50MM RED x 1.2m	0.97	Red (RD)	1
HS50WH/L	HEATSHRINK 50MM WHITE x 1.2m	0.97	White (WH)	1
HS50YL/L	HEATSHRINK 50MM YELLOW x 1.2m	0.97	Yellow (YE)	1
HS50YG/L	HEATSHRINK 50MM YELLOW GREEN x1.2m	0.97	Yellow-Green (YEGN)	1
HS76BK/L	HEATSHRINK 76MM BLACK x 1.2m	1.17	Black (BK)	1
HS76BL/L	HEATSHRINK 76MM BLUE x 1.2m	1.17	Blue (BU)	1
HS76GN/L	HEATSHRINK 76MM GREEN x 1.2m	1.17	Green (GN)	1
HS76RD/L	HEATSHRINK 76MM RED x 1.2m	1.17	Red (RD)	1
HS76WH/L	HEATSHRINK 76MM WHITE x 1.2m	1.17	White (WH)	1
HS76YL/L	HEATSHRINK 76MM YELLOW x 1.2m	1.17	Yellow (YE)	1

All dimensions in mm. Subject to technical changes. Minimum Order Quantity (MOQ) may differ from package content.



## Heat shrinkable tubing 2:1 - flexible and coloured

### HS-Reels

#### Features and benefits

- Thin wall, flexible polyolefin tubing
- Fast shrinking and low shrink temperature
- Meets and exceeds lots of industrial standards
- Big variety of different colours and sizes
- Flame retarded and UL224 VW1 listed



Available in a wide range of colours and sizes.

<b>MATERIAL</b>	Polyolefin, cross-linked (PO-X)
<b>Shrink Ratio</b>	2:1
<b>Operating Temperature</b>	-55 °C to +125 °C
<b>Min. Shrink Temperature</b>	+70 °C
<b>Longitudinal change after shrinkage</b>	+/-5 %
<b>Dielectric Strength</b>	32 kV/mm
<b>Flammability</b>	ASTM D2671, UL22
<b>Voltage Rating</b>	600V

RoHS



Heat Shrinkable Tubing 2:1

PART NUMBER	LV Heatshrink 2:1 Polyolefin Reels	Wall (WT)	Colour	Reel Length
HS1.5RD/R300	HEATSHRINK 1.5MM RED REEL OF 300METRES	0.32	Red (RD)	300m
HS1.5WH/R300	HEATSHRINK 1.5MM WHITE REEL OF 300METRES	0.32	White (WH)	300m
HS1.5BL/R300	HEATSHRINK 1.5MM BLUE REEL OF 300METRES	0.32	Blue (BU)	300m
HS1.5BK/R300	HEATSHRINK 1.5MM BLACK REEL OF 300METRES	0.32	Black (BK)	300m
HS1.5CL/R300	HEATSHRINK 1.5MM CLEAR REEL OF 300METRES	0.32	Clear (CL)	300m
HS2.5RD/R200	HEATSHRINK 2.5MM RED REEL OF 200METRES	0.44	Red (RD)	200m
HS2.5WH/R200	HEATSHRINK 2.5MM WHITE REEL OF 200METRES	0.44	White (WH)	200m
HS2.5BL/R200	HEATSHRINK 2.5MM BLUE REEL OF 200METRES	0.44	Blue (BU)	200m
HS2.5BK/R200	HEATSHRINK 2.5MM BLACK REEL OF 200METRES	0.44	Black (BK)	200m
HS2.5CL/R200	HEATSHRINK 2.5MM CLEAR REEL OF 200METRES	0.44	Clear (CL)	200m
HS2.5YG/R200	HEATSHRINK 2.5MM YELLOW/GREEN REEL OF 200METRES	0.44	Yellow-Green (YEGN)	200m
HS3.5RD/R150	HEATSHRINK 3.5MM RED REEL OF 150METRES	0.44	Red (RD)	150m
HS3.5WH/R150	HEATSHRINK 3.5MM WHITE REEL OF 150METRES	0.44	White (WH)	150m
HS3.5BL/R150	HEATSHRINK 3.5MM BLUE REEL OF 150METRES	0.44	Blue (BU)	150m
HS3.5BK/R150	HEATSHRINK 3.5MM BLACK REEL OF 150METRES	0.44	Black (BK)	150m
HS3.5CL/R150	HEATSHRINK 3.5MM CLEAR REEL OF 150METRES	0.44	Clear (CL)	150m

All dimensions in mm. Subject to technical changes. Minimum Order Quantity (MOQ) may differ from package content.

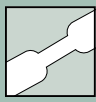


For product specific approvals and specifications please refer to the Appendix.



PART NUMBER	LV Heatshrink 2:1 Polyolefin Reels	Wall (WT)	Colour	Reel Length
HS3.5YG/R150	HEATSHRINK 3.5MM YELLOW/GREEN REEL OF 150METRES	0.44	Yellow-Green (YEGN)	150m
HS5RD/R150	HEATSHRINK 5MM RED REEL OF 150METRES	0.56	Red (RD)	150m
HS5WH/R150	HEATSHRINK 5MM WHITE REEL OF 150METRES	0.56	White (WH)	150m
HS5BL/R150	HEATSHRINK 5MM BLUE REEL OF 150METRES	0.56	Blue (BU)	150m
HS5BK/R150	HEATSHRINK 5MM BLACK REEL OF 150METRES	0.56	Black (BK)	150m
HS5CL/R150	HEATSHRINK 5MM CLEAR REEL OF 150METRES	0.56	Clear (CL)	150m
HS5YG/R150	HEATSHRINK 5MM YELLOW/GREEN REEL OF 150METRES	0.56	Yellow-Green (YEGN)	150m
HS7RD/R150	HEATSHRINK 7MM RED REEL OF 150METRES	0.56	Red (RD)	150m
HS7WH/R150	HEATSHRINK 7MM WHITE REEL OF 150METRES	0.56	White (WH)	150m
HS7BL/R150	HEATSHRINK 7MM BLUE REEL OF 150METRES	0.56	Blue (BU)	150m
HS7BK/R150	HEATSHRINK 7MM BLACK REEL OF 150METRES	0.56	Black (BK)	150m
HS7CL/R150	HEATSHRINK 7MM CLEAR REEL OF 150METRES	0.56	Clear (CL)	150m
HS7YG/R150	HEATSHRINK 7MM YELLOW/GREEN REEL OF 150METRES	0.56	Yellow-Green (YEGN)	150m
HS10RD/R50	HEATSHRINK 10MM RED REEL OF 50METRES	0.56	Red (RD)	50m
HS10WH/R50	HEATSHRINK 10MM WHITE REEL OF 50METRES	0.56	White (WH)	50m
HS10BL/R50	HEATSHRINK 10MM BLUE REEL OF 50METRES	0.56	Blue (BU)	50m
HS10BK/R50	HEATSHRINK 10MM BLACK REEL OF 50METRES	0.56	Black (BK)	50m
HS10CL/R50	HEATSHRINK 10MM CLEAR REEL OF 50METRES	0.56	Clear (CL)	50m
HS10YG/R50	HEATSHRINK 10MM YELLOW/GREEN REEL OF 50METRES	0.56	Yellow-Green (YEGN)	50m
HS13RD/R50	HEATSHRINK 13MM RED REEL OF 50METRES	0.56	Red (RD)	50m
HS13WH/R50	HEATSHRINK 13MM WHITE REEL OF 50METRES	0.56	White (WH)	50m
HS13BL/R50	HEATSHRINK 13MM BLUE REEL OF 50METRES	0.56	Blue (BU)	50m
HS13BK/R50	HEATSHRINK 13MM BLACK REEL OF 50METRES	0.56	Black (BK)	50m
HS13CL/R50	HEATSHRINK 13MM CLEAR REEL OF 50METRES	0.56	Clear (CL)	50m
HS13YG/R50	HEATSHRINK 13MM YELLOW/GREEN REEL OF 50METRES	0.56	Yellow-Green (YEGN)	50m
HS20RD/R50	HEATSHRINK 20MM RED REEL OF 50METRES	0.76	Red (RD)	50m
HS20WH/R50	HEATSHRINK 20MM WHITE REEL OF 50METRES	0.76	White (WH)	50m
HS20BL/R50	HEATSHRINK 20MM BLUE REEL OF 50METRES	0.76	Blue (BU)	50m
HS20BK/R50	HEATSHRINK 20MM BLACK REEL OF 50METRES	0.76	Black (BK)	50m
HS20CL/R50	HEATSHRINK 20MM CLEAR REEL OF 50METRES	0.76	Clear (CL)	50m
HS20YG/R50	HEATSHRINK 20MM YELLOW/GREEN REEL OF 50METRES	0.76	Yellow-Green (YEGN)	50m
HS25RD/R50	HEATSHRINK 25MM RED REEL OF 50METRES	0.86	Red (RD)	50m
HS25WH/R50	HEATSHRINK 25MM WHITE REEL OF 50METRES	0.86	White (WH)	50m
HS25BL/R50	HEATSHRINK 25MM BLUE REEL OF 50METRES	0.86	Blue (BU)	50m
HS25BK/R50	HEATSHRINK 25MM BLACK REEL OF 50METRES	0.86	Black (BK)	50m
HS25CL/R50	HEATSHRINK 25MM CLEAR REEL OF 50METRES	0.86	Clear (CL)	50m
HS25YG/R50	HEATSHRINK 25MM YELLOW/GREEN REEL OF 50METRES	0.86	Yellow-Green (YEGN)	50m
HS40RD/R25	HEATSHRINK 40MM RED REEL OF 25METRES	0.97	Red (RD)	25m
HS40WH/R25	HEATSHRINK 40MM WHITE REEL OF 25METRES	0.97	White (WH)	25m
HS40BL/R25	HEATSHRINK 40MM BLUE REEL OF 25METRES	0.97	Blue (BU)	25m
HS40BK/R25	HEATSHRINK 40MM BLACK REEL OF 25METRES	0.97	Black (BK)	25m
HS40CL/R25	HEATSHRINK 40MM CLEAR REEL OF 50METRES	0.97	Clear (CL)	25m
HS40YG/R25	HEATSHRINK 40MM YELLOW/GREEN REEL OF 25METRES	0.97	Yellow-Green (YEGN)	25m
HS50RD/R25	HEATSHRINK 50MM RED REEL OF 25METRES	0.97	Red (RD)	25m
HS50WH/R25	HEATSHRINK 50MM WHITE REEL OF 25METRES	0.97	White (WH)	25m
HS50BL/R25	HEATSHRINK 50MM BLUE REEL OF 25METRES	0.97	Blue (BU)	25m
HS50BK/R25	HEATSHRINK 50MM BLACK REEL OF 25METRES	0.97	Black (BK)	25m
HS50CL/R25	HEATSHRINK 50MM CLEAR REEL OF 25METRES	0.97	Clear (CL)	25m
HS50YG/R25	HEATSHRINK 50MM YELLOW/GREEN REEL OF 25METRES	0.97	Yellow-Green (YEGN)	25m

All dimensions in mm. Subject to technical changes. Minimum Order Quantity (MOQ) may differ from package content.



## Heat shrinkable tubing 4:1 - 1.2 m lengths

### SA47-HT - standard wall adhesive lined

SA47-HT is a semi-rigid flame retardant polyolefin tubing with a thick inner liner of hot melt adhesive. The tubing has excellent tensile strength and strain relief. The adhesive liner provides excellent moisture protection. Ideal for electrical connections and splices in automobiles. Suitable for high temperature applications up to 150 °C. Tubing is black and hot melt adhesive is black.

#### Features and benefits

- Flexible, standard wall polyolefin heat shrink tubing
- Excellent tensile strength and strain relief
- Provides excellent moisture protection
- Tubing and hot melt adhesive is black
- Provides an environmental sealing of complex parts
- For high temperature applications up to 150 °C
- Flame retardant



One Step to the Web!

**i** SA47 has been developed with our Automotive partners to eliminate the risk of corrosion around cable splices and terminations.

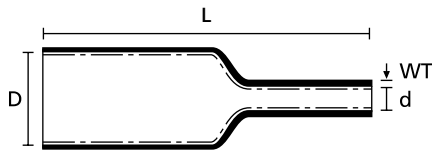


Heat shrink tubing SA47-HT for 150 °C application.



SA47-HT provides optimum protection against moisture in high temperature applications.

<b>MATERIAL</b>	Polyolefin, cross-linked (PO-X)
<b>Shrink Ratio</b>	4:1
<b>Operating Temperature</b>	-40 °C to +150 °C
<b>Min. Shrink Temperature</b>	+130 °C
<b>Melting Point</b>	starting from +120 °C
<b>Longitudinal change after shrinkage</b>	-10 % max.
<b>Dielectric Strength</b>	>20 kV/mm
<b>Flammability</b>	self-extinguishing



Heat Shrinkable Tubing 4:1 with adhesive.



TYPE	Supplied Ø D min.	Recov. Ø d max.	Wall (WT)	Length (L)	Colour	Tools	Article-No.
SA47-HT 7,6/1,7	7.6	1.7	1.52	1.2 m	Black (BK)	30-32	301-10010
SA47-HT 9,0/2,3	9.0	2.3	1.52	1.2 m	Black (BK)	30-32	301-10011
SA47-HT 11,6/2,5	11.6	2.5	2.29	1.2 m	Black (BK)	30-32	301-10012
SA47-HT 17,8/4,4	17.8	4.4	2.54	1.2 m	Black (BK)	30-32	301-10013
SA47-HT 24/6	24.0	6.0	2.54	1.2 m	Black (BK)	30-32	301-10015
SA47-HT 32/8	32.0	8.0	2.54	1.2 m	Black (BK)	30-32	301-10014

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



### End Caps

#### Helashrink HSEC, low voltage with adhesive coating

End caps are suitable for use on both polymeric and paper insulated, lead jacketed cables which may include aluminium or steel armouring.

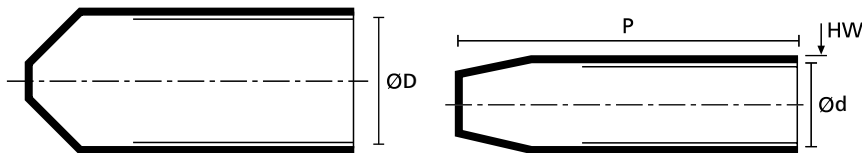
#### Features and benefits

- Seal cables during storage or transportation
- Insulating cap for live LV cables (0.6/1kV)
- Adhesive lining for excellent environmental seal
- High shrink ratio to minimise number of sizes needed



The appropriate end cap for every cable diameter, and cable types.

<b>MATERIAL</b>	Polyolefin, cross-linked (PO-X)
<b>Colour</b>	Black (BK)
<b>Shrink Ratio</b>	up to 3:1
<b>Min. Shrink Temperature</b>	+135 °C
<b>Operating Temperature</b>	-55 °C to +80 °C
<b>Dielectric Strength</b>	15 kV/mm
<b>Flammability</b>	ASTM D638



a: Expanded form (supplied)

b: Fully recovered form (after heating)

PART NUMBER	ØD min. a	Ød max. b	P ± 10 %	HW ± 10 %
HSEC105	12.0	4.0	40.0	2.6
HSEC115	20.0	6.0	55.0	2.8
HSEC120	25.0	8.5	68.0	2.8
HSEC135	40.0	16.0	83.0	3.3
HSEC140	55.0	26.0	103.0	3.5
HSEC150	75.0	36.0	120.0	4.0
HSEC160	100.0	52.0	140.0	4.0
HSEC170	120.0	60.0	150.0	4.0
HSEC180	145.0	60.0	150.0	4.0
HSEC190	160.0	80.0	150.0	4.0

All dimensions in mm. Subject to technical changes.



**You expect tailormade products**  
We offer you best-fit solutions

## **Heat Shrinkable moulded shapes solutions that meet your special demands**

**HellermannTyton heat shrinkable moulded shapes combine the advantages of quick, easy installation with high electric strength, mechanical toughness and superior chemical and environmental resistance.**

Our products offer important functional and cost saving benefits for electrical and electronic applications ranging from insulation and protection of individual components to fabrication of complete inter-connecting cable harness assemblies.

Strain-relieving boots, transitions and connector backshell covers, as well as other specialised shapes, are available in a wide range of sizes and options. HellermannTyton's extensive product line includes low profile, bulbous and lipped types for use on circular and D-type connectors as well as complex multiway transitions. Only a minimum number of shapes are needed to cover a full range.

## Your One-Stop-Cable-Management-Source: HellermannTyton

### Applications

The use of our heat shrinkable moulded shapes in conjunction with our specialist heat shrinkable tubings makes it easy to ensure the proper degree of mechanical support, strain relief and environmental protection. Encapsulating the complete harnessing and interconnection system to the desired configuration is easily and neatly accomplished, with minimum weight and bulk.

### Choice of Materials

A range of specially formulated materials is available to meet a variety of performance requirements.



*Low Profile Convolute Boots*



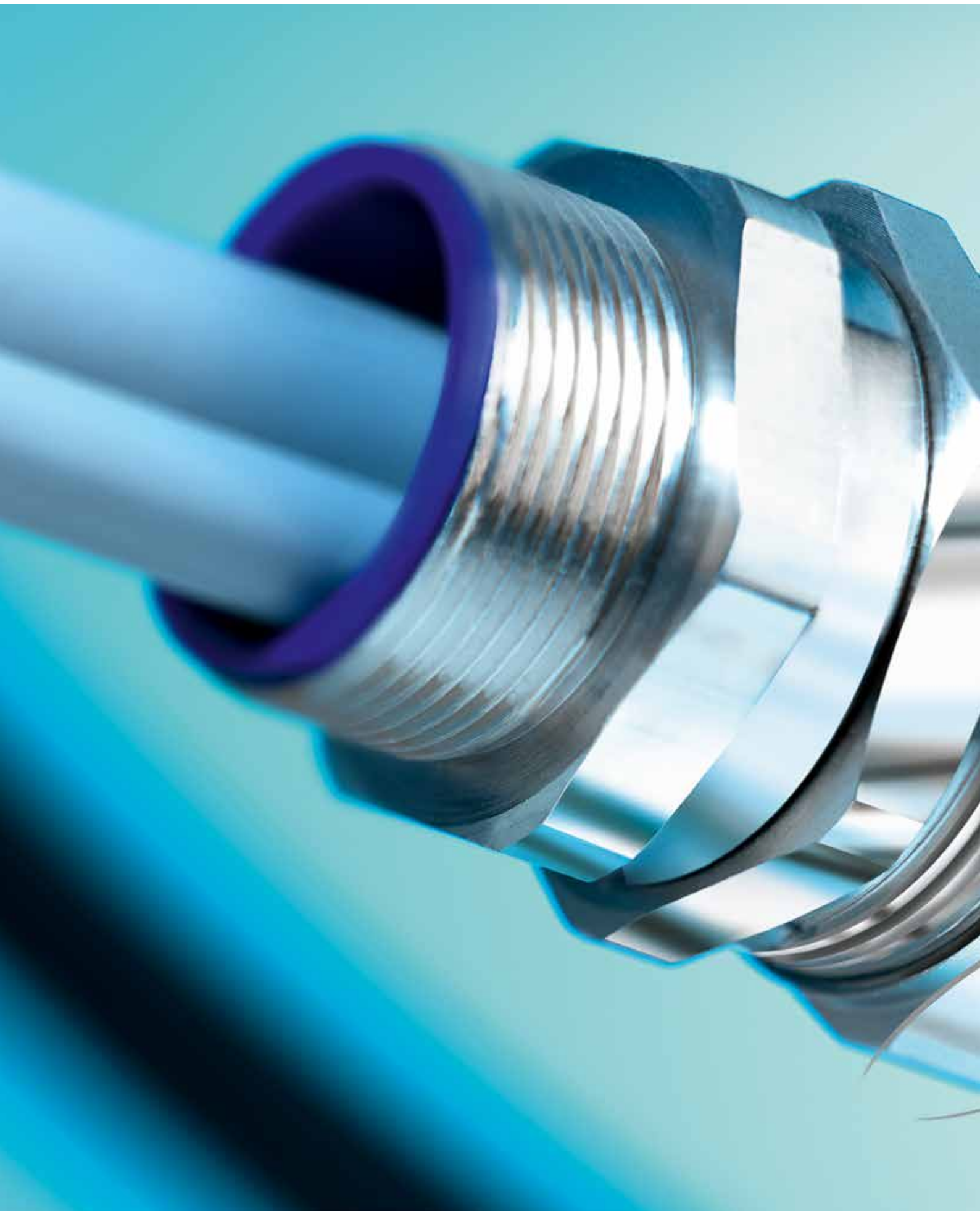
*End Caps*



*Right Angle Shapes*

Comprehensive brochure  
available on request.







**Inspired by elemental power**

Our HelaGuard conduits and fittings are made to protect cables even in the toughest conditions. Yet our offshore customers challenged us with a whole new dimension: lightning.

We developed a liquid-tight system, resistant to immense pressure and impact as well as intense UV radiation, which withstands and safely diverts powerful and repeated lightning strikes. We simulated such conditions in a special laboratory to prove our solution.

Our technically high-advanced conduit and fitting not only emerged intact, but are now reliably fulfilling their exact function in countless off-shore installations across the globe.



3.1 Protective Tubing and Spiral Binding

122



3.2 Protective Sleeves

123



3.3 Edge Protection

125



### Polyethylene spiral binding

#### SBPE

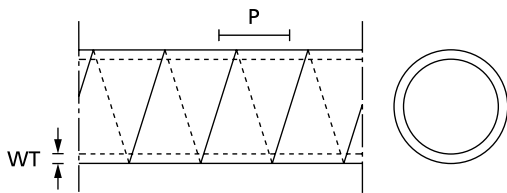
SBPE spiral binding is suitable for standard electrical applications and panel building and plant engineering. Sizes 4 and 9 are also available in practical 5 metre lengths.

#### Features and Benefits

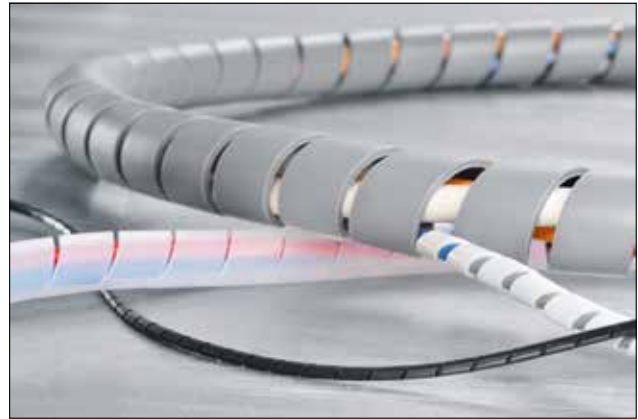
- Organises and protects cables and hoses
- Suitable for retro-fitting
- Cables branch out at any point
- Wide range of diameters and colours



One Step to the Web!



Spiral binding



Spiral binding SBPE.

<b>MATERIAL</b>	Polyethylene (PE)
<b>Operating Temperature</b>	-60 °C to +80 °C, intermittent +120 °C
<b>Flammability</b>	UL94 HB

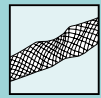


TYPE	Nominal Ø	Wall (WT)	Pitch (P)	Bundle Ø min.	Bundle Ø max.	Colour	Reel Length	Article-No.
SBPE1.5	1.5	0.8	6.0	1.6	8	Black (BK)	30 m	161-41001
	1.5	0.8	6.0	1.6	8	Natural (NA)	30 m	161-41000
SBPE4	4	1.0	7.8	5	20	Natural (NA)	30 m	161-41100
	4	1.0	7.8	5	20	Black (BK)	30 m	161-41101
SBPE9	9	1.4	12.5	10	100	Black (BK)	30 m	161-41201
	9	1.4	12.5	10	100	Natural (NA)	30 m	161-41200
SBPE16	16	1.6	16.0	20	150	Black (BK)	30 m	161-41301
	16	1.6	16.0	20	150	Natural (NA)	30 m	161-41300

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.

TYPE	Nominal Ø	Wall (WT)	Pitch (P)	Bundle Ø min.	Bundle Ø max.	Colour	Reel Length	Article-No.
SBPE4D	4	1.0	7.8	5	20	Black (BK)	5 m	161-41104
	4	1.0	7.8	5	20	Natural (NA)	5 m	161-41103
SBPE9D	9	1.4	12.5	10	100	Black (BK)	5 m	161-41204
	9	1.4	12.5	10	100	Natural (NA)	5 m	161-41203

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



### Flame-retardant polyester braided sleeving

#### HFRV0

HFRV0 braided sleeving is used wherever fire protection is important such as in railway vehicles, machine tools, robotics and is abrasion resistant.

#### Features and Benefits

- Made of sturdy polyester
- Self-extinguishing according to UL94 V0 for enhanced fire protection
- Highly flexible
- High abrasion resistance
- High surface coverage
- Halogen free



Braided sleeving.

<b>MATERIAL</b>	Polyester (PBT)
<b>Operating Temperature</b>	-50 °C to +150 °C, intermittent +200 °C
<b>Melting Point</b>	+225 °C
<b>Flammability</b>	UL94 V0, FMVSS 302



TYPE	Description	Colour	Reel Length
HFR003BK	Von V0 sleeving 3mm (Expanded 1 to 6mm)	Black	500 m
HFR003GR	Von V0 sleeving 3mm (Expanded 1 to 6mm)	Grey	500 m
HFR006BK	Von V0 sleeving 6mm (Expanded 3 to 9mm)	Black	200 m
HFR006GR	Von V0 sleeving 6mm (Expanded 3 to 9mm)	Grey	200 m
HFR008BK	Von V0 sleeving 8mm (Expanded 5 to 16mm)	Black	100 m
HFR008GR	Von V0 sleeving 8mm (Expanded 5 to 16mm)	Grey	100 m
HFR010BK	Von V0 sleeving 10mm (Expanded 7 to 19mm)	Black	100 m
HFR010GR	Von V0 sleeving 10mm (Expanded 7 to 19mm)	Grey	100 m
HFR012BK	Von V0 sleeving 12mm (Expanded 8 to 24mm)	Black	100 m
HFR012GR	Von V0 sleeving 12mm (Expanded 8 to 24mm)	Grey	100 m
HFR016BK	Von V0 sleeving 16mm (Expanded 10 to 27mm)	Black	100 m
HFR016GR	Von V0 sleeving 16mm (Expanded 10 to 27mm)	Grey	100 m

All dimensions in mm. Subject to technical changes.

Colour grey available on request. Cuts in any lengths. Minimum Order Quantity (MOQ) may differ from package content.





### Flame-retardant polyester braided sleeving

#### HFRV0

TYPE	Description	Colour	Reel Length
HFR019BK	Von V0 sleeving 19mm (Expanded 14 to 30mm)	Black	50 m
HFR019GR	Von V0 sleeving 19mm (Expanded 14 to 30mm)	Grey	50 m
HFR025BK	Von V0 sleeving 25mm (Expanded 18 to 35mm)	Black	50 m
HFR025GR	Von V0 sleeving 25mm (Expanded 18 to 35mm)	Grey	50 m
HFR032BK	Von V0 sleeving 32mm (Expanded 20 to 50mm)	Black	25 m
HFR032GR	Von V0 sleeving 32mm (Expanded 20 to 50mm)	Grey	25 m
HFR038BK	Von V0 sleeving 38mm (Expanded 30 to 55mm)	Black	25 m
HFR038GR	Von V0 sleeving 38mm (Expanded 30 to 55mm)	Grey	25 m
HFR045BK	Von V0 sleeving 45mm (Expanded 35 to 75mm)	Black	25 m
HFR045GR	Von V0 sleeving 45mm (Expanded 35 to 75mm)	Grey	25 m
HFR050BK	Von V0 sleeving 50mm (Expanded 40 to 80mm)	Black	25 m
HFR050GR	Von V0 sleeving 50mm (Expanded 40 to 80mm)	Grey	25 m
KD8-3	Hot knife for end sleeve 70W upto 800 deg °C	-	-

All dimensions in mm. Subject to technical changes.

Colour grey available on request. Cuts in any lengths. Minimum Order Quantity (MOQ) may differ from package content.

**NF F**



### Edge protection for cut-out sections

Flexiform edge protection is used to protect cables and wires routed through sharp-edged cut-out sections.

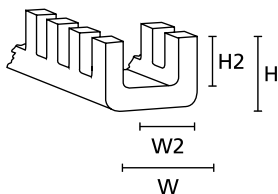
#### Features and Benefits

- Very flexible
- Easily and securely applied without adhesives
- Provides effective, orderly-looking protection
- Flexiform G51P made of polyethylene offers general purpose edge protection
- Flexiform G51N made of PA6 offers very good abrasion resistance
- Flexiform G51T made of PTFE offers excellent resistance to high temperatures and most chemicals



Optimal protection of cables and wires at panel edges.

#### Flexiform G51P polyethylene grommet strip



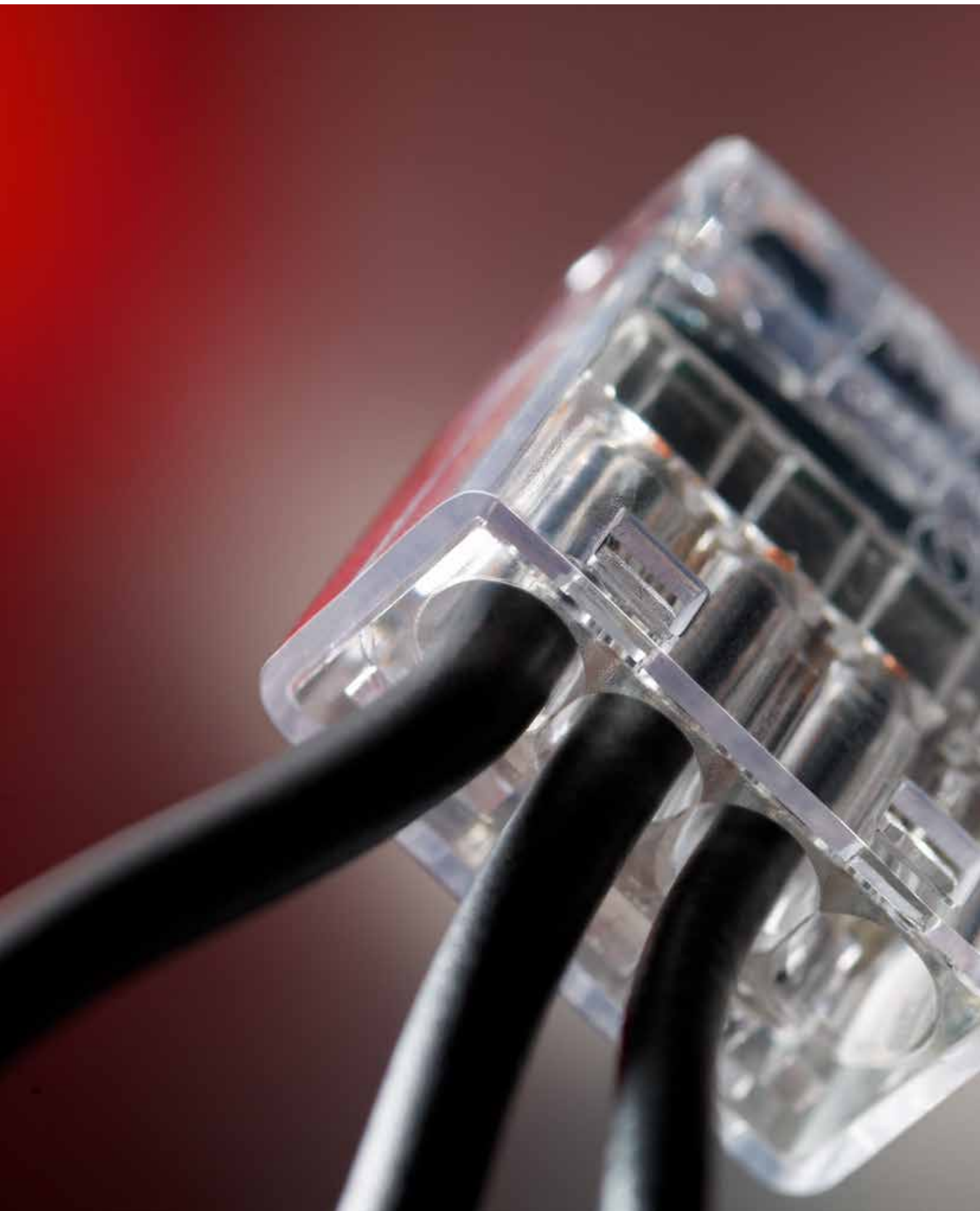
<b>MATERIAL</b>	Polyethylene (PE)
<b>Operating Temperature</b>	-30 °C to +80 °C
<b>Flammability</b>	UL94 HB



Flexiform edge protection







TYPE	Panel Thickness	Width (W)	Width (W2)	Height (H)	Height (H2)	Material	Colour	Pack Cont.	Article-No.
G51PAA	0.4 - 0.9	2.3	0.9	2.7	1.8	PE	Natural (NA)	25 m	251-10009
G51PA	0.4 - 1.3	3.9	1.5	4.3	2.7	PE	Natural (NA)	25 m	251-10109
G51PB	1.3 - 2.1	4.6	2.4	4.3	2.7	PE	Natural (NA)	25 m	251-10209
G51PC	2.1 - 3.3	5.7	3.5	4.3	2.7	PE	Natural (NA)	25 m	251-10309
G51PD	3.3 - 4.8	8.4	5.1	6.2	4.3	PE	Natural (NA)	25 m	251-10409
G51PE	4.8 - 6.5	9.9	6.7	6.4	4.5	PE	Natural (NA)	25 m	251-10509
G51PF	6.5 - 8.1	11.4	8.3	6.8	4.8	PE	Natural (NA)	25 m	251-10609
G51PG	8.1 - 9.7	13.2	10.1	6.8	4.8	PE	Natural (NA)	25 m	251-10709
G51PH	9.7 - 12.9	16.4	13.2	6.8	4.8	PE	Natural (NA)	25 m	251-10809

All dimensions in mm. Subject to technical changes. Minimum Order Quantity (MOQ) may differ from package content. Flexiform grommet strips are not self-adhesive and therefore not suitable for outer edges.



**Inspired by minimalism**

It's hard to imagine an electrical installation without connectors. But many of our customers want just that. A lack of space, limited accessibility and the sheer number of cables are time-consuming challenges faced in day-to-day working life. Our developers have kept reducing the size of our HelaCon connectors further and further in their search for the answer. The latest HelaCon Plus Mini connectors (see page 405) offer ease of use combined with high standards processing reliability.

	4.1 Electrical and Technical Tapes	128
	4.2 Wire Connectors	136
	4.3 Pre-Insulated Terminals	138
	4.4 Cast Resin Technology	152
	4.5 Gel Technology	165
	4.6 Accessories	177



## HelaTape

HellermannTyton offers a comprehensive range of Vinyl and Rubber Tapes for bundling, insulating, fixing, sealing and marking applications around all kinds of electrical applications. Vinyl electrical tapes are designed for low voltage applications and available in different dimensions and colours.

### Vinyl Electrical Tapes - General Purpose Vinyl Electrical Tape

**HelaTape Flex15 (0.15mm x 19mm x 20m)**

#### Features and Benefits

- Flame retardant
- Vinyl electrical tape in many different colours
- Used for insulation, protection, fixing, maintenance, colour coding and more
- Good resistance to abrasion, sunlight, moisture, chemicals, and varying weather conditions
- Highly flexible with outstanding adhesion performance
- Harnessing of wires and cables
- Suitable for mechanical and electrical applications up to 1 kV
- VDE approved according to IEC 60454-3-1-6/F-PVCP/90



Highly flexible and with good adhesion levels HelaTape Flex 15 can be used in several applications.



<b>MATERIAL</b>	Polyvinylchloride (PVC)
<b>Dielectric Strength</b>	40 kV/mm (Wet)
<b>Adhesion to Steel</b>	2,2 N/cm
<b>Adhesion to Backing</b>	2,0 N/cm
<b>Elongation at break</b>	200 %
<b>Tensile Strength</b>	28 N/cm
<b>Operating Temperature</b>	+90 °C

Test method used IEC 60454-2.



PART NO.	Thickness (T)	Length (L)	Width (W)	Colour	EAN bar code	Pack Cont	Article-No.
<b>FLEX15BK</b>	0.15	20.0 m	19.0	Black	4031026479880	10 pcs.	710-00155
<b>FLEX15RD</b>	0.15	20.0 m	19.0	Red	4031026479859	10 pcs.	710-00152
<b>FLEX15BU</b>	0.15	20.0 m	19.0	Blue	4031026479842	10 pcs.	710-00151
<b>FLEX15WT</b>	0.15	20.0 m	19.0	White	4031026479897	10 pcs.	710-00156
<b>FLEX15GN</b>	0.15	20.0 m	19.0	Green	4031026 479873	10 pcs.	710-00154
<b>FLEX15YE</b>	0.15	20.0 m	19.0	Yellow	40312026479866	10 pcs.	710-00153
<b>FLEX15GNYE</b>	0.15	20.0 m	19.0	Green yellow	4031026479903	10 pcs.	710-00157
<b>FLEX15RP</b>	0.15	20.0 m	19.0	Rainbow pack	4031026550541	10 pcs.	710-00165

All dimensions in mm. Subject to technical changes.







### Vinyl Electrical Tapes - Industrial Grade Vinyl Electrical Tape

**HelaTape Flex18 (0.18mm x 19mm x 20m)**

#### Features and Benefits

- Flame retardant
- Used as primary insulation for splices up to 600 volts
- Provides a protective outer jacket to splices at higher voltages
- Wrapping wire harnesses and insulating degaussing coils
- Colour coding electrical circuits
- Lead-free
- Resistant to sun, water, acids, alkalis, corrosive chemicals



HelaTape Flex18 for general splicing purposes.



<b>Material</b>	Polyvinylchloride (PVC)
<b>Dielectric Strength</b>	51 kV/mm
<b>Adhesion to Steel</b>	2,6 N/cm
<b>Adhesion to Backing</b>	2,6 N/cm
<b>Elongation at break</b>	250 %
<b>Tensile Strength</b>	28 N/cm
<b>Operating Temperature</b>	+80 °C

Test method used ASTM-D-1000.



PART NO.	Thickness (T)	Length (L)	Width (W)	Colour	EAN bar code	Pack Cont	Article-No.
FLEX18BK	0.18	20.0 m	19.0	Black	4031026402079	10 pcs.	710-00201
FLEX18WT	0.18	20.0 m	19.0	White	4031026436678	10 pcs.	710-00209
FLEX18RD	0.18	20.0 m	19.0	Red	4031026402086	10 pcs.	710-00206
FLEX18BU	0.18	20.0 m	19.0	Blue	4031026436647	10 pcs.	710-00200
FLEX18GN	0.18	20.0 m	19.0	Green	6005242040177	10 pcs.	710-00208
FLEX18YE	0.18	20.0 m	19.0	Yellow	6005242040207	10 pcs.	710-00207
FLEX18GNYE	0.18	20.0 m	19.0	Green yellow	4031026436685	10 pcs.	710-00210
FLEX18RP	0.18	20.0 m	19.0	Rainbow pack	4031026573618	10 pcs.	710-00215

All dimensions in mm. Subject to technical changes.





## HelaTape Flex – Premium vinyl electrical tapes

**HelaTape Flex1000+** (0.18mm x 19mm x 20m)

### Features and Benefits

- Flame retardant
- All-weather, professional grade, self-adhesive vinyl insulating tape
- Excellent performance and durability from -18°C to +105°C
- Used for insulation, protection, fixing, maintenance, colour coding
- Pressure sensitive high quality rubber based adhesive
- Performs continuously at low temperature environment
- Excellent resistance to abrasion, water, chemicals, corrosion and sun
- Used as primary insulation for splices up to 600 volts
- Protective jacketing for low–high voltage splices and repairs
- Harnessing of wires and cables
- For indoor and outdoor applications



*HelaTape Flex 1000+ provides excellent performance over a wide range of temperatures.*

<b>MATERIAL</b>	Polyvinylchloride (PVC)
<b>Dielectric Strength</b>	70 kV/mm (black)
<b>Adhesion to Steel</b>	3,0 N/cm
<b>Adhesion to Backing</b>	2,7 N/cm
<b>Elongation at break</b>	300 %
<b>Tensile Strength</b>	35 N/cm
<b>Operating Temperature</b>	-18 °C to +105 °C

*Test method used ASTM-D-1000.*



PART NO.	Thickness (T)	Length (L)	Width (W)	Colour	EAN bar code	Pack Cont	Article-No.
<b>FLEX1000BK</b>	0.18	20.0 m	19.0	Black	4031026548586	Each	710-10602
<b>FLEX1000RD</b>	0.18	20.0 m	19.0	Red	4031026548609	Each	710-10604
<b>FLEX1000BL</b>	0.18	20.0 m	19.0	Blue	4031026548593	Each	710-10603
<b>FLEX1000WT</b>	0.18	20.0 m	19.0	White	4031026548630	Each	710-10607

All dimensions in mm. Subject to technical changes.



### Vinyl Electrical Tapes – Vinyl Tape for Corrosion Protection

**HelaTape Wrap 25** (0.25mm x 50mm x 30m)



HelaTape Wrap 25 protects against all types of corrosion.

#### Features and benefits

- Special adhesive with excellent protection against corrosion
- Complete environmental, mechanical and electrical protection
- Highly resistant to UV, water, oil, most chemicals, bacteria and fungus
- Used for pipes, tubes, and conduits in outside and underground applications

<b>MATERIAL</b>	Polyvinylchloride (PVC)
<b>Dielectric Strength</b>	40 kV/mm
<b>Adhesion to Steel</b>	2.4 N/10 mm
<b>Adhesion to Backing</b>	2.0 N/10 mm
<b>Elongation at break</b>	250 %
<b>Breaking Strength</b>	48 N/10 mm
<b>Operating Temperature</b>	-10 °C to +90 °C

**RoHS** ✓

### Duct Tape

**HelaTape Wrap 13** (0.13mm x 48mm x 30m)



HelaTape Wrap 13 Duct Tape.

#### Features and benefits

- Flame retardant
- Weather resistant
- Lead free

<b>MATERIAL</b>	Polyvinylchloride (PVC)
<b>Dielectric Strength</b>	5 kV/mm
<b>Adhesion to Steel</b>	1.5 N/10 mm
<b>Adhesion to Backing</b>	1.5 N/10 mm
<b>Elongation at break</b>	200 %
<b>Operating Temperature</b>	-10 °C to +90 °C

**RoHS** ✓

#### HelaTape Wrap 25

PART NO.	Thickness (T)	Length (L)	Width (W)	Colour	Article-No.
WRAP25	0.25	30.0 m	50.0	Black (BK)	710-10802

All dimensions in mm. Subject to technical changes.

#### HelaTape Wrap 13

PART NO.	Thickness (T)	Length (L)	Width (W)	Colour
WRAP13	0.13	30.0 m	48.0	Grey (GY)

All dimensions in mm. Subject to technical changes.



### Wire Harness Tape – Strong, High Temperature Cloth Tape

HelaTape Protect 250

(0.25mm x 19mm x 25m)



HelaTape Protect 250 is designed for cable harnessing and offers a very high temperature resistance.

#### Features and benefits

- High temperature Polyester Fabric harnessing tape
- Special acrylate-based adhesive offers very good heat and media resistance
- Very high temperature stability from -40 °C to +150 °C
- Temperature and humidity resistance tested according to LV312
- Very good resistance against abrasion
- Material is very flexible and easy to handle
- Excellent ageing resistance, stable against rotting

<b>MATERIAL</b>	Polyester (PET)
<b>Operating Temperature</b>	-40 °C to +150 °C
<b>Adhesion to Steel</b>	2.5 N/10 mm
<b>Adhesion to Backing</b>	2 N/10 mm
<b>Elongation at break</b>	15 %
<b>Breaking Strength</b>	180 N/10 mm

HF ✓

RoHS ✓

### Wire Harness Tape – Soft and Flexible Fleece Tape

HelaTape Protect 300

(0.3mm x 19mm x 25m)



HelaTape Protect 300 provides high noise reduction and media resistance.

#### Features and benefits

- Soft Polyester Fleece harnessing tape
- High noise reduction and very high resistance against abrasion
- Synthetic rubber based adhesive offers good heat and media resistance
- High temperature stability from -40 °C to +105 °C
- Material is very flexible and tearable by hand
- Excellent ageing resistance and stable against rotting

<b>MATERIAL</b>	Polyester (PET)
<b>Operating Temperature</b>	-40 °C to +105 °C
<b>Adhesion to Steel</b>	2 N/10 mm
<b>Adhesion to Backing</b>	2 N/10 mm
<b>Elongation at break</b>	10 %
<b>Breaking Strength</b>	30 N/10 mm

HF ✓

RoHS ✓

#### HelaTape Protect 250

PART NO.	Thickness (T)	Length (L)	Width (W)	Colour	Article-No.
PROTECT250	0.25	25.0 m	19.0	Black (BK)	712-10003

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.

#### HelaTape Protect 300

PART NO.	Thickness (T)	Length (L)	Width (W)	Colour	Article-No.
PROTECT300	0.30	25.0 m	19.0	Black (BK)	712-10001

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



### Self-amalgamating Tapes - High Voltage Rubber Tape

**HelaTape Power 810 (EPR) (0.76mm x 19mm x 9.1m)**

#### Features and Benefits

- Self-amalgamating tape for insulating and jacketing splices up to 69 kV
- Halogen-free with outstanding corona, ozone and UV-resistance
- Ideal for sealing of terminations, electrical connections, and cable jacket repair
- Void-free, electrically stable layering
- Protects bus bar components
- Excellent moisture, corrosion and chemical resistance
- Compatible with all extruded cable insulations



*HelaTape Power 810 for primary insulation up to 69 kV.*

<b>MATERIAL</b>	Ethylene Propylene Rubber (EPR)
<b>Operating Temperature</b>	+90 °C
<b>Intermittent Operating Temperature</b>	+130 °C
<b>Water Absorption</b>	0.06 %
<b>Tensile Strength</b>	2,4 N/mm <sup>2</sup>
<b>Elongation at break</b>	750 %
<b>Volume Resistance</b>	10 <sup>16</sup> Ω cm
<b>Dielectric Strength</b>	30 kV/mm

HF ✓

RoHS ✓

PART NO.	Thickness (T)	Length (L)	Width (W)	Colour	EAN bar code	Pack Cont	Article-No.
<b>POWER810</b>	0.76	9.1 m	19.0	Black	4031026548852	Each	711-10401

All dimensions in mm. Subject to technical changes.



### Self-amalgamating Tapes – Medium Voltage Rubber Tape

**HelaTape Power 700 (PIBR) (0.5mm x 19mm x 10m)**

#### Features and benefits

- Polyisobutylene-based self-amalgamating medium voltage tape
- Insulating and jacketing power cables up to 46 kV
- Provides electrical stability and permanent moisture sealing
- Perfect stretching properties allows fast and uniform application
- Excellent UV, moisture, corrosion and chemical resistance
- Temperature range from -40 °C to +90 °C
- Compatible with all extruded cable insulation materials



*HelaTape Power 700 is a self-amalgamating medium voltage rubber tape.*

<b>MATERIAL</b>	Polyisobutylene Rubber (PIBR)
<b>Operating Temperature</b>	+90 °C
<b>Water Absorption</b>	0.02 %
<b>Tensile Strength</b>	2.4 N/mm <sup>2</sup>
<b>Elongation at break</b>	700 %
<b>Volume Resistance</b>	10 <sup>13</sup> Ω cm
<b>Dielectric Strength</b>	35 kV/mm

HF ✓

RoHS ✓

PART NO.	Thickness (T)	Length (L)	Width (W)	Colour	Article-No.
POWER700	0.50	10.0 m	19.0	Black (BK)	711-00308

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



### Self-amalgamating Tapes - Electrical Insulation Mastic

**HelaTape Power 31** (1.27mm x 51mm x 2.6m)

#### Features and Benefits

- For jacket repair and restoration on mine trailing cable
- Used in buried power cable, and communication cable
- Sealing and repairing cable conduit
- Excellent abrasion and flame resistance
- UV resistant
- Oil and chemical resistant
- Excellent moisture seal
- No heat required
- Will not corrode copper or aluminum



*HelaTape Power 31 jacket repair mining tape.*

PART NO.	Thickness (T)	Length (L)	Width (W)	Colour
POWER31	1.27	2.6 m	51	Black (BK)

### Self-amalgamating Tapes – Silicone Rubber Tape

**HelaTape Power 800** (0.51mm x 25mm x 9.1m)

#### Features and benefits

- Self-amalgamating and self-cleaning, chemically cross-linked silicone rubber tape
- Triangular cross-section with centre line for precise half-overlapping
- Resistant to creepage and surface erosion
- Fuses into solid mass after application
- Weather, UV and oil resistant
- Recommended use for high temperature silicone insulated cables and outdoor machinery and transformers



*HelaTape Power 800 is a silicone rubber tape with triangular cross-section.*

<b>MATERIAL</b>	Silicone (SI)
<b>Operating Temperature</b>	+180 °C
<b>Tensile Strength</b>	7 N/mm <sup>2</sup>
<b>Elongation at break</b>	400 %
<b>Volume Resistance</b>	10 <sup>14</sup> Ω cm
<b>Dielectric Strength</b>	23.5 kV/mm

HF ✓

RoHS ✓

PART NO.	Thickness (T)	Length (L)	Width (W)	Colour	Article-No.
POWER800	0.51	9.1 m	25.0	Grey (GY)	711-10400

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



### Connectors - For Solid and Stranded Wires

#### HelaCon Plus Mini

HelaCon connectors are used for fast, easy and reliable connection and distribution of cable and conductors in electrical installation applications. The new generation of HelaCon Plus Mini wire connectors can be applied tool-free using the push-in technology. HelaCon Plus Mini uses a double spring which is approved for solid and stranded wires.

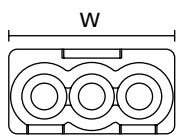
#### Features and benefits

- Wire range: 0.5 to 2.5 mm<sup>2</sup>
- 40% smaller – Space saving design
- Low insertion force – Easy to use, saves time on installation
- Easy access to voltage test entry and innovative port shape design
- Correct installation can be visually checked through transparent housing
- Different colour codes for easy identification of size
- Allows different conductor diameters in each entry
- Safe application, installation and maintenance
- Practical Variobox with 350 pcs. of selected HCPM wire connectors available (148-90046)

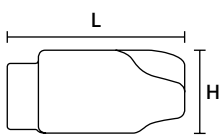


Connectors of the HelaCon Plus Mini family offering multiple sizes and colours.

<b>MATERIAL</b>	Polycarbonate (PC)
<b>Max Current</b>	24 A
<b>Max Voltage</b>	600 V
<b>Wire Range (VDE)</b>	0.5 to 2.5 mm <sup>2</sup> solid wires / 1.0 to 2.5 mm <sup>2</sup> stranded wires
<b>Stripping Length</b>	11 mm
<b>Flammability</b>	UL94 V0
<b>Operating Temperature</b>	-30 °C to +85 °C
<b>Specifications</b>	2006/65/EC, ANSI/UL 486-A, ANSI/ UL 486-B, ANSI/UL 486-C, cULus, EN 60998-2-2:2004, EN 60998-2-2:201, ENEC



HelaCon Plus Mini front view



HelaCon Plus Mini side view



One Step to the Web!



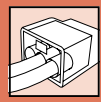
TYPE	Drawing	Number of Conductors	Colour	Width (W)	Height (H)	Length (L)	Pack Cont.	Article-No.
HCPM-2		2	Yellow (YE)	10.8	7.7	16.5	150 pcs.	148-90036
HCPM-3		3	Orange (OG)	15.1	7.7	16.5	100 pcs.	148-90037
HCPM-4		4	Transparent (CL)	19.4	7.7	16.5	100 pcs.	148-90038
HCPM-5		5	Blue (BU)	23.7	7.7	16.5	75 pcs.	148-90039
HCPM-6		6	Violet (VT)	28.0	7.7	16.5	50 pcs.	148-90040
HCPM-8		8	Black (BK)	36.6	7.7	16.5	50 pcs.	148-90041
HCPM Variobox 350		-	Transparent (CL)	-	7.7	16.5	350 pcs.	148-90046

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



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





### Connectors - For all Types of Wire

#### HelaCon Releasable

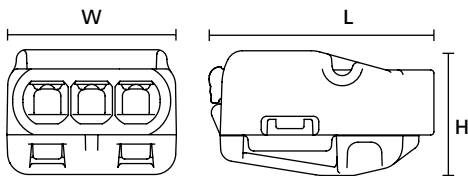
The HelaCon Releasable connectors are used for all types of wire to connect cable and conductors in the field of electrical installation. The connectors can be used in all kinds of junction boxes either on-wall or flush-mounted. HelaCon offers the best possible solution when convenient processing and maximum safety is required.

#### Features and Benefits

- Wire clamping range: 0.5 - 4.0 mm<sup>2</sup>
- Universal push-in wire connector for solid, stranded and fine-stranded wires
- Solid wires simply push-in - no need to open lever
- Compact size connector
- Separate voltage test entry on the bottom
- Fully re-useable - no screwdriver required
- For proper fixing that can be visually checked through transparent housing
- Safe application, installation and maintenance



*HelaCon Releasable connectors are easy released without any tool.*



*HelaCon Releasable front view.*

*HelaCon Releasable side view.*

<b>MATERIAL</b>	Polycarbonate (PC)
<b>Max Current</b>	32 A
<b>Max Voltage</b>	450 V
<b>Wire Range (VDE)</b>	0.5 to 4.0 mm <sup>2</sup> all types of wire
<b>Stripping Length</b>	10 mm
<b>Flammability</b>	UL94 V0
<b>Operating Temperature</b>	-30 °C to +85 °C



TYPE	Drawing	Colour	Width (W)	Height (H)	Length (L)
HCR-2		Transparent (CL)	11.9	11.7	21.1
HCR-3		Transparent (CL)	16.1	11.7	21.1
HCR-5		Transparent (CL)	24.5	11.7	21.1

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.





#### The HellermannTyton range of pre-insulated terminals feature:

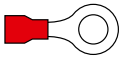
- Single Grip with standard single crimp (use YYT1 crimper)
- Double Grip with special double crimp for use in high vibration areas (use YYT7 crimper)
- Three piece manufacturing process
- Colour coded vinyl insulated for easier identification of cable sizes
- Temperature rating on vinyl is +75°C, our Nylon range is rated at +105°C
- Resealable bags

Terminal colour	RD	BL	YW
Conductor range (mm <sup>2</sup> )	0.5-1.5	1.5-2.5	4.0-6.0
Strip length for terminals (mm)	4-5	5-6	6-7
Strip length for inline splice (mm)	7-8	7-8	7-8

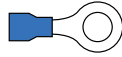


Packaging for double grip pre-insulated terminals.

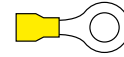
#### DOUBLE GRIP RING TERMINALS



HTA part number	Stud (mm)	Colour	Pack qty
RD1-3	3.2	RD	100
RD1-4	4.3		
RD1-5	5.3		
RD1-6	6.4		
RD1-8	8.4		
RD1-10	10.5		



HTA part number	Stud (mm)	Colour	Pack qty	
RD2-3	3.2	BL	100	
RD2-4	4.3			
RD2-5	5.3			
RD2-6	6.4			
RD2-8	8.4			
RD2-10	10.5			
RD2-12	13.0			50



HTA part number	Stud (mm)	Colour	Pack qty
RD5-3	3.2	YW	100
RD5-4	4.3		
RD5-5	5.3		
RD5-6	6.4		
RD5-8	8.4		50
RD5-10	10.5		
RD5-12	13.0		

#### DOUBLE GRIP SPADES/FORKS



HTA part number	Stud (mm)	Colour	Pack qty
SD1-3	3.2	RD	100
SD1-3.5	3.7		
SD1-4	4.3		
SD1-5	5.3		
SD1-6	6.4		



HTA part number	Stud (mm)	Colour	Pack qty
SD2-3	3.2	BL	100
SD2-3.5	3.7		
SD2-4	4.3		
SD2-5	5.3		
SD2-6	6.4		



HTA part number	Stud (mm)	Colour	Pack qty
SD5-3	3.7	YW	50
SD5-4	4.3		
SD5-5	5.3		
SD5-6	6.4		

#### DOUBLE GRIP PIN CONNECTORS



HTA part number	Pin (mm)	Colour	Pack qty
PD1	9	RD	100



HTA part number	Pin (mm)	Colour	Pack qty
PD2	9	BL	100



HTA part number	Pin (mm)	Colour	Pack qty
PD5	14	YW	50



### Double Grip Butt Splices



HTA part number	Length (mm)	Colour	Pack qty
BS1	26	RD	100



HTA part number	Length (mm)	Colour	Pack qty
BS2	26	BL	100



HTA part number	Length (mm)	Colour	Pack qty
BS5	27	YW	50

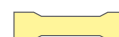
### HEAT SHRINK DOUBLE GRIP BUTT SPLICES - WATERPROOF CONNECTIONS



HTA part number	Length (mm)	Colour	Pack qty
BSW1	35	RD	100



HTA part number	Length (mm)	Colour	Pack qty
BSW2	35	BL	100



HTA part number	Length (mm)	Colour	Pack qty
BSW5	35	YW	50

### DOUBLE GRIP FLAT BLADES



HTA part number	Pin (mm)	Colour	Pack qty
FBD1-S	20	RD	100
FBD1-L	29		



HTA part number	Pin (mm)	Colour	Pack qty
FBD2-S	20	BL	100
FBD2-L	29		



HTA part number	Pin (mm)	Colour	Pack qty
FBD5-S	24	YW	50
FBD5-L	32		

### DOUBLE GRIP LIP BLADES



HTA part number	Blade (mm)	Colour	Pack qty
LBD1-N	3	RD	100
LBD1-W	5		



HTA part number	Blade (mm)	Colour	Pack qty
LBD2-N	3	BL	100
LBD2-W	5		



HTA part number	Blade (mm)	Colour	Pack qty
LBD5-N	3	YW	50
LBD5-W	5		

### DOUBLE GRIP QC DISCONNECTS MALE FUNNEL ENTRY



HTA part number	Tab (mm)	Colour	Pack qty
QDM1-6	6.4x0.8	RD	100



HTA part number	Tab (mm)	Colour	Pack qty
QDM2-6	6.4x0.8	BL	100



HTA part number	Tab (mm)	Colour	Pack qty
QDM5-6	6.4x0.8	YW	50

### DOUBLE GRIP QC FULLY INSULATED FEMALE FUNNEL ENTRY



HTA part number	Tab (mm)	Colour	Pack qty
QDF1-5F/5	4.8x0.5	RD	100
QDF1-5F/8	4.8x0.8		



HTA part number	Tab (mm)	Colour	Pack qty
QDF2-5F/5	4.8x0.5	BL	100
QDF2-5F/8	4.8x0.8		



## DOUBLE GRIP NYLON 105°C FULLY INSULATED FEMALE FUNNEL ENTRY



HTA part number	Tab (mm)	Colour	Pack qty
QDF1-6F	6.4x0.8	RD	100



HTA part number	Tab (mm)	Colour	Pack qty
QDF2-6F	6.4x0.8	BL	100



HTA part number	Tab (mm)	Colour	Pack qty
QDF5-6F	6.4x0.8	YW	50

## DOUBLE GRIP QC FEMALE FUNNEL ENTRY



HTA part number	Tab (mm)	Colour	Pack qty
QDF1-3/5	2.8x0.5	RD	100
QDF1-3/8	2.8x0.8		
QDF1-5/5	4.8x0.5		
QDF1-5/8	4.8x0.8		
QDF1-6	6.4x0.8		



HTA part number	Tab (mm)	Colour	Pack qty
QDF2-3/5	2.8x0.5	BL	100
QDF2-3/8	2.8x0.8		
QDF2-5/5	4.8x0.5		
QDF2-5/8	4.8x0.8		
QDF2-6	6.4x0.8		



HTA part number	Tab (mm)	Colour	Pack qty
QDF5-6	6.4x0.8	YW	50
QDF5-9	9.4x1.0		

## DOUBLE GRIP QC PIGGY BACKS FUNNEL ENTRY



HTA part number	Tab (mm)	Colour	Pack qty
QDF1-6P	6.4x0.8	RD	50



HTA part number	Tab (mm)	Colour	Pack qty
QDF2-6P	6.4x0.8	BL	50



HTA part number	Tab (mm)	Colour	Pack qty
QDF5-6P	6.4x0.8	YW	25

## NYLON FLAG QC FEMALE DISCONNECTS 105°C FULLY INSULATED FUNNEL ENTRY



HTA part number	Tab (mm)	Colour	Pack qty
QDF1-6F90	6.4x0.8	RD	50



HTA part number	Tab (mm)	Colour	Pack qty
QDF2-6F90	6.4x0.8	BL	50

## DOUBLE GRIP FEMALE BULLETS FUNNEL ENTRY



HTA part number	Bullet (dia mm)	Colour	Pack qty
FD1-4	4	RD	100



HTA part number	Bullet (dia mm)	Colour	Pack qty
FD2-5	4	BL	50



HTA part number	Bullet (dia mm)	Colour	Pack qty
FD5-5	5	YW	50

## DOUBLE GRIP MALE BULLETS FUNNEL ENTRY



HTA part number	Bullet (dia mm)	Colour	Pack qty
BDM1-4	4	RD	100



HTA part number	Bullet (dia mm)	Colour	Pack qty
BDM2-5	4	BL	100



HTA part number	Bullet (dia mm)	Colour	Pack qty
BDM5-5	5	YW	50



## The HellermannTyton range of nylon & un-insulated bootlace ferrules feature:

- Precise terminations for applications of where fine stranded multi core cable is used
- Reduces the possibility of short circuiting
- Colour coded for easier identification
- Non-insulated range of bootlace ferrules are electro grade copper with electro tinned plated for high conductivity
- Resealable bags



Packaging for bootlace ferrules.

## NYLON INSULATED BOOTLACE FERRULES



HTA part number	Description	Colour	Pack qty
BL0.34	0.34mm <sup>2</sup> pink bootlace ferrules	Pink	100
BL0.50	0.50mm <sup>2</sup> white bootlace ferrules	White	100
BL0.50/500	0.50mm <sup>2</sup> white bootlace ferrules (500pk)		500
BL0.75	0.75mm <sup>2</sup> blue bootlace ferrules	Blue	100
BL0.75/500	0.75mm <sup>2</sup> blue bootlace ferrules (500pk)		500
BL1.0	1.0mm <sup>2</sup> red bootlace ferrules	Red	100
BL1.0/500	1.0mm <sup>2</sup> red bootlace ferrules (500pk)		500
BL1.5	1.5mm <sup>2</sup> black bootlace ferrules	Black	100
BL1.5/500	1.5mm <sup>2</sup> black bootlace ferrules (500pk)		500
BL1.5-18	1.5mm <sup>2</sup> x 18mm black bootlace ferrules		100
BL2.5	2.5mm <sup>2</sup> grey bootlace ferrules	Grey	100
BL2.5/500	2.5mm <sup>2</sup> grey bootlace ferrules (500pk)		500
BL2.5-18	2.5mm <sup>2</sup> x 18mm grey bootlace ferrules		100
BL4	4.0mm <sup>2</sup> orange bootlace ferrules	Orange	100
BL4/500	4.0mm <sup>2</sup> orange bootlace ferrules (500pk)		500
BL4-18	4.0mm <sup>2</sup> x 18mm orange bootlace ferrules		100
BL6	6.0mm <sup>2</sup> green bootlace ferrules	Green	50
BL6/500	6.0mm <sup>2</sup> green bootlace ferrules (500pk)		500
BL6-18	6.0mm <sup>2</sup> x 18mm green bootlace ferrules		50
BL10	10.0mm <sup>2</sup> brown bootlace ferrules	Brown	50
BL10-18	10.0mm <sup>2</sup> x 18mm brown bootlace ferrules		50
BL16	16.0mm <sup>2</sup> ivory bootlace ferrules	Ivory	50
BL16-18	16.0mm <sup>2</sup> x 18mm ivory bootlace ferrules		50
BL25	25mm <sup>2</sup> black bootlace ferrules	Black	10
BL25-22	25mm <sup>2</sup> x 22mm black bootlace ferrules		10
BL35	35.0mm <sup>2</sup> red bootlace ferrules	Red	10
BL35-25	35.0mm <sup>2</sup> x 25mm red bootlace ferrules		10
BL50	50.0mm <sup>2</sup> blue bootlace ferrules	Blue	10
BL70	70.0mm <sup>2</sup> yellow bootlace ferrules	Yellow	5
BL95	95.0mm <sup>2</sup> red bootlace ferrules	Red	5
BL120	120.0mm <sup>2</sup> blue bootlace ferrules	Blue	5



### NYLON INSULATED TWIN BOOTLACE FERRULES



HTA part number	Description	Colour	Pack qty
BLT0,50	Twin white 2 x 0.5mm <sup>2</sup> bootlace ferrules	White	100
BLT0,75	Twin blue 2 x 0.75mm <sup>2</sup> bootlace ferrules	Blue	100
BLT1,0	Twin red 2 x 1.0mm <sup>2</sup> bootlace ferrules	Red	100
BLT1,5	Twin black 2 x 1.5mm <sup>2</sup> bootlace ferrules	Black	100
BLT2,5	Twin grey 2 x 2.5mm <sup>2</sup> bootlace ferrules	Grey	100
BLT4	Twin orange 2 x 4.0mm <sup>2</sup> bootlace ferrules	Orange	50
BLT6	Twin green 2 x 6.0mm <sup>2</sup> bootlace ferrules	Green	25

### UN-INSULATED BOOTLACE FERRULES



HTA part number	Description	Pack qty
BLU0,50	Un-insulated 0.50mm <sup>2</sup> bootlace ferrules	100
BLU0,75	Un-insulated 0.75mm <sup>2</sup> bootlace ferrules	
BLU1,0	Un-insulated 1.0mm <sup>2</sup> bootlace ferrules	
BLU1,5	Un-insulated 1.5mm <sup>2</sup> bootlace ferrules	
BLU2,5	Un-insulated 2.5mm <sup>2</sup> bootlace ferrules	
BLU4,0	Un-insulated 4.0mm <sup>2</sup> bootlace ferrules	
BLU6	Un-insulated 6.0mm <sup>2</sup> bootlace ferrules	50
BLU10	Un-insulated 10.0mm <sup>2</sup> bootlace ferrules	
BLU16	Un-insulated 16.0mm <sup>2</sup> bootlace ferrules	
BLU25	Un-insulated 25.0mm <sup>2</sup> bootlace ferrules	10
BLU35	Un-insulated 35.0mm <sup>2</sup> bootlace ferrules	
BLU50	Un-insulated 50.0mm <sup>2</sup> bootlace ferrules	5
BLU70	Un-insulated 70.0mm <sup>2</sup> bootlace ferrules	
BLU95	Un-insulated 95.0mm <sup>2</sup> bootlace ferrules	
BLU120	Un-insulated 120.0mm <sup>2</sup> bootlace ferrules	

### CLOSED END CONNECTORS



HTA part number	Description	Pack qty
CE1	Closed end connector 0.5 - 1.5mm <sup>2</sup>	50
CE2	Closed end connector 1.5 - 2.5mm <sup>2</sup>	
CE5	Closed end connector 4.0 - 6.0mm <sup>2</sup>	25

The HellermannTyton range meets all the conformant standards.





### SINGLE GRIP LIP BLADES



HTA part number	Blade (mm)	Colour	Pack qty
1HB3	3	RD	100
1HB	5		

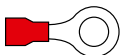


HTA part number	Blade (mm)	Colour	Pack qty
2HB3	3	BL	100
2HB	5		

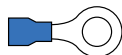


Packaging for single grip pre-insulated terminals.

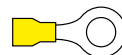
### SINGLE GRIP RING TERMINALS



HTA part number	Stud (mm)	Colour	Pack qty
1R3	3.2	RD	100
1R4	4.3		
1R5	5.3		
1R6	6.4		
1R8	8.4		
1R10	10.5		
1R12	13		



HTA part number	Stud (mm)	Colour	Pack qty
2R3	3.2	BL	100
2R4	4.3		100
2R5	5.3		100
2R6	6.4		50
2R8	8.4		50
2R10	10.5		50
2R12	13		50



HTA part number	Stud (mm)	Colour	Pack qty
3R3	3.2	YW	100
3R4	4.3		50
3R5	5.3		
3R6	6.4		
3R8	8.4		
3R10	10.5		
3R12	13		

### SINGLE GRIP SPADES/FORKS



HTA part number	Stud (mm)	Colour	Pack qty
1S3	3.2	RD	100
1S4A	4.3		
1S5A	5.3		
1S6A	6.4		



HTA part number	Stud (mm)	Colour	Pack qty
2S3	3.2	BL	100
2S4A	4.3		
2S5A	5.3		
2S6	6.4		



HTA part number	Stud (mm)	Colour	Pack qty
3S4A	4.3	YW	50
3S5	5.3		
3S6A	6.4		

### SINGLE GRIP PIN CONNECTORS



HTA part number	Pin (mm)	Colour	Pack qty
1P10	9	RD	100



HTA part number	Pin (mm)	Colour	Pack qty
2P10	9	BL	100



HTA part number	Pin (mm)	Colour	Pack qty
3P13	14	YW	25

### SINGLE GRIP FLAT BLADES



HTA part number	Pin (mm)	Colour	Pack qty
1FB14	20	RD	50
1FB18	29		100



HTA part number	Pin (mm)	Colour	Pack qty
2FB13	20	BL	100
2FB18	29		

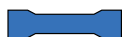


HTA part number	Pin (mm)	Colour	Pack qty
3FB10	24	YW	50
3FB14	32		

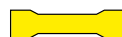
### SINGLE GRIP BUTT SPLICES



HTA part number	Length (mm)	Colour	Pack qty
1UT	26	RD	100



HTA part number	Length (mm)	Colour	Pack qty
2UT	26	BL	100



HTA part number	Length (mm)	Colour	Pack qty
3UT	27	YW	50



### Copper Cable Lug

#### Copper Lug Series

Copper cable lugs are used to terminate the ends of battery cable and welding cable so they can be connected to other electrical equipment such as starters, fuse blocks, distribution blocks, etc. Cable lugs are highly conductive and can handle very high currents. Our range of Copper Lugs/Links complies to Australian & New Zealand standard AS/NZS4325 Part 1:1995.

#### Features and Benefits

- Heat cycle test results available on request
- Wide range of sizes
- Can be crimped using cable lug crimper or hammer style crimper
- Can be soldered using solder slugs or electrical solder
- Easy insertion of cable



Copper Lug Series.



Long Barrel Short Palm Series



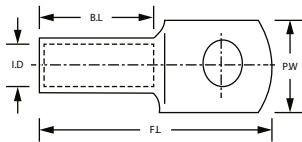
Long Barrel Long Palm Series



Bell Mouth Copper Lug Series



Bimetal Series



<b>MATERIAL</b>	Copper Grade C11000
<b>Conductive Material</b>	Copper 99.99.25% pure Oxygen content 30 p.p.m Max. Tensile strength 205 Mpa Min Ductile rating 40% Final metal state fully annealed Electroplating material tin 99.9% pure Other metals lead + antimony Thickness 5 -10 microns
<b>Conformant Standards</b>	AS/NZS4325 Part 1:1995
<b>General Electrical Properties</b>	Total conductivity 99.99.25% IACS Total resistivity: 1.72 micro-ohm cm
<b>Operating Temperature</b>	-55°C to 155°C due to oxygen-free copper

### COPPER LUGS



HTA PART NUMBER	Conductor Size (mm <sup>2</sup> )	Stranding metric	Stud	ID Size	Palm Width	Barrel Length	Full Length	A/F Hex	Pack Qty
CL1.5-4	1.5	7/0.50	M4	1.8	8	7	18	-	100
CL1.5-5			M5		8	7	18		
CL1.5-6			M6		10	7	19		
CL2,5-4			M4						

All dimensions in mm. Subject to technical changes.







HTA PART NUMBER	Conductor Size (mm <sup>2</sup> )	Stranding metric	Stud	ID Size	Palm Width	Barrel Length	Full Length	A/F Hex	Pack Qty
CL2.5-5	2.5	7/0.67	M5	2.4	8	8	19	-	100
CL2.5-6			M6		10		21		
CL2.5-8			M8		12	24			
CL4-5	4	7/0.85	M5	3.1	10	9	22	-	100
CL4-6			M6		12		27		
CL4-8			M8		15		32		
CL4-10			M10		18	38			
CL6-5	6	7/1.04	M5	3.8	10	9	23	4.4	100
CL6-6			M6		12		27		
CL6-8			M8		10	27			
CL6-10			M10			32			
CL10-5			M5			15	32		
CL10-6	10	7/1.35	M6	4.7	12	10	27	5.7	100
CL10-8			M8		14		29		
CL10-10			M10		15		32		
CL10-12			M12		18	38			
CL16-6	16	7/1.70	M6	5.5	11	19	39	6.3	50
CL16-8			M8		14		41		
CL16-10			M10		16		46		
CL16-12			M12		18		46		
CL25-6	25	19/1.35	M6	7.1	13.5	21	41	7.7	50
CL25-8			M8		16		44		
CL25-10			M10		18		48		
CL25-12			M12		21		51		
CL35-6	35	19/1.53	M6	8.4	16	21	45	9.2	50
CL35-8			M8		18		51		
CL35-10			M10		20		51		
CL35-12			M12		22	51			
CL50-6	50	19/1.78	M6	9.5	18	22	46	10.4	50
CL50-8			M8		21		52		
CL50-10			M10		22		52		
CL50-12			M12		24	52			
CL70-6	70	19/2.14	M6	11.3	21	24	54	11.5	25
CL70-8			M8						
CL70-10			M10						
CL70-12			M12						
CL70-16			M16						
CL95-8	95	37/1.78	M8	13.5	25	27	60	14.2	25
CL95-10			M10				64		
CL95-12			M12				64		
CL95-16			M16				70		
CL120-8	120	37/2.03	M8	15.6	30	30	64	16.5	25
CL120-10			M10				70		
CL120-12			M12				70		
CL120-16			M16				70		

All dimensions in mm. Subject to technical changes.





HTA PART NUMBER	Conductor Size (mm <sup>2</sup> )	Stranding metric	Stud	ID Size	Palm Width	Barrel Length	Full Length	A/F Hex	Pack Qty
CL150-10	150	37/2.25	M10	16.7	32	30	71	18.3	20
CL150-12			M12				75		
CL150-16			M16						
CL185-10	185	37/2.52	M10	18.4	36	32	74	20	20
CL185-12			M12		36	32	79		
CL185-16			M16		36	32	79		
CL240-10	240	61/2.25	M10	21.2	41	38	92	23.1	10
CL240-12			M12		41	38	92		
CL240-16			M16		41	38	92		
CL300-10	300	61/2.52	M10	23.8	46	42	101	26	5
CL300-12			M12						
CL300-16			M16						
CL400-12	400	61/2.85	M12	26.8	50	44	114	28.1	1
CL500-12	500	61/3.20	M12	30	56	50	119	31	1
CL630-12	630	127/2.52	M12	34	64.4	58	139	37	1

All dimensions in mm. Subject to technical changes.

## LONG BARREL SHORT PALM



HTA PART NUMBER	Conductor Size (mm <sup>2</sup> )	Stud	ID Size	Palm Width	Barrel Length	Full Length	A/F Hex	Pack Qty	
CL10-6LB	10	M6	4.7	12	21	39	5.7	1	
CL16-6LB	16		M8	5.5	11	35	60	6.3	1
CL16-8LB					14				1
CL16-12LB		16			1				
CL25-8LB	25	M10	7.1	13.5	44	62	7.7	1	
CL25-10LB				16				1	
CL25-12LB				18				1	
CL35-8LB	35	M12	8.4	16	48	65	9.2	1	
CL35-10LB				18				1	
CL35-12LB				20				1	
CL50-10LB	50	M10	9.5	18	54	77	10.4	1	
CL50-12LB		M12		21				1	
CL70-10LB	70	M10	11.3	21	60	81	11.5	1	
CL70-12LB		M12		21				1	
CL95-10LB	95	M10	13.5	25	64	88	14.2	1	
CL95-12LB		M12							1
CL120-10LB	120	M10	15.6	20.6	80	98	16.5	1	
CL120-12LB		M12							1
CL150-12LB	150	M12	16.7	22.2	90	110	18.3	1	
CL150-16LB		M16							1
CL185-12LB	185	M12	18.4	24.2	64	115	20	1	
CL240-12LB	240		21.2	41	80	142		1	
CL300-16LB	300	M16	23.8	46	90	153	26	1	
CL400LB	400	0	26.8	50	100	170	28.1	1	
CL500LB	500		30.0	56	105	181	31	1	
CL630LB	630		34.00	64.4	115	193	37	1	

All dimensions in mm. Subject to technical changes.



**LONG BARREL LONG PALM**



HTA PART NUMBER	Conductor Size (mm <sup>2</sup> )	ID Size	Palm Width	Barrel Length	Full Length	A/F Hex	Pack Qty
CL16LPB	16	5.5	18.0	21	82	6.3	1
CL25LPB	25	7.1	18.0	29	95	7.7	1
CL35LPB	35	8.4	20.0	35	112	9.2	1
CL50LPB	50	9.5	21.0	44	130	10.4	1
CL70LPB	70	11.3	26.0	48	154	11.5	1
CL95LPB	95	13.5	26.0	54	161	14.2	1
CL120LPB	120	15.6	30.0	60	168	16.5	1
CL150LPB	150	16.7	32.0	60	169	18.3	1
CL185LPB	185	18.4	36.0	64	174	20	1
CL240LPB	240	21.2	41.0	80	180	23.1	1
CL300LPB	300	23.8	46.0	90	190	26	1
CL400LPB	400	26.8	50.0	100	200	28.1	1
CL500LPB	500	30.0	56.0	105	205	31	1
CL630LPB	630	34.0	64.4	115	215	37	1

All dimensions in mm. Subject to technical changes.

**BELL MOUTH COPPER LUGS**



HTA PART NUMBER	Conductor Size (mm <sup>2</sup> )	Stud	ID Size	Palm Width	Barrel Length	Full Length	A/F Hex	Pack Qty
CL10-6BM	10	M6	4.7	12	10	27	5.7	100
CL10-8BM		M8		14		29		
CL10-10BM		M10		15		32		
CL10-12BM		M12		18	11	38		
CL16-6BM	16	M6	5.5	11	19	39	6.3	50
CL16-8BM		M8		14		41		
CL16-10BM		M10		16		46		
CL16-12BM		M12		18		19		
CL25-6BM	25	M6	7.1	13.5	21	41		
CL25-8BM		M8		16		44		
CL25-10BM		M10		18		48		
CL25-12BM		M12		18		21	41	9.2
CL35-6BM	35	M6	8.4	15	21	41		
CL35-8BM		M8						
CL35-10BM		M10						
CL35-12BM		M12						
CL50-6BM	50	M6	9.5	15	22	46	10.4	50
CL50-8BM		M8		19		49		
CL50-10BM		M10		21		54		
CL50-12BM		M12		19		24		
CL70-6BM	70	M6	11.3	17	24	51		
CL70-8BM		M8						
CL70-10BM		M10						
CL70-12BM		M12						

All dimensions in mm. Subject to technical changes.





HTA PART NUMBER	Conductor Size (mm <sup>2</sup> )	Stud	ID Size	Palm Width	Barrel Length	Full Length	A/F Hex	Pack Qty
CL95-8BM	95	M8	13.5	19	27	51	14.2	25
CL95-10BM		M10				55		
CL95-12BM		M12						
CL120-10BM	120	M10	15.6	19	30	61	16.5	25
CL120-12BM		M12						
CL120-16BM		M16						
CL150-10BM	150	M10	16.7	19	30	66	18.3	20
CL150-12BM		M12				75		
CL185-10BM	185	M10	18.4	24.5	32	74	20	20
CL185-12BM		M12				79		
CL240-10BM	240	M10	21.2	31	38	82	23.1	10
CL240-12BM		M12						
CL240-16BM	300	M16	23.8	31	42	81	26	5

All dimensions in mm. Subject to technical changes.

#### BELL MOUTH CIRCUIT BREAKER LUGS NARROW PALM



HTA PART NUMBER	Conductor Size (mm <sup>2</sup> )	Stud	ID Size	Palm Width	Barrel Length	Full Length	A/F Hex	Pack Qty
CLB35-6	35	M6	8.4	15	21	41	9.2	50
CLB50-6	50	M6	9.5	15	22	43	10.4	50
CLB50-10		M10		19		44		
CLB70-6	70	M6	11.3	17	24	55	11.5	25
CLB70-10		M10		19		51		
CLB95-8	95	M8	13.5	19	27	51	14.2	25
CLB95-10		M10						
CLB120-8	120	M8	15.6	19	30	61	16.5	25
CLB120-10		M10						
CLB150-10	150	M10	16.7	19	30	66	18.3	20
CLB185-10	185	M10	18.4	24.5	32	74	20	20
CLB240-10	240	M10	21.2	28.5	38	82	23.1	10
CLB240-12		M12						
CLB300-10	300	M10	23.8	31	42	81	26	5

All dimensions in mm. Subject to technical changes.

#### COPPER CRIMP LINKS



HTA PART NUMBER	Conductor Size (mm <sup>2</sup> )	Stranding metric	ID Size	Full Length	A/F Hex	Pack Qty
CS1.5	1.5	1/0.50	1.8	22	-	100
CS2.5	2.5	7/0.67	2.4	22	-	100
CS4	4	7/0.85	3.1	22	-	100
CS6	6	7/1.04	3.8	22	4.4	100
CS10	10	7/1.35	4.7	22	5.7	100

All dimensions in mm. Subject to technical changes.



HTA PART NUMBER	Conductor Size (mm <sup>2</sup> )	Stranding metric	ID Size	Full Length	A/F Hex	Pack Qty
CS16	16	7/1.70	5.5	44	6.3	50
CS25	25	19/1.35	7.1	47	7.7	50
CS35	35	19/1.53	8.4	47	9.2	50
CS50	50	19/1.78	9.5	47	10.4	50
CS70	70	19/2.14	11.3	50	11.5	25
CS95	95	37/1.78	13.4	54	14.2	25
CS120	120	37/2.03	15.6	65	16.5	25
CS150	150	37/2.25	16.7	65	18.3	20
CS185	185	37/2.52	18.4	65	20	20
CS240	240	61/2.25	21.2	90	23.1	10
CS300	300	61/2.52	23.8	90	26	5
CS400	400	61/2.82	26.8	90	28.1	1
CS500	500	61/3.20	30	112	30.1	1
CS630	630	127/2.52	34	112	34	1

All dimensions in mm. Subject to technical changes.

## BI-METAL



HTA PART NUMBER	Conductor Size (mm <sup>2</sup> )	Stud	ID Size	Palm Width	Barrel Length	Full Length	A/F Hex	Pack Qty					
BML16-10	16	10	5.5	20	32	75	9	1					
BML25-10	25		7.5					1					
BML25-12		12	1										
BML35-10	35	10	8.5					1					
BML35-12	50	12	9.5	24		60	13.2	1					
BML50-10		10						1					
BML50-12	12	1											
BML70-10	70	10	11.5					30	115	17.3	1		
BML70-12		12		1									
BML95-10	95	10	13.5	35	120		22				1		
BML95-12		12									1		
BML120-10	120	10	15.5					36		135	28.4	1	
BML120-12		12				1							
BML150-10	150	10	16.5	50		165	39					1	
BML150-12		12										1	
BML185-10	185	10	18.5					70	165		39	1	
BML185-12		12										1	
BML240-10	240	10	22	70	165		39					1	
BML240-12		12										1	
BML300-10	300	10	23.5					70		165	39	1	
BML300-12		12										1	
BML300	400	0	26.5	50		70	165					39	1
BML400													1

All dimensions in mm. Subject to technical changes.



## RELICON - Innovative Cast Resin and Gel Technology

For Reliable Cable Connections

We believe in our products. The promise they deliver is anchored in our brand name: RELICON stands for "reliable connection". You can trust RELICON to make reliable connections between today's needs and tomorrow's possibilities. A reliable connection between companies' goals and the interest of the environment. A reliable connection between efficient manufacture and optimal use.



Comprehensive brochure  
available on request.



## RELICON SF technology: safe and easy filling

The special “Safe Filling” (SF) system makes RELICON cast resin joint products a pleasure to work with. When followed correctly, SF ensures that any hazardous contact with the cast resin can be avoided and the fitter has visual control of the mixing and filling steps at all times.

Resin and hardener are mixed in a transparent double-chamber pouch. The mixture can be easily poured into the joint sleeve once the supplied nozzle is securely pressed onto the adapter ring in the pouch. The transparent cable joint parts guarantee that the fitter can visually control the entire filling process. The hydrophobic (dewatering) cast resin is environmentally safe. The mixture can be disposed of as regular household waste.

Excellent hydrolytic stability makes RELICON cast resins particularly suitable for reliable long-term applications.



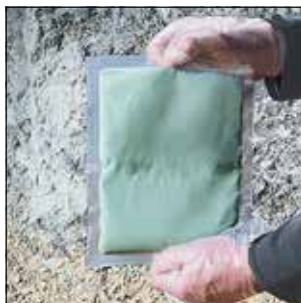
*Transparent 2-chamber pouch for a optimized visual inspection of the mixing process.*



*The middle cold seal between the resin and harder component opens by means of pressure.*



*Simple mixing of the two components.*



*The patented color change gives the correct mixing process.*



*Automatic and leakproof opening of the pouch through installation of the filling nozzle.*



*The filling nozzle in combination with the adapter makes filling the joint very easy and efficient.*



Application video:  
RELICON cable jointing



### Straight-through joint without connectors

#### RELICON i-Line SF

RELICON straight-through joints are made for installations in low-voltage electrical networks. They are suitable for jointing on polymeric cables and wires made of PVC, XLPE, PE, EPR and utility cables.

Application: Underground, submerged, outdoor, indoor and wiring ducts.

#### Features and Benefits

- Two-part, impact-proof, transparent moulding shells
- Compact, optimized dimensions
- Standard cable diameters indicated on the shells
- Safe-Filling system (SF)
- Immediately ready for use
- Longitudinally and transversely watertight
- Joint can be cast under influence of water

#### Content of Set / Kit

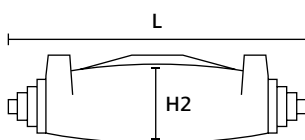
- Cast resin PUR 33
- Two-chamber pouch, transparent
- Moulding shells, transparent
- SF-system and nozzle
- Protective gloves, emery cloth, installation instructions
- HelaTape PVC insulating tape
- Spacer for max. 5 core cable (i-1 to i-4)



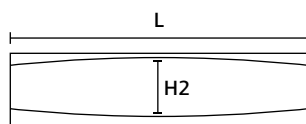
Straight-through joint i-Line SF (safe filling).

<b>MATERIAL</b>	Polyurethane resin 33 (PUR33)
<b>Colour</b>	Green (GN)
<b>Operating Temperature</b>	-25 °C to +120 °C
<b>Storage Temperature</b>	+4 °C to +40 °C
<b>Shelf Life</b>	48 months

RoHS



i-Line (i-0 - i-6)



i-Line (i-7)



Without connector!



Application video:  
RELICON cable jointing

TYPE	Ø Main Cable	Main Cable mm <sup>2</sup>		Length (L)	Height (H2)	Resin Quantity	Article-No.
		min	max				
i-0 / SF EMEA	7-16	3 x 1.5	5 x 2.5	182.0	25.0	95 ml / 130 g	435-12019
i-1 / SF EMEA	8-24	3 x 1.5	4 x 10 / 5 x 6	190.0	36.0	165 ml / 226 g	435-12000
i-1.5 / SF EMEA	8-24	3 x 1.5	4 x 16 / 5 x 10	215.0	39.0	220 ml / 301 g	435-12001
i-2 / SF EMEA	14-30	5 x 1.5	4 x 25 / 5 x 16	276.0	49.0	400 ml / 548 g	435-12002
i-3 / SF EMEA	23-35	5 x 10	4 x 50 / 5 x 35	360.0	54.0	655 ml / 897 g	435-12003
i-4 / SF EMEA	28-47	4 x 25	4 x 95	400.0	69.0	1140 ml / 1562 g	435-12004
i-5 / SF EMEA	33-55	4 x 50	4 x 150	520.0	100.0	2 x 1450 ml / 1987 g	435-12005
i-6 / SF EMEA	48-70	4 x 150	4 x 240	700.0	128.0	4 x 1640 ml / 2247 g	435-12006
i-7 / SF EMEA	55-77	4 x 185	4 x 400	870.0	140.0	5 x 1950 ml / 2672 g	435-12007

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.





### Straight-through joint with connectors

#### RELICON i-Line Premium SF

RELICON Premium straight-through joints are provided with an integrated connector block and made for low-voltage electrical networks. They are suitable for jointing on polymeric cables and wires made of PVC, XLPE, PE, EPR and utility cables.

Application: Underground, submerged, outdoor, indoor and wiring ducts.

#### Features and Benefits

- Two-part, impact-proof, transparent moulding shells
- Compact, optimized dimensions
- Standard cable diameters indicated on the shells
- Safe-Filling system (SF)
- Immediately ready for use
- Longitudinally and transversely watertight
- Joint can be cast under influence of water
- Connectors for aluminium and copper conductors
- Safe connection for up to 5 core cables

#### Content of Set / Kit

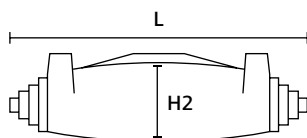
- Cast resin PUR 33
- Two-chamber pouch, transparent
- Moulding shells, transparent
- SF-system and nozzle
- Protective gloves, emery cloth, installation instructions
- HelaTape PVC insulating tape
- Connector block with 5 screw connectors incl. allen key



Straight-through joint i-Line SF (safe filling).

<b>MATERIAL</b>	Polyurethane resin 33 (PUR33)
<b>Colour</b>	Green (GN)
<b>Operating Temperature</b>	-25 °C to +120 °C
<b>Storage Temperature</b>	+4 °C to +40 °C
<b>Shelf Life</b>	48 months

**RoHS** ✓



i-Line Premium

**i** With connector!

TYPE	Ø Main Cable	Main Cable mm <sup>2</sup>		Length (L)	Height (H2)	Resin Quantity	Article-No.
		min	max				
<b>i-1 Premium SF EMEA</b>	8-24	3 x 1.5	5 x 6	190.0	36.0	165 ml / 226 g	435-12020
<b>i-2 Premium SF EMEA</b>	14-30	5 x 1.5	5 x 16	276.0	49.0	400 ml / 548 g	435-12021
<b>i-3 Premium SF EMEA</b>	23-35	5 x 6	5 x 35	360.0	54.0	655 ml / 897 g	435-12022

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



### Flexible straight-through joint

#### RELICON F-Line SF

The flexible RELICON F-Line straight-through joint for low voltage applications can be used to repair and connect flexible cables made of PVC, PUR, EPR like H05RR-F, H07RN-F, etc.

Application: Cable drum, underground, submerged, outdoor, indoor and wiring ducts.

#### Features and Benefits

- Reelable and permanently flexible also at sub-zero temperatures
- Very good adhesion even under permanent bending stress
- Quick and easy installation
- Immediately ready for use
- Longitudinally and transversely watertight
- High abrasion resistance
- Resistant to alkaline earths, chemical influences and UV-radiation

#### Content of Set / Kit

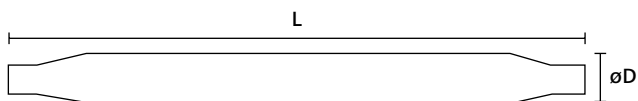
- PUR 44 Flex cast resin
- Two-chamber pouch, transparent
- Moulding shells with accessories
- SF-nozzle
- Protective gloves, emery cloth, installation instructions
- HelaTape self-amalgamating tape
- Cleaning cloth, plastic fabric strips



Flexible straight-through joint F-Line.

<b>MATERIAL</b>	Polyurethane resin 44 Flex (PUR44 Flex)
<b>Colour</b>	Black (BK)
<b>Operating Temperature</b>	-25 °C to +120 °C
<b>Storage Temperature</b>	+4 °C to +40 °C
<b>Shelf Life</b>	24 months

**RoHS** ✓



F-Line

**i** Without connector!

TYPE	Ø Main Cable	Main Cable mm <sup>2</sup>		Length (L)	Ø D	Resin Quantity	Article-No.
		min	max				
F-11 / SF	11-16	4 x 1.5	5 x 4	375.0	31.0	250 ml / 300 g	435-00200
F-12 / SF	17-20	4 x 4	5 x 6	375.0	34.0	350 ml / 420 g	435-00201
F-13 / SF	21-27	4 x 10	5 x 16	450.0	42.0	400 ml / 480 g	435-00202
F-14 / SF	25-32	4 x 16	5 x 25	450.0	42.0	600 ml / 720 g	435-00203
F-15 / SF	30-38	4 x 25	5 x 35	440.0	46.0	655 ml / 786 g	435-00204

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



### Branch joints

#### RELICON Y-Line SF

RELICON branch joints are made for installations in low-voltage electrical networks. They are suitable for jointing on polymeric cables and wires made of PVC, XLPE, PE, EPR and utility cables.

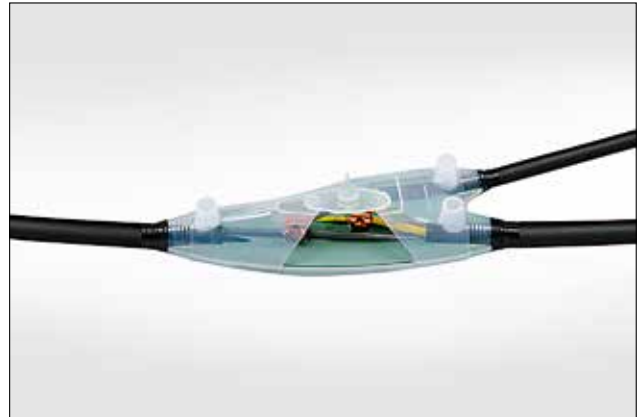
Application: Underground, submerged, outdoor, indoor and wiring ducts.

#### Features and Benefits

- Two-part, impact-proof, transparent moulding shells
- Compact, optimized dimensions
- Standard cable diameters indicated on the shells
- SF-system
- Immediately ready for use
- Longitudinally and transversely watertight
- Joint can be cast under influence of water

#### Content of Set / Kit

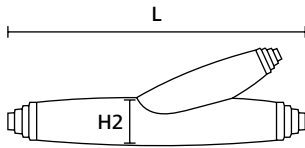
- Cast resin PUR 33
- Two-chamber pouch, transparent
- Moulding shells, transparent
- SF-system and nozzle
- Protective gloves, emery cloth, installation instructions
- HelaTape PVC insulating tape



Branch joint Y-Line SF (safe filling).

<b>MATERIAL</b>	Polyurethane resin 33 (PUR33)
<b>Colour</b>	Green (GN)
<b>Operating Temperature</b>	-25 °C to +120 °C
<b>Storage Temperature</b>	+4 °C to +40 °C
<b>Shelf Life</b>	48 months

**RoHS** ✓



Y-Line

**i** Without branch connector!

TYPE	Ø Main Cable	Main Cable mm <sup>2</sup>		Ø Branch Cable	Angle	Branch Cable mm <sup>2</sup>		Length (L)	Height (H2)	Resin Quantity	Article-No.
		min	max			min	max				
Y-1 / SF EMEA	8-22	3 x 1.5	5 x 10	10-22	30 °	3 x 1.5	5 x 6	205.0	70.0	490 ml / 671 g	435-12009
Y-0 / SF EMEA	10-24	3 x 1.5	4 x 10	10-24	30 °	3 x 1.5	4 x 4	190.0	60.0	240 ml / 329 g	435-12008
Y-3 / SF EMEA	10-40	4 x 16	5 x 16	13-28	20 °	4 x 10	5 x 10	330.0	90.0	955 ml / 1308 g	435-12023
Y-2 / SF EMEA	25-33	4 x 16	5 x 25	15-30	20 °	4 x 6	5 x 16	350.0	98.0	1445 ml / 1980 g	435-12010
Y-6 / SF EMEA	30-55	4 x 95	4 x 185	17-40	20 °	4 x 10	4 x 70	430.0	130.0	2 x 1450 ml / 1987 g	435-12012
Y-5 / SF EMEA	35-51	4 x 25	4 x 150	17-33	15 °	4 x 10	4 x 50	298.0	120.0	2045 ml / 2802 g	435-12011

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



## Parallel branch joint house connections

### RELICON PAH-3

The parallel branch joint PAH is a universal straight-through and branch joint. Depending on the connector, it can be used for single and double branches. They are suitable for jointing on polymeric cables and wires made of PVC, XLPE, PE, EPR and utility cables.

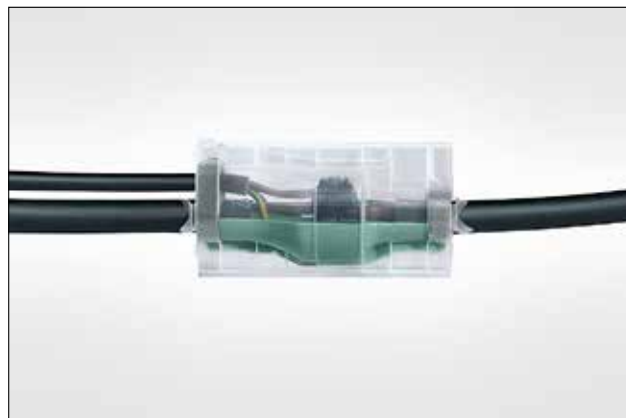
Application: In low-voltage electrical networks as branch joint for building connections. Underground, submerged, outdoor, indoor.

#### Features and Benefits

- Impact-proof, transparent moulding shell
- Compact, optimized dimensions
- Longitudinally and transversely watertight
- SF-system
- Joint can be cast under influence of water
- Immediately ready for use
- Suitable for all compact tap connectors

#### Content of Set / Kit

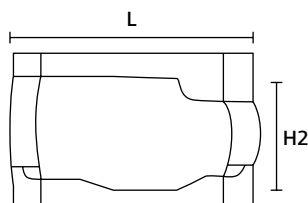
- Cast resin PUR 33, 2800 ml/3836 g
- In a two-chamber pouch or in cans
- Transparent moulding shell
- Foam seal, protective gloves, emery cloth
- Cleaning cloth, cable kit, installation instructions
- SF-nozzle (two-chamber pouch)
- Mixing stick (can)



Parallel branch joint PAH-3 135/360, house connector set.

<b>MATERIAL</b>	Polyurethane resin 33 (PUR33)
<b>Colour</b>	Green (GN)
<b>Operating Temperature</b>	-25 °C to +120 °C
<b>Storage Temperature</b>	+4 °C to +40 °C
<b>Shelf Life</b>	48 months

RoHS



PAH-3

TYPE	Ø Main Cable	Main Cable mm <sup>2</sup>		Ø Branch Cable	Branch Cable mm <sup>2</sup>		Length (L)	Height (H2)	Connector	Pack	Article-No.
		min - max	min - max		min - max	min - max					
PAH-3-135/360-C-S	27-49	4 x 35	4 x 70	15-33	4 x 6	4 x 95	360.0	135.0	Isicompact-S	Can	435-00169
PAH-3-135/360-B-SF-S	27-49	4 x 35	4 x 95	15-33	4 x 6	4 x 70	360.0	135.0	Isicompact-S	Bag	435-00175
PAH-3-135/360-B-SF	27-49	4 x 35	4 x 185	15-33	4 x 6	4 x 70	360.0	135.0	none	Bag	435-00155
PAH-3-135/360-C	27-49	4 x 35	4 x 185	15-33	4 x 6	4 x 70	360.0	135.0	none	Can	435-00161
PAH-3-135/360-C-M	27-49	4 x 35	4 x 185	15-33	4 x 6	4 x 70	360.0	135.0	Isicompact-M	Can	435-00166
PAH-3-135/360-B-SF-M	27-49	4 x 35	4 x 185	15-33	4 x 6	4 x 70	360.0	135.0	Isicompact-M	Bag	435-00172

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



## RELICON: expertise based on experience

Innovative cast resin and gel systems for reliable connections.

HellermannTyton is one of the leading suppliers of products for fastening, fixing, identifying and protecting cables and their connecting components.

We also develop pioneering systems in the field of data and network technology.

Our corporate philosophy focuses on customers and their need for the best possible solutions around cable management. RELICON branded cast resin and gel systems are highly innovative premium products designed to fulfil the highest expectations. RELICON products extend HellermannTyton's insulation and protection portfolio with leading cable connection technology. RELICON products deliver outstanding performance with quality you can rely on.

Part of what makes HellermannTyton a market leader is our pioneering spirit coupled with the technical expertise to continuously anticipate future demands and to answer these challenges with optimal product solutions.

# RELICON expertise for cast resins and gels:

Choose the right product for your application.

<b>RELICON PUR 33</b>	43 min. 5 °C, 15 min. 23 °C, 8 min. 40 °C	–	65±5	-25 °C to +120 °C	38 kV/mm	48 months	+71 °C	–	
<b>RELICON PUR 66</b>	43 min. 5 °C, 15 min. 23 °C, 8 min. 40 °C	–	68±5	-25 °C to +120 °C	38 kV/mm	48 months	+71 °C	–	
<b>RELICON PUR 661 LP</b>	130 min. 5 °C, 40 min. 23 °C, 20 min. 40 °C	–	56±5	-25 °C to +120 °C	>20 kV/mm	48 months	+58 °C	–	
<b>RELICON PUR 44 Flex</b>	35 min. 5 °C, 15 min. 23 °C, 6 min. 40 °C	60±5	–	-25 °C to +120 °C	20 kV/mm	24 months	+80 °C	–	
<b>RELICON PUR 112 FR</b>	50 min. 5 °C, 15 min. 23 °C, 5 min. 40 °C	–	80±5	-25 °C to +130 °C	>20 kV/mm	36 months	+71 °C	–	
<b>Two-component cold casting compound</b>									
<b>RELICON Reliflex</b>	40 min. 5 °C, 20 min. 23 °C, 10 min. 40 °C	20±5	–	-40 °C to +90 °C	>10 kV/mm	36 months	–	Yes	
<b>Two-component epoxy resin</b>									
<b>RELICON EP 64</b>	32 min. 5 °C, 13 min. 23 °C, 8 min. 35 °C	–	80±5	-20 °C to +140 °C	>20 kV/mm	48 months	+140 °C	–	
<b>RELICON EP 20</b>	8 min. 40 °C, 18 min. 23 °C, 35 min. 5 °C	–	70±5	-20 °C to +140 °C	>20 kV/mm	48 months	+100 °C	–	
<b>Two-component gel</b>									
<b>RELICON KH 100</b>	40 min. 23 °C	–	–	-40 °C to +90 °C	>20 kV/mm	18 months	–	Yes	
<b>RELICON KH 67</b>	40 min. 23 °C	–	–	-40 °C to +90 °C	>15 kV/mm	36 months	–	Yes	
<b>Two-component silicone gel</b>									
<b>RELICON Religel</b>	10 min. 23 °C	–	–	-40 °C to +140 °C	>20 kV/mm	Unlimited	–	Yes	



	–	–	Green (GN)	4500 mPa*s, 5 °C (EN ISO 2555), 3000 mPa*s, 23 °C (EN ISO 2555)
	–	–	Black (BK)	4500 mPa*s, 5 °C (EN ISO 2555), 3000 mPa*s, 23 °C (EN ISO 2555)
	–	–	Black (BK)	4000 mPa*s, 5 °C (EN ISO 2555), 2000 mPa*s, 23 °C (EN ISO 2555)
	Yes	Yes	Black (BK)	2500 mPa*s, 23 °C (EN ISO 2555)
	–	–	Beige (BGE)	1500 mPa*s, 23 °C (EN ISO 2555), 3000 mPa*s, 5 °C (EN ISO 2555)
	–	Yes	Yellow (YE)	5000 mPa*s, 5 °C (EN ISO 2555), 3300 mPa*s, 23 °C (EN ISO 2555)
	–	–	Black (BK)	3700 mPa*s, 23 °C (EN ISO 2555)
	–	–	Yellow (YE)	2000 mPa*s, 23 °C (EN ISO 2555)
	Yes	Yes	Transparent (CL)	2000 mPa*s, 5 °C (EN ISO 2555), 1500 mPa*s, 23 °C (EN ISO 2555)
	Yes	Yes	Transparent (CL), Yellow (YE)	3000 mPa*s, 5 °C (EN ISO 2555), 2000 mPa*s, 23 °C (EN ISO 2555)
	Yes	Yes	Transparent (CL), Green (GN)	1000 mPa*s, 23 °C (EN ISO 2555), 1500 mPa*s, 5 °C (EN ISO 2555)



## Two-component polyurethane cast resin

### RELICON PUR 33

The RELICON PUR 33 cast resin has been created for the electrical insulation and mechanical protection of cable connections in low-voltage electrical networks. Also suitable as mechanical and moisture protection on medium-voltage cable connections.

Application: For indoor and outdoor use.

#### Features and Benefits

- In a practical, transparent two-chamber pouch
- Colour changes from blue to green whilst mixing
- Safe-Filling system (SF)
- Excellent flow properties, low volume shrinkage
- Cold curing and very hydrophobic, to cast under the influence of water
- High hydrolytic stability and good curing at low temperatures
- UV, ageing and weather resistant
- Outstanding impact strength and resistance to moisture and atmospheric corrosion
- Excellent adhesion to polymeric cables and wires made of PVC, XLPE, PE, EPR
- SVHC-free, contains no hazardous substances, the cured product can be disposed of with house hold waste
- Halogen free



Two-component polyurethane cast resin PUR 33.

<b>MATERIAL</b>	Polyurethane resin 33 (PUR33)
<b>Colour</b>	Green (GN)
<b>Operating Temperature</b>	-25 °C to +120 °C
<b>Mixing Ratio (weight)</b>	100:26
<b>Exothermicity max.</b>	+71 °C
<b>Gel Time</b>	48 min. 5 °C, 20 min. 23 °C, 9 min. 40 °C
<b>Pot Life</b>	43 min. 5 °C, 15 min. 23 °C, 8 min. 40 °C
<b>Dielectric Strength</b>	38 kV/mm
<b>Viscosity</b>	4500 mPa*s, 5 °C (EN ISO 2555), 3000 mPa*s, 23 °C (EN ISO 2555)
<b>Impact Strength</b>	26 kJ/m <sup>2</sup>
<b>Shore Hardness D</b>	65±5
<b>Storage Temperature</b>	+4 °C to +40 °C
<b>Shelf Life</b>	48 months



TYPE	Resin Quantity	Article-No.
Resin-33-B-SF	95 ml / 130 g	435-00250
	240 ml / 329 g	435-00251
	490 ml / 671 g	435-00252
	655 ml / 897 g	435-00253
	955 ml / 1308 g	435-00254
	1140 ml / 1562 g	435-00255
	1445 ml / 1980 g	435-00256
	1640 ml / 2247 g	435-00257
	1950 ml / 2672 g	435-00258
	2045 ml / 2802 g	435-00259

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.





## Two-component polyurethane cast resin

### RELICON PUR 66

The RELICON PUR 66 cast resin has been created for the electrical insulation and mechanical protection of cable connections in medium-voltage electrical networks.

Application: For indoor and outdoor use.

#### Features and Benefits

- In a practical, transparent two-chamber pouch
- Safe-Filling system (SF)
- Excellent flow properties, low volume shrinkage
- Cold curing and very hydrophobic, to cast under the influence of water
- High hydrolytic stability and good curing at low temperatures
- UV, ageing and weather resistant
- Outstanding impact strength and resistance to moisture and atmospheric corrosion
- Excellent adhesion to polymeric cables and wires made of PVC, XLPE, PE, EPR
- SVHC-free, contains no hazardous substances, the cured product can be disposed of with house hold waste
- Halogen free



Two-component polyurethane cast resin PUR 66.

<b>MATERIAL</b>	Polyurethane resin 66 (PUR66)
<b>Colour</b>	Black (BK)
<b>Operating Temperature</b>	-25 °C to +120 °C
<b>Mixing Ratio (weight)</b>	100:26
<b>Exothermicity max.</b>	+71 °C
<b>Gel Time</b>	48 min. 5 °C, 9 min. 40 °C
<b>Pot Life</b>	43 min. 5 °C, 15 min. 23 °C, 8 min. 40 °C
<b>Dielectric Strength</b>	38 kV/mm
<b>Viscosity</b>	4500 mPa*s, 5 °C (EN ISO 2555), 3000 mPa*s, 23 °C (EN ISO 2555)
<b>Impact Strength</b>	26 kJ/m <sup>2</sup>
<b>Shore Hardness D</b>	68±5
<b>Storage Temperature</b>	+4 °C to +40 °C
<b>Shelf Life</b>	48 months



TYPE	Resin Quantity	Article-No.
Resin-66-B-SF	95 ml / 130 g	435-00300
	165 ml / 226 g	435-00301
	220 ml / 301 g	435-00302
	240 ml / 329 g	435-00303
	400 ml / 548 g	435-00304
	455 ml / 623 g	435-00305
	490 ml / 671 g	435-00306
	655 ml / 897 g	435-00307
	955 ml / 1308 g	435-00308
	1140 ml / 1562 g	435-00309
	1445 ml / 1980 g	435-00310
	1640 ml / 2247 g	435-00311
	1950 ml / 2672 g	435-00312
2045 ml / 2802 g	435-00313	

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



## Two-component polyurethane cast resin

### RELICON PUR 44 Flex

The RELICON PUR 44 Flex cast resin has been created for the electrical insulation, mechanical protection and repair of flexible cable connections for the low-voltage electrical network.

Application: For indoor and outdoor use.

#### Features and Benefits

- In a practical, transparent two-chamber pouch
- Safe-Filling system (SF)
- Excellent flow properties, cold curing
- Resistance to moisture and atmospheric corrosion
- Vibration absorbing, abrasion and chemical resistant
- UV, ageing and weather resistant
- Reelable and permanently flexible, even at sub-zero temperatures
- Excellent adhesion to polymeric cables and wires made of PVC, XLPE, PE, EPR
- SVHC-free, contains no hazardous substances, the cured product can be disposed of with house hold waste
- Halogen free



Two-component polyurethane cast resin PUR 44 Flex.

<b>MATERIAL</b>	Polyurethane resin 44 Flex (PUR44 Flex)
<b>Colour</b>	Black (BK)
<b>Operating Temperature</b>	-25 °C to +120 °C
<b>Mixing Ratio (weight)</b>	100:22
<b>Exothermicity max.</b>	+80 °C
<b>Gel Time</b>	35 min. 5 °C, 15 min. 23 °C, 6 min. 40 °C
<b>Pot Life</b>	35 min. 5 °C, 15 min. 23 °C, 6 min. 40 °C
<b>Dielectric Strength</b>	20 kV/mm
<b>Viscosity</b>	2500 mPa*s, 23 °C (EN ISO 2555)
<b>Shore Hardness A</b>	60±5
<b>Storage Temperature</b>	+4 °C to +40 °C
<b>Shelf Life</b>	24 months



TYPE	Resin Quantity	Article-No.
Resin-44Flex-B-SF	95 ml / 114 g	435-00350
	165 ml / 198 g	435-00351
	220 ml / 264 g	435-00352
	240 ml / 288 g	435-00353
	400 ml / 480 g	435-00354
	455 ml / 546 g	435-00355
	490 ml / 588 g	435-00356
	655 ml / 786 g	435-00357
	955 ml / 1146 g	435-00358
	1140 ml / 1368 g	435-00359
	1445 ml / 1734 g	435-00360
	1640 ml / 1968 g	435-00361
	1950 ml / 2340 g	435-00362
2045 ml / 2454 g	435-00363	

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



## Two-component polyurethane cast resin

### RELICON PUR 112 FR

The RELICON PUR 112 FR cast resin is flame retardant according to UL94 V0 and is used in areas with increased fire protection requirements. It has been created for electrical insulation and mechanical protection of cable connections in the low- and medium-voltage range.

Application: For indoor and outdoor use.

#### Features and Benefits

- In a practical, transparent two-chamber pouch
- Safe-Filling system (SF)
- Excellent flow properties, low volume shrinkage
- Flame retardant according to UL94 V0
- Cold curing and very hydrophobic, to cast under the influence of water
- High hydrolytic stability and good curing at low temperatures
- UV, ageing and weather resistant
- Outstanding impact strength and resistance to moisture and atmospheric corrosion
- Excellent adhesion to polymeric cables and wires made of PVC, XLPE, PE, EPR
- SVHC-free, contains no hazardous substances, the cured product can be disposed of with house hold waste
- Halogen free



Two-component polyurethane cast resin PUR 112 FR.

<b>MATERIAL</b>	Polyurethane resin 112 FR (PUR112 FR)
<b>Colour</b>	Beige (BGE)
<b>Operating Temperature</b>	-25 °C to +130 °C
<b>Mixing Ratio (weight)</b>	100:22
<b>Gel Time</b>	70 min. 5 °C, 20 min. 23 °C, 8 min. 40 °C
<b>Pot Life</b>	50 min. 5 °C, 15 min. 23 °C, 5 min. 40 °C
<b>Dielectric Strength</b>	>20 kV/mm
<b>Impact Strength</b>	> 8 kJ/m <sup>2</sup>
<b>Shore Hardness D</b>	80±5
<b>Storage Temperature</b>	+4 °C to +40 °C
<b>Shelf Life</b>	36 months



TYPE	Resin Quantity	Article-No.
Resin-112FR-B-SF	95 ml / 144 g	435-01100
	165 ml / 251 g	435-01101
	220 ml / 334 g	435-01102
	240 ml / 365 g	435-01103
	400 ml / 608 g	435-01104
	455 ml / 692 g	435-01105
	490 ml / 745 g	435-01106
	655 ml / 996 g	435-01107
	955 ml / 1452 g	435-01108
	1140 ml / 1733 g	435-01109
	1445 ml / 2196 g	435-01110
	1640 ml / 2493 g	435-01111
	1950 ml / 2964 g	435-01112
	2045 ml / 3108 g	435-01113

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



## Two-component epoxy resin

### RELICON EP 64

The RELICON EP 64 epoxy resin has been created for use in low- and medium-voltage electrical networks, especially in the chemical and oil refining industry.

Application: For indoor and outdoor use.

#### Features and Benefits

- In a practical, transparent two-chamber pouch
- Safe-Filling system (SF)
- Very hydrophobic, to cast under the influence of water
- High hydrolytic stability and good curing at low temperatures
- UV, ageing and weather resistant
- Excellent adhesion to polymeric cables and wires made of PVC, XLPE, PE, EPR
- Very high mechanical, thermal and chemical resistance
- Outstanding impact strength and resistance to moisture and atmospheric corrosion
- Halogen free



Two-component epoxy resin EP64.

<b>MATERIAL</b>	Epoxy resin EP64 (EP64)
<b>Colour</b>	Black (BK)
<b>Operating Temperature</b>	-20 °C to +140 °C
<b>Mixing Ratio (weight)</b>	100:36
<b>Exothermicity max.</b>	+140 °C
<b>Pot Life</b>	32 min. 5 °C, 13 min. 23 °C, 8 min. 35 °C
<b>Dielectric Strength</b>	>20 kV/mm
<b>Viscosity</b>	3700 mPa*s, 23 °C (EN ISO 2555)
<b>Shore Hardness D</b>	80±5
<b>Storage Temperature</b>	+4 °C to +40 °C
<b>Shelf Life</b>	48 months



TYPE	Resin Quantity	Article-No.
Resin-64-B-SF	95 ml / 107 g	435-00400
	165 ml / 186 g	435-00401
	220 ml / 249 g	435-00402
	240 ml / 271 g	435-00403
	400 ml / 452 g	435-00404
	455 ml / 514 g	435-00405
	490 ml / 554 g	435-00406
	655 ml / 740 g	435-00407
	955 ml / 1079 g	435-00408
	1140 ml / 1288 g	435-00409
	1445 ml / 1633 g	435-00410
	1640 ml / 1853 g	435-00411
	1950 ml / 2204 g	435-00412
2045 ml / 2311 g	435-00413	

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



## Gel cable joint with connector

### RELICON Reliseal

Reliseal gel cable joints are suitable for cable connections under extreme conditions, outdoors and underground. They are universal straight-through joints with a protection class IP68 and consist of a solid polypropylene shell (PP) filled with RELICON gel. They can be used for jointing on polymeric cables and wires made of PVC, XLPE, PE, EPR, etc. Reliseal fulfils the highest requirements for electrical installations and offers mechanical protection, insulation and sealing in one work step. The installer saves time and requires no special installation tools.

Application: In low-voltage electrical networks as straight-through joint. Underground, submerged, outdoor, indoor and in wiring ducts.

### Features and Benefits

- Moulding shell: one piece, re-openable, impact-proof, flame retardant (UL94 V0)
- Perfect strain relief provided by patented cable gland system
- Protection class IP68, 10 m
- Filled with RELICON non-toxic gel, high dielectric strength
- No mixing, easy to install
- UV, ageing and weather resistant
- Unlimited shelf life
- With connector, ready to assembly
- Certified according to :
  - DIN EN 60529 protection classes through outer sleeve shell
  - DIN EN 50393 type approval tests for cable accessories
  - DIN EN 60695-2-11 glow-wire test for flammability of end products

### Content of Set / Kit

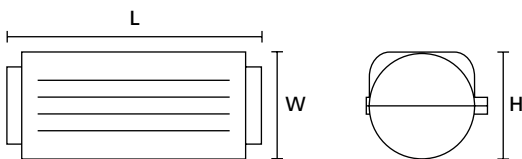
- Moulding shells filled with RELICON gel
- Cable gland system for strain relief and transverse waterproofing
- Adapter seal for different cable diameters
- Installation instructions
- Connector



**With connector!**



**IP68, 10 meter**



Reliseal V



Reliseal gel cable joint, available in three sizes.



Gel cable joint Reliseal V 56.



Gel cable joint Reliseal V 510.



Gel cable joint Reliseal V 525.

<b>MATERIAL</b>	Polypropylene (PP), Silicone Rubber (SIR)
<b>Colour</b>	Green (GN)
<b>Operating Temperature</b>	-20 °C to +90 °C
<b>Shelf Life</b>	Unlimited



TYPE	Main Cable mm <sup>2</sup> min - max		Length (L)	Width (W)	Height (H)	Article-No.
<b>Reliseal V56</b>	3 x 2.5	5 x 6	190.0	60.0	47.0	435-01660
<b>Reliseal V510</b>	3 x 4	5 x 10	235.0	69.0	49.0	435-01661
<b>Reliseal V525</b>	3 x 10	5 x 25	310.0	88.0	60.0	435-01662

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



## Gel cable joint with connector

### RELICON Relilight

Relilight gel cable joints are designed for light installations, especially LED lighting. They are tested according to DIN EN 60998-2-1: 2004 and offer IP68 protection class. The moulding shells are also flame retardant according to UL94 V0. Depending on the connector type, Relilight can be used either for straight-through or as branch joints. They are suitable for joining on polymeric cables and wires made of PVC, XLPE, PE, EPR etc. The silicone-based RELICON gel in the Relilight cable joints provides insulation, sealing and mechanical protection in one step. Furthermore, they reduce the workload and total cost of installation.

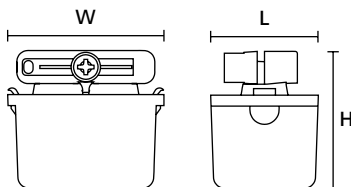
Application: In low-voltage electrical networks as straight-through or branch joints, e.g. for outdoor light installations, underground, submerged, outdoor, indoor and in wiring ducts.

### Features and Benefits

- Moulding shell: two piece, black, re-openable, with strain relief, flame retardant (UL94 V0), protection class IP68, 1.3 m
- Filled with Relicon non-toxic gel, high dielectric strength >1kV,
- No mixing, ready to assembly
- UV, ageing and weather resistant
- Compact dimensions, with connector
- Unlimited shelf life
- Certified according to DIN EN 60998-2-1:2004

### Content of Set / Kit

- Moulding shells filled with RELICON gel
- Adapter for strain relief (not for No. 435-01650)
- Installation instructions, connector block, screws
- Wire guide (only No. 435-01654)



Relilight gel cable joint.

<b>MATERIAL</b>	Polyamide 6.6 V0 (PA66V0), Silicone Rubber (SIR)
<b>Colour</b>	Black (BK)
<b>Operating Temperature</b>	-30 °C to +130 °C
<b>Shelf Life</b>	Unlimited
<b>Flammability</b>	UL94 V0

RoHS

**With connector block!**

**IP68, 1.3 meter**

TYPE	Ø Main Cable	Main Cable mm <sup>2</sup> min - max		Branch Cable mm <sup>2</sup> min - max		Voltage range	Length (L)	Width (W)	Height (H)	Article-No.
Relilight V2.75 I1	4.8-6	2 x 0.35	2 x 0.75	-	-	250V, 6A	44.0	18.0	17.5	435-01650
Relilight V32.5 I2	6.5-12	3 x 0.5	3 x 2.5	-	-	250V, 16A	100.0	24.0	29.0	435-01651
Relilight V32.5 P1	6.5-12	3 x 0.5	3 x 2.5	3 x 0.5	3 x 2.5	250V, 16A	105.0	44.0	24.0	435-01655
Relilight V41.5 P1	6.5-12	4 x 0.5	4 x 1.5	4 x 0.5	4 x 1.5	250V, 16A	105.0	44.0	24.0	435-01656
Relilight V61.5 I2	6.5-12	6 x 0.5	6 x 1.5	-	-	12V - 24V	100.0	24.0	29.0	435-01652
Relilight V34 P2	7.5-16	3 x 1.5	3 x 4	3 x 1.5	3 x 4	450V, 25A	138.0	78.0	35.0	435-01657
Relilight V36 P2	7.5-16	3 x 1.5	3 x 6	3 x 1.5	3 x 6	450V, 25A	138.0	78.0	35.0	435-01658
Relilight V31.5 U1	8.0-10	3 x 0.5	3 x 1.5	-	-	250V, 16A	38.0	42.5	29.5	435-01653
Relilight V41 U1	8.0-10	4 x 0.5 / 6 x 0.35	4 x 1 / 6 x 0.5	-	-	12V - 24V	38.0	42.5	29.5	435-01654

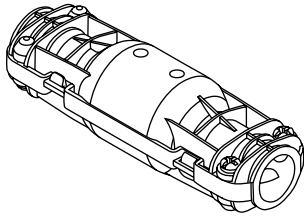
All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



## RELICON Relilight V 32.5 I2

### Content of Set / Kit

- Moulding shells filled with RELICON gel
- Adapter for strain relief
- Installation instructions
- Connector block 3 x 0.5 mm<sup>2</sup> to 3 x 2.5 mm<sup>2</sup>
- Screws



Relilight V 61.5 I2



Gel cable joint Relilight V 32.5 I2.

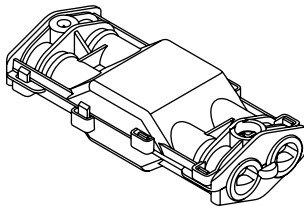
TYPE	Ø Main Cable	Main Cable mm <sup>2</sup> min - max		Voltage range	Length (L)	Width (W)	Height (H)	Article-No.
		3 x 0.5	3 x 2.5					
Relilight V32.5 I2	6.5-12	3 x 0.5	3 x 2.5	250V, 16A	100.0	24.0	29.0	435-01651

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.

## RELICON Relilight V 32.5 P1

### Content of Set / Kit

- Moulding shells filled with RELICON gel
- Adapter for strain relief
- Installation instructions
- Connector block 3 x 0.5 mm<sup>2</sup> to 3 x 2.5 mm<sup>2</sup>
- Screws



Relilight V 32.5 P1



Gel cable joint Relilight V 32.5 P1.

TYPE	Ø Main Cable	Main Cable mm <sup>2</sup> min - max		Branch Cable mm <sup>2</sup> min - max		Voltage range	Length (L)	Width (W)	Height (H)	Article-No.
		3 x 0.5	3 x 2.5	3 x 0.5	3 x 2.5					
Relilight V32.5 P1	6.5-12	3 x 0.5	3 x 2.5	3 x 0.5	3 x 2.5	250V, 16A	105.0	44.0	24.0	435-01655

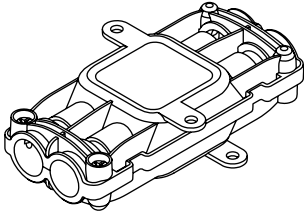
All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



## RELICON Relilight V 34 P2

### Content of Set / Kit

- Moulding shells filled with RELICON gel
- Adapter for strain relief
- Installation instructions
- Connector block 3 x 1.5 mm<sup>2</sup> to 3 x 4 mm<sup>2</sup>
- Screws



Relilight V 34 P2



Gel cable joint Relilight V 34 P2.

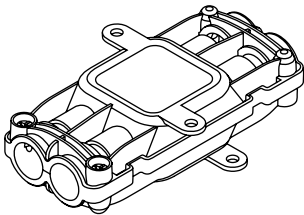
TYPE	Ø Main Cable	Main Cable mm <sup>2</sup> min - max		Branch Cable mm <sup>2</sup> min - max		Voltage range	Length (L)	Width (W)	Height (H)	Article-No.
		3 x 1.5	3 x 4	3 x 1.5	3 x 4					
Relilight V34 P2	7.5-16	3 x 1.5	3 x 4	3 x 1.5	3 x 4	450V, 25A	138.0	78.0	35.0	435-01657

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.

## RELICON Relilight V 36 P2

### Content of Set / Kit

- Moulding shells filled with RELICON gel
- Adapter for strain relief
- Installation instructions
- Connector block 3 x 1.5 mm<sup>2</sup> to 3 x 6 mm<sup>2</sup>
- Screws



Relilight V 36 P2



Gel cable joint Relilight V 36 P2.

TYPE	Ø Main Cable	Main Cable mm <sup>2</sup> min - max		Branch Cable mm <sup>2</sup> min - max		Voltage range	Length (L)	Width (W)	Height (H)	Article-No.
		3 x 1.5	3 x 6	3 x 1.5	3 x 6					
Relilight V36 P2	7.5-16	3 x 1.5	3 x 6	3 x 1.5	3 x 6	450V, 25A	138.0	78.0	35.0	435-01658

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.

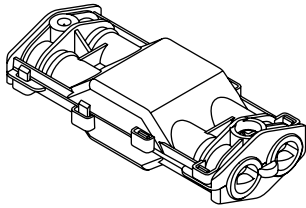




## RELICON Relilight V 41.5 P1

### Content of Set / Kit

- Moulding shells filled with RELICON gel
- Adapter for strain relief
- Installation instructions
- Connector block 4 x 0.5 mm<sup>2</sup> to 4 x 1.5 mm<sup>2</sup>
- Screws



Relilight V 41.5 P1



Gel cable joint Relilight V 41,5 P1.

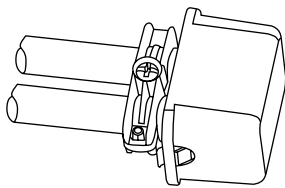
TYPE	Ø Main Cable	Main Cable mm <sup>2</sup> min - max		Branch Cable mm <sup>2</sup> min - max		Voltage range	Length (L)	Width (W)	Height (H)	Article-No.
Relilight V41.5 P1	6.5-12	4 x 0.5	4 x 1.5	4 x 0.5	4 x 1.5	250V, 16A	105.0	44.0	24.0	435-01656

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.

## RELICON Relilight V 41 U1

### Content of Set / Kit

- Moulding shells filled with RELICON gel
- Installation instructions
- Connector block 4 x 0.5 mm<sup>2</sup> to 4 x 1 mm<sup>2</sup>
- Wire guide 6 x 0.35 mm<sup>2</sup> to 6 x 0.5 mm<sup>2</sup> (solder)
- Screw



Relilight V 41 U1



Gel cable joint Relilight V 41 U1.

TYPE	Ø Main Cable	Main Cable mm <sup>2</sup> min - max		Voltage range	Length (L)	Width (W)	Height (H)	Article-No.
Relilight V41 U1	8.0-10	4 x 0.5 / 6 x 0.35	4 x 1 / 6 x 0.5	12V - 24V	38.0	42.5	29.5	435-01654

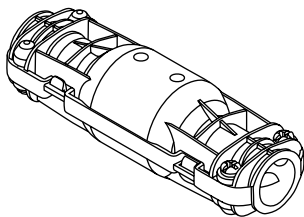
All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



## RELICON Relilight V 61.5 I2

### Content of Set / Kit

- Moulding shells filled with RELICON gel
- Adapter for strain relief
- Installation instructions
- Connector block 6 x 0.5 mm<sup>2</sup> to 6 x 1.5 mm<sup>2</sup>
- Screws



Relilight V 61.5 I2



Gel cable joint Relilight V 61.5 I2.

TYPE	Ø Main Cable	Main Cable mm <sup>2</sup> min - max		Voltage range	Length (L)	Width (W)	Height (H)	Article-No.
		6 x 0.5	6 x 1.5					
Relilight V61.5 I2	6.5-12	6 x 0.5	6 x 1.5	12V - 24V	100.0	24.0	29.0	435-01652

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.

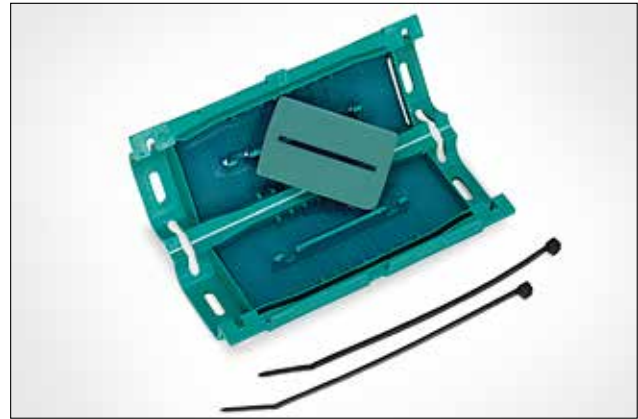


### Gel cable joint without connector

#### RELICON Relifix

RELICON Relifix gel technology offers several advantages. It is quick and easy to install. The moulding shells are provided with a film hinge and are made from thick-walled, tough and impact resistant polypropylene (PP). The Relicon gel in the shells insulates and seals the complete connection as the joint is closed. Depending on the connector type, Relifix can be used as a universal straight-through or branch joint. It is suitable for jointing on polymeric cables and wires made of PVC, XLPE, PE, EPR etc.

Application: In low-voltage electrical networks as straight-through and/or branch joint, e.g. underground, submerged, outdoor, indoor and wiring ducts.



Gel cable joint Relifix 410, 416.

#### Features and Benefits

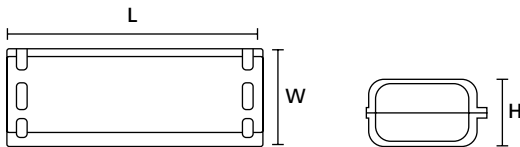
- Moulding shell: One piece, coloured, re-openable, impact-proof, flame retardant (UL94 V0)
- Filled with Relicon non-toxic gel, high dielectric strength
- No mixing, easy to install
- UV, ageing and weather resistant
- Unlimited shelf life
- Certified according to:
- DIN EN 50393 (corresponds to DIN VDE 0278-393)
- DIN EN 60695-2-11 (corresponds to VDE 0471-2-11)

<b>MATERIAL</b>	Polypropylene (PP), Silicone Rubber (SIR)
<b>Colour</b>	Green (GN)
<b>Operating Temperature</b>	-20 °C to +90 °C
<b>Shelf Life</b>	Unlimited



#### Content of Set / Kit

- Moulding shells filled with RELICON gel
- Installation instructions
- Separator plate
- Cable ties



Relifix 410, 416

**i** Without connector block!

TYPE	Ø Main Cable	Main Cable mm <sup>2</sup> min - max		Branch Cable mm <sup>2</sup> min - max		Length (L)	Width (W)	Height (H)	Article-No.
<b>Relifix 410</b>	9-20	3 x 1.5	4 x 10	3 x 1.5	4 x 2.5	146.0	55.0	35.0	435-00652
<b>Relifix 416</b>	9-22	3 x 1.5	4 x 16	3 x 1.5	4 x 4	180.0	69.0	40.0	435-00653

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



## Gel cable joint with connector

### RELICON Relifix V

RELICON Relifix gel technology offers several advantages. It is quick and easy to install. The moulding shells are provided with a film hinge and are made from thick-walled, tough and impact resistant polypropylene (PP). The Relicon gel in the shells insulates and seals the complete connection as the joint is closed. Depending on the connector type, Relifix can be used as a universal straight-through or branch joint. It is suitable for jointing on polymeric cables and wires made of PVC, XLPE, PE, EPR etc.

Application: In low-voltage electrical networks as straight-through and/or branch joint, e.g. underground, submerged, outdoor, indoor and wiring ducts.

### Features and Benefits

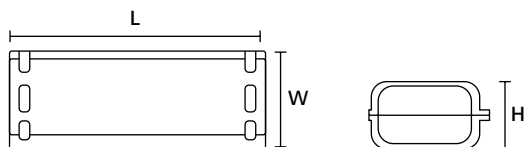
- Moulding shell: One piece, coloured, re-openable, impact-proof, flame retardant (UL94 V0)
- Filled with Relicon non-toxic gel, high dielectric strength
- No mixing, easy to install
- UV, ageing and weather resistant
- Unlimited shelf life
- With connector, ready for assembly
- Certified according to:
  - DIN EN 50393 (corresponds to DIN VDE 0278-393)
  - DIN EN 60695-2-11 (corresponds to VDE 0471-2-11)

### Content of Set / Kit

- Moulding shells filled with RELICON gel
- Installation instructions
- Connector
- Cable ties
- Allen key (not for type V31,5)



**With connector block!**



Relifix V



Relicon Relifix V gel cable joints.



Gel cable joint Relifix V 31,5.



Gel cable joint Relifix V 150.



Gel cable joint Relifix V 56, V516.



Gel cable joint Relifix V 525.

<b>MATERIAL</b>	Polypropylene (PP), Silicone Rubber (SIR)
<b>Colour</b>	Green (GN)
<b>Operating Temperature</b>	-20 °C to +90 °C
<b>Shelf Life</b>	Unlimited

**RoHS** ✓

TYPE	Ø Main Cable	Main Cable mm <sup>2</sup> min - max		Branch Cable mm <sup>2</sup> min - max		Length (L)	Width (W)	Height (H)	Article-No.
Relifix V150	9-16	1 x 10	1 x 50	1 x 2.5	1 x 6	86.0	47.0	27.0	435-00651
Relifix V31.5	9-16	3 x 0.5	3 x 2.5	-	-	86.0	47.0	27.0	435-00650
Relifix V56	9-20	3 x 1.5	5 x 6	-	-	146.0	55.0	35.0	435-00654
Relifix V516	9-22	3 x 6	5 x 16	-	-	180.0	69.0	40.0	435-00655
Relifix V525	9-30	3 x 16	5 x 25	-	-	240.0	75.0	48.0	435-00656

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



### Gel cable joint with connector

#### RELICON Relifix VY

RELICON Relifix gel technology offers several advantages. It is quick and easy to install. The moulding shells are provided with a film hinge and are made from thick-walled, tough and impact resistant polypropylene (PP). The Relicon gel in the shells insulates and seals the complete connection as the joint is closed. Depending on the connector type, Relifix can be used as a universal straight-through or branch joint. It is suitable for jointing on polymeric cables and wires made of PVC, XLPE, PE, EPR etc.

Application: In low-voltage electrical networks as straight-through and/or branch joint, e.g. underground, submerged, outdoor, indoor and wiring ducts.

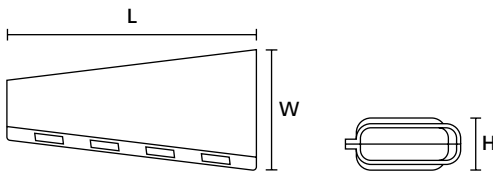
#### Features and Benefits

- Moulding shell: One piece, coloured, re-openable, impact-proof, flame retardant (UL94 V0)
- Filled with Relicon non-toxic gel, high dielectric strength
- No mixing, easy to install
- UV, ageing and weather resistant
- Unlimited shelf life
- With connector, ready for assembly
- Certified according to:
  - DIN EN 50393 (corresponds to DIN VDE 0278-393)
  - DIN EN 60695-2-11 (corresponds to VDE 0471-2-11)

#### Content of Set / Kit

- Moulding shells filled with RELICON gel
- Installation instructions
- Connector
- Cable ties
- Allen key

**With connector block!**



Relifix VY



Relicon Relifix VY gel cable joint.



Gel cable joint Relifix V 135Y.



Gel cable joint Relifix V 506Y.



Gel cable joint Relifix V 525Y.

<b>MATERIAL</b>	Polypropylene (PP), Silicone Rubber (SIR)
<b>Colour</b>	Green (GN)
<b>Operating Temperature</b>	-20 °C to +90 °C
<b>Shelf Life</b>	Unlimited

**RoHS** ✓

TYPE	Ø Main Cable	Main Cable mm <sup>2</sup>		Branch Cable mm <sup>2</sup>		Length (L)	Width (W)	Height (H)	Article-No.
		min	max	min	max				
Relifix V 135Y	9-16	1 x 10	1 x 35	1 x 2.5	1 x 25	145.0	70.0	32.0	435-00657
Relifix V 506Y	9-20	3 x 6	5 x 6	3 x 2.5	5 x 6	220.0	110.0	53.0	435-00658
Relifix V 525Y	9-30	3 x 16	5 x 25	3 x 2.5	5 x 25	260.0	130.0	65.0	435-00659

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



## Two-component gel

### RELICON KH 67

RELICON KH 67 is a transparent, removable, saltwater resistant, flexible two-component gel based on hydrocarbon resins. It is especially suitable for use with junction boxes in low-voltage networks, located in a humid area or in the ground. After curing, RELICON KH 67 is characterised by its excellent resistance to moisture and very good insulating properties as well as good chemical resistance.

Application: Electrical insulation and moisture protection in the low-voltage networks. Particularly suitable for filling of cable junction boxes.

#### Features and Benefits

- A practical, transparent two-chamber pouch
- Safe-Filling system (SF)
- Excellent flow properties
- Soft elastic, vibration absorbing, removable
- Outstanding insulating properties
- Cures without developing heat
- Saltwater resistant
- Non-toxic, free of silicone and isocyanate
- SVHC-free, contains no hazardous substances, the cured product can be disposed of with house hold waste
- Halogen free



Two-component gel KH 67.

<b>MATERIAL</b>	Gel KH67 (KH67)
<b>Colour</b>	Transparent (CL), Yellow (YE)
<b>Operating Temperature</b>	-40 °C to +90 °C
<b>Mixing Ratio (weight)</b>	100:67
<b>Pot Life</b>	40 min. 23 °C
<b>Density</b>	0.95 g/cm <sup>3</sup> , 20 °C (DIN EN ISO 2811-2)
<b>Dielectric Strength</b>	>15 kV/mm
<b>Viscosity</b>	3000 mPa*s, 5 °C (EN ISO 2555), 2000 mPa*s, 23 °C (EN ISO 2555)
<b>Storage Temperature</b>	+4 °C to +40 °C
<b>Shelf Life</b>	36 months



**Silicon  
free!**



TYPE	Pack Cont.	Article-No.
Gel-67-B-SF	180 ml	435-00800
	250 ml	435-00801
	600 ml	435-00802
	750 ml	435-00803
	1,200 ml	435-00804

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



## Two-component silicone gel

### RELICON Religel

RELICON Religel is a transparent, elastic two-component silicone gel. It is delivered in practical transparent bottles or canisters. It is particularly suited to fill junction boxes in low-voltage applications. After curing, RELICON Religel gives excellent resistance to moisture, has high insulating properties and very good chemical resistance.

Application: Electrical insulation and moisture protection for low-voltage applications, particularly suitable for insulating cables and wires in junction boxes.

### Features and Benefits

- Bottles or canisters incl. measuring cup and mixing stick
- Homogenous mixture indicated by green-coloured component B
- Can be used flexibly, in smaller quantities, mixing ratio 1:1
- Excellent flow properties
- Soft elastic, vibration absorbing, removable
- Outstanding insulating properties
- Non-toxic, free of isocyanate
- SVHC-free, contains no hazardous substances, the cured product can be disposed of with house hold waste
- Halogen free



Two-component silicone gel Religel.



Two-component silicone gel Religel.

<b>MATERIAL</b>	Silicone gel Religel (SIG)
<b>Colour</b>	Transparent (CL), Green (GN)
<b>Operating Temperature</b>	-40 °C to +140 °C
<b>Mixing Ratio (weight)</b>	100:100
<b>Gel Time</b>	20 min. 23 °C
<b>Pot Life</b>	10 min. 23 °C
<b>Density</b>	0.97 g/cm <sup>3</sup> , 20 °C (DIN EN ISO 2811-2)
<b>Dielectric Strength</b>	>20 kV/mm
<b>Viscosity</b>	1000 mPa*s, 23 °C (EN ISO 2555), 1500 mPa*s, 5 °C (EN ISO 2555)
<b>Storage Temperature</b>	+4 °C to +40 °C
<b>Shelf Life</b>	Unlimited



TYPE	Pack Cont.	Article-No.
Religel	1,000 ml	435-00750
	10,000 ml	435-00751

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



### Two-component gel

#### RELICON KH 100

RELICON KH 100 is a transparent, removable, saltwater resistant, flexible two-component gel based on hydrocarbon resins in trade standard cartridges. It is especially suitable for use with junction boxes in the low-voltage range, located in a humid area or in the ground. After curing, RELICON KH 100 is characterised by its excellent resistance to moisture and very good insulating properties as well as good chemical resistance. Application: Electrical insulation and moisture protection for the low-voltage networks. Particularly suitable for filling of cable junction boxes.

#### Features and Benefits

- Cartridge with mixing nozzle for use with standard cartridge applicator gun
- Excellent flow properties
- Soft elastic, vibration absorbing, removable
- Outstanding insulating properties
- Cures without developing heat
- Saltwater resistant
- Non-toxic, free of silicone and isocyanate
- SVHC-free, contains no hazardous substances, the cured product can be disposed of with house hold waste
- Halogen free



Two-component gel KH 100.

<b>MATERIAL</b>	Gel KH100 (KH100)
<b>Colour</b>	Transparent (CL)
<b>Operating Temperature</b>	-40 °C to +90 °C
<b>Mixing Ratio (weight)</b>	1:1
<b>Pot Life</b>	40 min. 23 °C
<b>Density</b>	0.95 g/cm <sup>3</sup> , 20 °C (DIN EN ISO 2811-2)
<b>Dielectric Strength</b>	>20 kV/mm
<b>Viscosity</b>	2000 mPa*s, 5 °C (EN ISO 2555), 1500 mPa*s, 23 °C (EN ISO 2555)
<b>Storage Temperature</b>	+4 °C to +40 °C
<b>Shelf Life</b>	18 months



**Silicon  
free!**

**HF** ✓

**RoHS** ✓

TYPE	Pack Cont.	Article-No.
Gel-100 Mixing-Nozzle	10 pcs.	435-00806
Gel-100	250 ml	435-00805
	600 ml	435-00807

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.





## Connector blocks

### RELICON Premium

The connector block is made of transparent polymeric material and assembled with 5 mechanical connectors inside. An allen key is included. The three different sizes are adapted to the right core cross sections and spaces that are needed for each joint. All connectors are suitable for aluminium and copper conductors as well. This makes the connection reliable and easy.

### Features and Benefits

- Transparent, polymeric material
- 5 mechanical connectors including allen key
- 3 sizes available
- For Al and Cu conductors



SV-Connector blocks.

<b>SV1</b>	1.5 - 6	435-01400
<b>SV2</b>	1.5 - 16	435-01401
<b>SV3</b>	6 - 35	435-01402

## Connectors

### Tap connector, uninsulated, for copper conductors

Bright finished tap connector for screwing stranded and solid copper conductors according to VDE 0295 Class 1 and 2.

### Features and Benefits

- For connecting conductors to VDE 0295 Class 1 and 2
- One bolt type, bright finished, uninsulated



Tap connectors, uninsulated, for copper conductors.

TYPE	Conductor Size Range mm <sup>2</sup>	Length (L)	Width (W)	Mounting Screw Type	Pack Cont.	Article-No.
<b>Tap connector 2516</b>	2.5 - 16	16.0	19.5	M5	1 pc.	435-01550
<b>Tap connector 2525</b>	2.5-25.0	18.0	25.0	M6	1 pc.	435-01551
<b>Tap connector 6035</b>	6.0-35.0	20.0	28.0	M7	1 pc.	435-01552
<b>Tap connector 6050</b>	6.0-50.0	24.0	32.5	M7	1 pc.	435-01553
<b>Tap connector 10070</b>	10.0-70.0	24.0	37.5	M8	1 pc.	435-01554
<b>Tap connector 25095</b>	25.0-95.0	31.0	45.0	M10	1 pc.	435-01555

All dimensions in mm. Subject to technical changes.  
Minimum Order Quantity (MOQ) may differ from package content.



### Inspired by downsizing

M-BOSS Compact allows stainless steel to be embossed in a way that is practical for office use. Its innovative embossing system applies pressure from both above and below, making it much quieter than hammering and also saving considerable space. Measuring just 480 mm in width, M-BOSS Compact is not much larger than a desktop printer and can be deployed virtually anywhere. It offers just enough space to rest a laptop on it. The print speed is no less impressive, with the M-BOSS Compact (see page 563) can emboss one character per second in SS316 stainless steel.



5.1 Wire and Cable Markers

180



5.2 RFID Cable Ties and Accessories

182



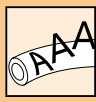
5.3 Hazardous Area Identification

184



5.4 Printers and Software

185



## Identification tags for cable bundle, thermal transfer

### TIPTAG - Limited Fire Hazard Tiptags, Halogen free

These Tiptags are designed for use in identifying wire and cable bundles in electronics and general cabling environments. The labels are applied to cables and harness assemblies with cable ties, and are also suitable for retrofit purposes. Secured to bundles using Cable Ties up to T50R width maximum.

Printers: TT4000+ and TT430

Ribbon: TTDTHOUT

Software: TagPrint Pro

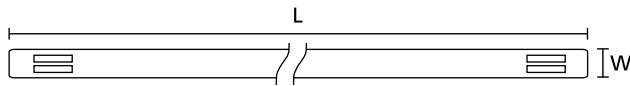
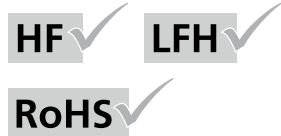
### Features and Benefits

- Identification tags for use with large wire and cable bundles
- Perforated format that includes fastening slots for cable ties
- Excellent print performance using TTDTHOUT ribbon
- Print with TT4000+ and TT430 for best results
- Easy label design with TagPrint Pro
- Available in white, yellow, blue and red
- Special lengths and colours available on request



TIPTAG - High performance cable bundle marking.

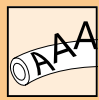
<b>MATERIAL</b>	Polyolefin (PO)
<b>Operating Temperature</b>	-40 °C to +90 °C
<b>Flammability</b>	Limited Fire Hazard, low generation of toxic gases and corrosive acid, low smoke generation, halogen free
<b>Recommended Ribbon Type</b>	TTDTHOUT



TYPE	Length (L)	Width (W)	Pack Cont.	Colour	Article-No.
TIPTAG11X65BU	65.0	11.0	190 pcs.	Blue (BU)	556-20066
TIPTAG11X65RD	65.0	11.0	190 pcs.	Red (RD)	556-20062
TIPTAG11X65WH	65.0	11.0	190 pcs.	White (WH)	556-20069
TIPTAG11X65YE	65.0	11.0	190 pcs.	Yellow (YE)	556-20064
TIPTAG15X65WH	65.0	15.0	190 pcs.	White (WH)	556-21069
TIPTAG15X65YE	65.0	15.0	190 pcs.	Yellow (YE)	556-21064
TIPTAG11X100BU	100.0	11.0	120 pcs.	Blue (BU)	556-20080
TIPTAG11X100RD	100.0	11.0	120 pcs.	Red (RD)	556-20091
TIPTAG11X100WH	100.0	11.0	120 pcs.	White (WH)	556-20079
TIPTAG11X100YE	100.0	11.0	120 pcs.	Yellow (YE)	556-20074
TIPTAG15X100RD	100.0	15.0	120 pcs.	Red (RD)	556-21096
TIPTAG15X100WH	100.0	15.0	120 pcs.	White (WH)	556-21079
TIPTAG15X100YE	100.0	15.0	120 pcs.	Yellow (YE)	556-21074

All dimensions in mm. Subject to technical changes.

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



### Identification tags for cable bundle, thermal transfer

#### TIPTAG - UV-stabilised Tiptags, Polyurethane

These Tiptags are designed for use in identifying wire and cable bundles in electronics and general cabling environments. The labels are applied to cables and harness assemblies with cable ties, and are also suitable for retrofit purposes. Secured to bundles using Cable Ties up to T50R width maximum.

Printers: TT4000+ and TT430

Ribbon: TTRC+

Software: TagPrint Pro

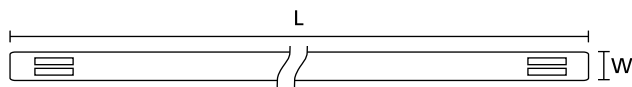
#### Features and Benefits

- Identification tags TIPTAG, Polyurethane
- Very tough and flexible material
- For bigger cable bundles and wires
- For cable ties up to 4.7 mm width
- Print with TT4000+ and TT430 for best results
- Delivery on reel, perforated
- Flame retardant
- Weather resistant
- Abrasion resistant
- Good resistance to chemicals
- Special lengths and colours available on request



The printed mark has a tattoo-like permanency.

<b>MATERIAL</b>	Polyurethane resin DS (PUR DS)	
<b>Operating Temperature</b>	-65 °C to +120 °C, intermittent +150 °C	
<b>Flammability</b>	self-extinguishing	self-extinguishing, UL94 V0 (3mm)
<b>Recommended Ribbon Type</b>	TTRC+	



TYPE	Length (L)	Width (W)	Pack Cont.	Colour	Article-No.
TTAGPU11X65WH	65.0	11.0	190 pcs.	White (WH)	556-25012
TTAGPU11X65YE	65.0	11.0	190 pcs.	Yellow (YE)	556-25019
TTAGPU15X65WH	65.0	15.0	190 pcs.	White (WH)	556-25007
TTAGPU15X65YE	65.0	15.0	190 pcs.	Yellow (YE)	556-25011
TTAGPU11X100WH	100.0	11.0	125 pcs.	White (WH)	556-25021
TTAGPU11X100YE	100.0	11.0	125 pcs.	Yellow (YE)	556-25020
TTAGPU15X100WH	100.0	15.0	125 pcs.	White (WH)	556-25006
TTAGPU15X100YE	100.0	15.0	125 pcs.	Yellow (YE)	556-25010

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 complete with integrated RFID transponder

#### T50RFID - Low Frequency (LF) and High Frequency (HF)

RFID cable ties provide an innovative solution for clear and rapid product identification. The nylon cable ties are equipped with an RFID transponder and therefore combine the numerous advantages of a regular cable tie with RFID technology. The ties are especially suited for securing, serialisation, tracking and identification of products in the areas of resource management, electrical inspection, inventory, distribution and rental services as well as for easy management of maintenance and repair routines.

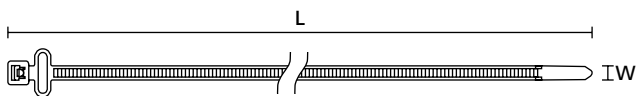
#### Features and Benefits

- Flexible, contactless data communication
- Clear identification of objects through unique numbering
- Faster data management compared to paper solution
- More accurate documentation processes – prevention of human errors
- Robust and resistant to harsh environments and cleaning processes
- Low frequency (LF – 125 kHz) - Read only
- High frequency (HF – 13.56 MHz) - Rewritable
- Special colours are possible on request



T50RFID – Cable ties with RFID transponder.

<b>MATERIAL</b>	Polyamide 6.6 (PA66)
<b>Idle Temperature</b>	-40 °C to +85 °C
<b>Operating Temperature</b>	-25 °C to +85 °C
<b>Flammability</b>	UL94 V2



T50RFID, MCTRFID

TYPE	Frequency	Bundle Ø min.	Bundle Ø max.	Length (L)	Width (W)	N	Colour	Pack Cont.	Tools	Article-No.
T50RFIDCLA	125 kHz (LF)	1.5	50.0	200.0	4.6	225	Yellow (YE)	100 pcs.	6	111-01638
T50RFIDCHA	13,56 MHz (HF)	1.5	50.0	200.0	4.6	225	Yellow (YE)	100 pcs.	6	111-01639
	13,56 MHz (HF)	1.5	50.0	200.0	4.6	225	Black (BK)	100 pcs.	6	111-01591
	13,56 MHz (HF)	1.5	50.0	200.0	4.6	225	Light Blue (LTBU)	100 pcs.	6	111-01673

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

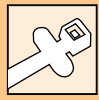
**N** = Minimum Loop Tensile Strength for Cable Ties (Newton)

Recommended Tools	
	6 EVO7
	190

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

Comprehensive brochure available on request.





### Stainless steel ties with RFID transponder

#### MBTRFID – High Frequency (HF) and Ultra High Frequency (UHF)

Stainless steel RFID cable ties are fitted with a slide-on carrier for a high frequency (HF) or an ultra-high frequency (UHF) RFID transponder. These ties are ideal for product identification in all areas of harsh environment where high tensile strength and durability is of importance. The ties are especially suited for securing, serialisation, tracking and identification of products in the areas of resource management, electrical inspection, inventory, distribution and rental services as well as for easy management of maintenance and repair routines.

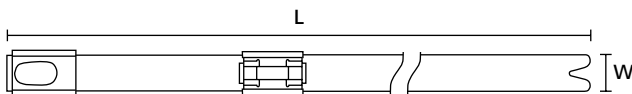
#### Features and benefits

- MBT stainless steel (316) tie complete with RFID transponder
- Especially suited for applications in harsh environments
- Patented non-releasable locking feature
- Flexible, contactless data communication
- Clear identification of objects through unique numbering
- Faster data management compared to paper solution
- More accurate documentation processes – prevention of human errors
- High frequency (HF – 13.56 MHz)
- Ultra high frequency (UHF – 869 MHz)
- Rewritable
- Standard colour red, black coating is also available as a special




MBTRFID – Stainless steel RFID cable ties for product identification in harsh environments.

<b>MATERIAL</b>	Stainless Steel (SS316), Polyester (SP)	
<b>Frequency</b>	13.56 MHz (HF)	869 MHz (UHF)
<b>Idle Temperature</b>	-25 °C to +70 °C	-40 °C to +85 °C
<b>Operating Temperature</b>	-25 °C to +70 °C	-40 °C to +85 °C
<b>Flammability</b>	non-burning (except coating)	





MBTRFID

TYPE	Frequency	Bundle Ø min.	Bundle Ø max.	Length (L)	Width (W)		Colour	Pack Cont.	Tools	Article-No.
MBT8HFCRFID	13.56 MHz (HF)	12.0	17.0	201.0	7.9	1,020	Red (RD)	50 pcs.	15-18;53	156-01167
MBT14HFCRFID	13.56 MHz (HF)	17.0	102.0	362.0	7.9	1,020	Red (RD)	50 pcs.	15-18;53	111-01586
MBT20HFCRFID	13.56 MHz (HF)	17.0	152.0	521.0	7.9	1,020	Red (RD)	50 pcs.	15-18;53	111-01587
MBT27HFCRFID	13.56 MHz (HF)	17.0	203.0	681.0	7.9	1,020	Red (RD)	50 pcs.	15-18;53	111-01588
MBT33HFCRFID	13.56 MHz (HF)	17.0	254.0	838.0	7.9	1,020	Red (RD)	50 pcs.	15-18;53	111-01589
MBT8HHFRFID	869 MHz (UHF)	12.0	17.0	201.0	7.9	1,020	Red (RD)	50 pcs.	15-18;53	156-01565
MBT14HHFRFID	869 MHz (UHF)	12.0	102.0	362.0	7.9	1,020	Red (RD)	50 pcs.	15-18;53	156-01566
MBT20HHFRFID	869 MHz (UHF)	12.0	152.0	521.0	7.9	1,020	Red (RD)	50 pcs.	15-18;53	156-01567
MBT27HHFRFID	869 MHz (UHF)	12.0	203.0	681.0	7.9	1,020	Red (RD)	50 pcs.	15-18;53	156-01568
MBT33HHFRFID	869 MHz (UHF)	12.0	254.0	838.0	7.9	1,020	Red (RD)	50 pcs.	15-18;53	156-01569

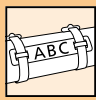
All dimensions in mm. Subject to technical changes.

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

 = Minimum Loop Tensile Strength for Cable Ties (Newton)

Recommended Tools		
	15	18
	MK9SST	HT338
	193	193

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



### Stainless steel printing system

#### M-BOSS Compact Markers

M-BOSS Markers are used in all areas where severe mechanical or chemical conditions occur e.g. offshore industry, marine engineering, petrochemical industry, mining, underground or on radio and cellular masts where mark permanence is critical.

The raised surface of the embossed print ensures that the text remains visible even with dirt, grease, and paint cover the marker. The physical characteristics of the metal and the height of the embossed mark allows users to apply a stiff or metallic brush to the surface and remove excess layers of paint or grease without damaging the integrity of the text.

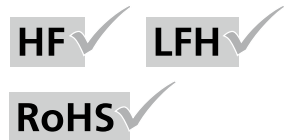
#### Features and Benefits

- Raised marking ensure text visibility even when covered in dust, debris, grease and oil
- Stainless steel grade SS316 is suited for use in harsh environments
- Marker plates are designed for use with stainless steel cable ties with a 4.6 mm strap width
- Apply ties with a MK9SST

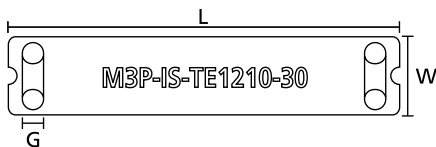


Marker plates designed to survive the harshest environments.

<b>MATERIAL</b>	Stainless Steel (SS316)
<b>Operating Temperature</b>	-80 °C to +538 °C



Application video:  
M-BOSS Compact

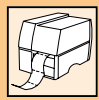


MBML

TYPE	Strap Width max. (G)	Number of lines	Characters per line	Number of characters	Length (L)	Width (W)	Pack Cont.	Article-No.
MBML10X45	4.6	1	8	8	45.0	10.0	1,000 pcs.	544-80101
MBML10X90	4.6	1	23	23	90.0	10.0	500 pcs.	544-80102
MBML20X45	4.6	3	8	24	45.0	20.0	1,000 pcs.	544-80201
MBML20X90	4.6	3	23	69	90.0	20.0	500 pcs.	544-80202

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





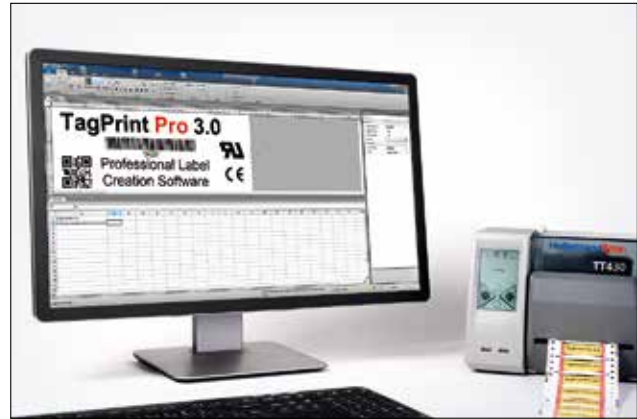
## Labelling software

### TagPrint Pro 3.0

Easily import a variety of image types into the label design. Use any Windows based font in the label design for complete customization. Layer objects like professional page layout programs. Rulers on top and side allow for exact placement of object. Easily change text colour, fill colour and border colour to make text stand out and accomplish "full reverse" printing. Allow text characters to be stretched or compressed to almost any height or width. Draw lines, circles and boxes on the label as a simple way of making the label look more professional.

#### Features and Benefits

- Alphanumeric sequences
- Print to multiple printers at one time
- Save jobs in a queue and print all at one time with "Print later" function
- Print faster
- Connect or import directly from other databases including Excel, Access, text files
- More bar code types
- Inverse, flip, and mirror image options for graphic images
- Multi-lingual
- Print log available
- Manually adjust font size to 1/10 of a point
- Customize height and width of characters
- Customize line spacing
- And much more!



*The easy to use software speeds up production of markers, labels and identification tags.*

<b>System Requirements</b>	PC running Microsoft Windows XP SP3, Vista SP1 or later, Windows 7 .NET Framework 4, Windows 8 512 MB RAM (XP SP3) 1.0 GB RAM (Vista/Windows 7/Windows 8) 500 MB available hard disk space
----------------------------	---

TYPE	Pack Cont.	Article-No.
TagPrint Pro 3.0 EMEA	1 pc.	556-00051

Subject to technical changes.



## Thermal transfer printer

### TT430

#### Features and Benefits

- Medium volume single sided printing
- Print on THTT DS, TLFX DS, TDRT DS and TULT DS (Ladder Products)
- Print on THTT, TLFX, TDRT, TULT, and TCGT (Continuous Tubing)
- Print on TAGHT, TAGLF, TAGDR, TAGUL, TAGPU, Tiptags
- Print on Adhesive Labels
- Uses standard ribbons
- Barcodes: standard and 2D
- Print speed up to 125 mm/s (30mm/s recommended for Ladder Products and Tubing)
- Adjustable label sensor
- Multiple language selection
- Windows drivers: 32/64 bit for Windows XP, Windows Vista, Windows 7 and Windows 8
- Options: External Reel Holder, Cutter (S430) and Perforator (P430)



One Step to the Web!



TT430 thermal transfer printer.

<b>Print Method</b>	Thermal Transfer
<b>Print Head Type</b>	300 dpi, flat type
<b>Print Speed</b>	up to 125 mm/s
<b>Max. Print Width</b>	106 mm
<b>Label Height Max (metric)</b>	1,000 mm
<b>Interfaces</b>	USB 2.0, Ethernet 10/100 Base T
<b>Supported Barcodes, Printer</b>	Standard and 2D
<b>Printer Memory</b>	64 MB RAM
<b>Dimensions W x H x D</b>	253 mm x 189 mm x 322 mm
<b>Weight</b>	4 kg

TYPE	Pack Cont.	Article-No.
TT430	1 pc.	556-00450

Subject to technical changes.



TYPE	Description	Pack Cont.	Article-No.
<b>S430 Cutter</b>	Cutter for TT430	1 pc.	556-00452
<b>P430 Perforator</b>	Perforator for TT430	1 pc.	556-00456
<b>TT External Reel Holder</b>	External Reel Holder	1 pc.	556-00451
<b>TT430 300dpi Printhead</b>	Printhead for TT430	1 pc.	556-00453
<b>TT430 Print Roller</b>	Print Roller for TT430	1 pc.	556-00454

Subject to technical changes.



## Thermal printer ribbons for

### Heatshrink and TipTags

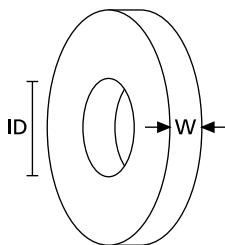
The TTDTHOUT ribbon consists of a special resin composition. In combination with our identification materials the printing is high resistant against high temperatures, scratches and chemicals. The thermal transfer print technology is based on heating up certain dots in the print head. This transfers the ink very precisely from the ribbon onto the surface of the printed material.

#### Features and Benefits

- Thermal transfer ribbons for high quality print results on heatshrink tubing and TIPTAG identification tags
- Ribbons are specifically designed to maximise print performance for the recommended material



Ribbons for printing on Tubing and TipTags.



**ID:** The standard inside core diameter is 25.4 mm.

TYPE	Recommended Material	Colour	Width (W)	Reel Length	Article-No.
<b>TT822OUT8 110MM</b>	TCGT/TULT	Silver (SR)	110.0	300 m	556-00161
<b>TTRW 30MM</b>	TCGT/TULT	White (WH)	30.0	300 m	556-00125
<b>TTRW 60MM</b>	TCGT/TULT	White (WH)	60.0	300 m	556-00137
<b>TTDTHOUT 40MM</b>	TCGT/TULT/TLFX/TDRT/TIPTAG	Black (BK)	40.0	300 m	556-00139
<b>TTDTHOUT 60MM</b>	TCGT/TULT/TLFX/TDRT/TIPTAG	Black (BK)	60.0	300 m	556-00140
<b>TTDTHOUT 100MM</b>	TCGT/TULT/TLFX/TDRT/TIPTAG	Black (BK)	100.0	300 m	556-00141
<b>TTRHTBK 70MM</b>	THTT/THTT DS/TAGHT	Black (BK)	70.0	300 m	556-00204
<b>TTRHTBK 100mm</b>	THTT/THTT DS/TAGHT	Black (BK)	100.0	300 m	556-00210
<b>TTRHTWH 70mm</b>	THTT/THTT DS/TAGHT	White (WH)	70.0	300 m	556-00209
<b>TTRHTWH 100mm</b>	THTT/THTT DS/TAGHT	White (WH)	100.0	300 m	556-00211
<b>TTRC+ 30MM</b>	TIPTAG PU/TCGT/TULT	Black (BK)	30.0	300 m	556-00114
<b>TTRC+ 60MM</b>	TIPTAG PU/TCGT/TULT	Black (BK)	60.0	300 m	556-00115
<b>TTRC+ 100MM</b>	TIPTAG PU/TCGT/TULT	Black (BK)	100.0	300 m	556-00103

All dimensions in mm. Subject to technical changes.





**Inspired by automation**

Highly automated production processes you can count on, which is why our employers have systematically enhanced our automated bundling techniques. The current top model is the Autotool 2000 CPK (see page 584). It offers high reproducibility and binding results, individual control and complete documentation.

Bulk quantities - such as in cable confectioning, the automotive industry and the packaging sector - can be processed more quick and reliably as a result.



---

6.1 Application Tooling for Cable Ties

190

---

6.2 Application Tooling for



---

Braided Sleeves

194

---



---

Heat Shrinkable Tubing

195

---



### Manual Tensioning Tool Plastic Housing

#### EVO7 up to 4.8 mm strap width

At the heart of the EVO 7 lies revolutionary, patent-pending Tension/Lock/Cut (TLC) technology that dramatically changes how cable ties are cut. The key is TLC's ability to lock each tie in place at the desired tension prior to cutting. Because the tension is fixed at the trigger when squeezing begins, only a minimum of hand force and a shorter range of motion is required to cut through each tie.

#### A. Easy Blade Replacement

One-way blade installation makes on-site blade replacement a snap.

#### B. Long Narrow Nose

Allows you to cut cable ties in the tightest of spaces quickly and easily.

#### C. Trigger

Made from soft-grip, non-slip material, the contoured full-length trigger incorporates individual finger grips to accommodate multiple hand sizes.

#### D. Integrated Hangar Hook

Allows easy storage and accessibility.

#### E. Contoured Ergonomically-Engineered Handle

Crafted from soft-grip, non-slip material, the grip features an integrated air cushion that conforms to your hand for maximum comfort.



The EVO7: Maximum performance with minimum effort.

#### F. Tension Knob

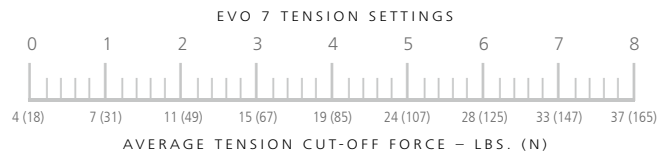
Rotate the knob to any of 33 precise pre-set tension settings.

#### G. Thumb Lock

To unlock the tension knob, slide the non-slip thumb lock forward, adjust to desired tension setting and release the thumb lock to lock in place.

#### H. Impact-Resistant Housing

Made from durable, light-weight composite, the EVO 7 weighs 9.7 oz. (0.275 kg), resists chemical contamination and is built to stand up to the toughest industrial environments.



TYPE	Description	Strap Width max.	Strap Thickness max.	Weight	Article-No.
EVO7	Standard hand span 3.5" (90mm)	4.8	1.5	0.28 kg	110-70129
EVO7SP	Short span 3.1" (80mm)	4.8	1.5	0.28 kg	110-70130
BLADEKIT	Blade replacement kit for EVO 7 and EVO7SP. Contains (1) Blade & (1) Nose piece screw	-	-	0.01 kg	110-70106
T8SD	T8 Star Driver for removal/insertion of tension lock out screw	-	-	-	110-70091
CALTOOL	Calibration Tool for removal of cap at the back of tension knob and for calibrating tool on site	-	-	-	110-70089
UC200	UC200 Tension Gauge for tensile read outs when calibrating tool on site	-	-	-	110-99000

All dimensions in mm. Subject to technical changes.



### Manual Tensioning Tool Plastic Housing

#### EVO9 up to 13 mm strap width

The EVO9 is available in a standard grip span 90 mm (EVO9) or short grip span 80 mm (EVO9SP), for smaller hands. Both tools perform between 53N and 307N. The EVO9HT is the “high tension” version of the EVO9 family. Developed for maximum tensile strength this tool performs between 120N and more than 516N. The EVO9 family was designed to apply HellermannTyton cable ties with a maximum width of 13 mm.

#### Features and Benefits

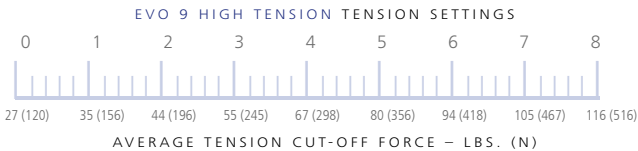
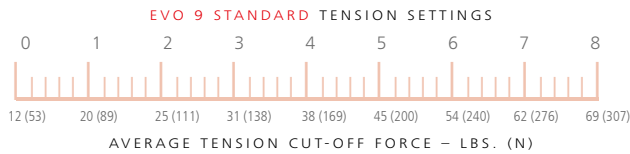
- Standard grip span (90 mm) and short grip span (80 mm) available
- Ergonomic, slip-proof handle for a comfortable and secure grip
- Extremely low maintenance
- Fast and precise application with minimum effort (TLC mechanism)
- Convenient and simple tension adjustment
- Integrated 3 position quick adjustment override
- Housing made of resilient and lightweight glass fibre-reinforced polyester



The EVO9 with TLC-Technology.



The EVO9HT with TLC-Technology.



One Step to the Web!

TYPE	Description	Strap Width max.	Strap Thickness max.	Weight	Article-No.
<b>EVO9</b>	Standard hand span 90 mm	13.0	2.0	0.36 kg	110-80002
<b>EVO9SP</b>	Short grip span 80 mm	13.0	2.0	0.36 kg	110-80003
<b>EVO9HT</b>	EVO9 High Tension tool has the same design features as the EVO7 but offers an increased tension range.	13.0	2.0	0.36 kg	110-80004
<b>Replacement Blade</b>	Replacement blade for EVO9	-	-	0.01 kg	110-80037
<b>T8SD</b>	T8 Star Driver for removal/insertion of tension lock out screw	-	-	-	110-70091
<b>CALTOOL</b>	Calibration Tool for removal of cap at the back if tension knob and for calibrating tool on site	-	-	-	110-70089
<b>UC200</b>	UC200 Tension Guage for tensile read outs when calibrating tool on site	-	-	-	110-99000

All dimensions in mm. Subject to technical changes.



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



### Manual Tensioning Tool for Cable Ties, simple version

**MK20 up to 4.8 mm strap width**

#### Features and Benefits

- Lightweight, ergonomic tools
- For tensioning and cutting HellermannTyton standard cable ties 4.8 - 7.6 mm wide
- MK20 and MK21 ideal for on-site assembly
- Mounted and pretensioned ties are cut off by twisting tool



MK20, MK21.



Apply.



Tension.



Twist to cut.

TYPE	Strap Width max.	Strap Thickness max.	Weight	Article-No.
MK20	4.8	1.5	0.05 kg	110-20006

All dimensions in mm. Subject to technical changes.

### Manual Tensioning Tool for Cable ties with low profile head

**TG009 up to 9.5 mm strap width**

#### Features and Benefits

- Ideal for easy handling of entire HellermannTyton RPE, PE series
- Tensions and cuts off prelooped cable ties flush at the head



MK10-SB.

TYPE	Strap Width max.	Strap Thickness max.	Weight
TG009	9.5	2.5	0.33 kg

All dimensions in mm. Subject to technical changes.





## Manual Tensioning Tool For Cable Ties

### TG008 - Steel Frame

#### Features and Benefits

- For nylon cable ties only with adjustable tensioning force
- This lightweight tool is ideal for heavy duty production work
- The TG008 can be used for T18, T30 and T50 series cable ties
- Metal Frame
- Maximum width of tie: 4.8mm



TG008 is suitable for use in high volume production.

## Manual Tensioning Tool for Stainless Steel Ties MBT-Series

### HT338 - Budget

#### Features and Benefits

- Fastens and automatically cut ties with adjustable bundling pressure
- Tension adjusting indicator
- Cable tie thickness up to 0.3mm. Width up to 7.9mm
- Suitable for HellermannTyton MBT cable ties MBT8, MBT14, MBT20 and MBT27



HT338.

## Manual Tensioning Tool for Metal Ties MBT-Series

### MK9SST up to 16.0 mm strap width

The MK9SST is constructed with heavy duty parts to ensure optimum performance. It is designed to apply our MBT cable ties with a strap width of up to 16 mm. The tool is ideally suited for use in most arduous environments such as found on board ships, oil rigs, constructions or in nuclear power stations.

#### Features and Benefits

- Glass-fibre-reinforced housing
- Ergonomic design
- Consistent tensioning and automatically cutting of metal ties MBT-series
- Infinitely adjustable tension force combined with two-step quick adjustment



MK9SST.

TYPE	Description	Strap Width max.	Strap Thickness max.	Weight	Article-No.
<b>MK9SST</b>	Adapted for use with stainless steel ties.	16.0	0.5	0.60 kg	110-95000
<b>SP MK9SST replacement blade</b>	Replacement Blade	-	-	0.01 kg	110-95273

All dimensions in mm. Subject to technical changes.



### Manual Tensioning Tool for KR-Series

#### KR6/8

Application tool KR6/8 crimps the glass-fibre-reinforced locking pin of the KR seal and leads to plastic deformation of the tie ends. This produces a very proof permanent connection.

#### Features and Benefits

- Tough metal tool
- For applying KR-cable ties only
- For tensioning, fixing and cutting KR-cable ties
- Simply change the front plate to apply two different strap widths: 6 mm and 8 mm



The manual tensioning tool KR6/8 for KR-Series cable ties.

TYPE	Description	For Ties	Strap Width max.	Weight	Article-No.
KR6/8	KR6/8	KR6, KR8	8.0	0.52 kg	121-00680
SP KR6/8 replacement blade	-	KR6, KR8	-	0.01 kg	122-68019

All dimensions in mm. Subject to technical changes.

### Hot cutting tool

#### KD8-3

The HSG0 hand tool is used to cut braided sleeving cleanly and without fraying.

#### Features and Benefits

- 240V AC
- Light and sturdy
- Heats up quickly with the press of button and cuts in seconds
- The yarn melts and fuses together
- No fraying of the sleeving



The KD8-3 hot cutting tool prevents the braided sleeving from fraying.

TYPE	Description	Weight	Colour
KD8-3	Hot cutting tool	1.15 kg	Blue (BU)

Subject to technical changes.



### Gas powered Hot Air Tool

#### E4500

The E4500 hot air gun starter kit is ideal for working in cramped spaces or where there is no power supply. The kit includes a E4500 hot air tool with protective spring, gas cartridge P445, reflector nozzle Z2 and flat nozzle Z3. The hot air tool is suitable for shrinking all types of heat shrink products including tubing, shapes and cable repair sleeves. It can also be used for the bending and shaping of PVC pipes, soft soldering of copper pipes, drying, defrosting (of locks), heating and paint stripping.

#### Features and Benefits

- Cordless hot air gun works with special gas cartridge
- Does not need any power supply
- Suitable for outdoor use
- Designed for heat shrink tubing, end caps and moulded shapes
- Supplied with protective spring, two nozzles and a gas cartridge
- Allows precise working in any position even in restricted spaces
- Can be operated on its stand for hands free use
- Light weight tool
- Operating time of cartridge: approx. 1.5 hours
- With easy Piezo ignition



One Step to the Web!



E4500-H with heat protecting spring.



Practical hot air gun kit E4500 with accessories.



Gas cartridge P445.

TYPE	Description	Article-No.
E4500	Hot air gun with protective spring incl. gas cartridge, reflector nozzle Z2 and flat nozzle Z3	391-90002
P445	P445 Refill Gas Cartridge (Butane, Propane, Propene)	391-90101

Subject to technical changes.

### Professional Steinel Heat Gun

#### HG2120E

#### Features and Benefits

- Output: 2200w
- Operation hours: 750
- Temperature rating: 80° C - 630°C
- Temperature indication: By thumbwheels, infinitely variable (indicated on thumbwheel in 9 steps)
- Temperature adjustments: Manual infinitely variable temperature adjustment
- Airflow rate: 150-500l/min
- Heating element: Ceramic heating element
- Thermal cutout
- Hanging ring
- Protection class (without each terminal): II
- Dimensions: 253 (L) x 86.5 (W) x 200 mm (H)
- Power supply: 220-230V
- Weight: 0.67kg



HG2120E - Professional Steinel Heat Gun

#### Optional Accessories



**NOZREF**  
**Reflector Nozzle**  
Perfect for soldering pipes, fitting shrink tubing, thawing frozen pipes and bending pipes



**NOZSUR50**  
**50mm Surface Nozzle**  
Evenly spreads air over a wide area. Ideal for evenly drying filler or stripping paint and removing films



**NOZRED9**  
**9mm Reduction Nozzle**  
Delivers hot air with pinpoint precision for desoldering and welding plastics with welding nozzle





7.1 Crimp Tools

198



7.2 Cable / Core Cutters

201



## Crimp Tools

### YYT1 — Pre-Insulated **Single Grip Terminal Crimper**

- **Range:** 2.5mm<sup>2</sup> — 10mm<sup>2</sup> (Red, Blue, Yellow)
- For insulated terminals
- Ratchet release
- Length: 254mm



### YYT7 — Pre-Insulated Tension Adjustable **Double Grip Terminal Crimper**

- **Range:** 2.5mm<sup>2</sup> — 10mm<sup>2</sup> (Red, Blue, Yellow)
- For insulated terminals
- Ratchet release
- Length: 229mm



### YAC5 — **Bootlace Ferrule Crimper**

- **Range:** 0.5mm<sup>2</sup> - 6mm<sup>2</sup>
- Ratchet release and pressure adjustment feature
- Length: 203mm



### YAC6 - **Bootlace Ferrule Crimper**

- **Range:** 6.0mm<sup>2</sup> — 16.0mm<sup>2</sup>
- Ratchet release and pressure adjustment feature
- Length: 203mm



### YAC17 - **Bootlace Ferrule Crimper**

- **Range:** 25mm<sup>2</sup>, 35mm<sup>2</sup>
- Ratchet release and pressure adjustment feature
- Length: 203mm



### YAC8 - **Bootlace Ferrule Crimper**

- **Range:** 0.25mm<sup>2</sup> — 6.0mm<sup>2</sup>
- Four point pressure adjustment screw & push to release lever
- Strong but lightweight glass fibre reinforced nylon handles
- Square (quad) profile
- Length: 175mm



### YAC9 - **Bootlace Ferrule Crimper**

- **Range:** 0.08mm<sup>2</sup> — 6.0mm<sup>2</sup>
- Six point pressure adjustment screw & push to release lever
- Strong but lightweight glass fibre reinforced nylon handles
- Hexagonal profile
- Length: 175mm (L)



Note: Some images and specifications may differ from what is displayed in this brochure.



### Crimp Tools

#### YYT15 - Close End Connector Crimper

- **Range:** 1.0mm<sup>2</sup>, 2.5mm<sup>2</sup> - 5.5mm<sup>2</sup>
- Ratchet release feature
- Length: 203mm



#### YYT8 - Uninsulated Terminal Crimper

- **Range:** 1.5mm<sup>2</sup>, 2.5mm<sup>2</sup> - 4.0mm<sup>2</sup>
- Ratchet release feature
- Length: 266mm



#### HD16L - Heavy Duty Crimper (Uninsulated Terminals)

- **Range:** 1.5mm<sup>2</sup> - 16.0mm<sup>2</sup>
- Ratchet release feature
- Length: 270mm



#### HD0650AU - Hex Crimper

- **Range:** 6/10/16/25/35/50mm<sup>2</sup>
- Hexagonal crimper with movable and rotating dies
- For tubular cable lugs and connectors
- Dies included
- Length: 390mm



#### HD06120AU - Hex Crimper

- **Range:** 6/10/16/25/35/50/70/95/120mm<sup>2</sup>
- Hexagonal crimper with movable and rotating dies
- For tubular cable lugs and connectors
- Length: 650mm
- Dies included



#### HYCP400 - Hand Hydraulic Crimper

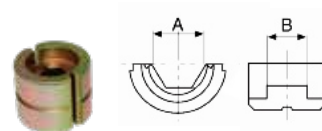
- **Range:** 16mm<sup>2</sup> - 300mm<sup>2</sup>
- Automatic low/high - pressure conversion with
- Rapid/slow operating motion
- Heavy duty case included
- Pressure relief valve for overload protection
- Head rotates 180°
- Dimensions: 612 x 150mm
- Force at die face: 12 metric ton (700 bar)
- C-head opening: 32mm
- **Dies sold separately**



#### Hydraulic Die Specification and Part No. (Dies sold separately)

PART NO.	Die Number	A	B
DIECU16	K12-C16AF6.3	6.3	17.57
DIECU25	K12-C25AF7.7	7.7	17.57
DIECU35	K12-C35AF9.2	9.2	17.57
DIECU50	K12-C50AF10.4	10.4	17.57
DIECU70	K12-C70AF11.5	11.5	17.57
DIECU95	K12-C95AF14.2	14.2	17.57
DIECU120	K12-C120AF16.5	16.5	14.14
DIECU150	K12-C150AF18.3	18.3	14.14
DIECU185	K12-C185AF20.0	20.0	14.14
DIECU240	K12-C240AF23.1	23.1	10.2
DIECU300	K12-C300AF26.0	26.0	10.2

All dimensions in mm. Subject to technical changes.





## Crimp Tools

### HYLEC32 - Battery Operated Hydraulic Crimper Kit

- Range: 16mm<sup>2</sup> - 300mm<sup>2</sup>
- 14,4 Volt Lithium-Ion battery powered
- Number of crimps per charge: 60
- 12.7 ton die force
- Head rotates 180°
- Dimensions: 385mm (L) x 307mm (H) x 74mm (W)
- Weight: 6.8Kg
- C-head opening: 32mm
- Dies sold separately
- Additional battery available (HYLEC32BATT)



### FH700FP - Hydraulic Foot Pump

- Length: 720mm
- Weight: 12.0 kg
- Two stage pumping action (700 bar)
- Complete with 2 metre hose

Pioneer 3000 coupling



### HP700A - Hydraulic Hand Pump

- Length: 595mm
- Weight: 9 kg
- Two stage pumping action (700 bar)
- Complete with 2 metre hose

Pioneer 3000 coupling



### HYCP400HE - Hydraulic Crimp Head

- Max output: 11.6 ton
- Range: 16mm<sup>2</sup> - 400mm<sup>2</sup>
- Dies sold separately (Refer to HYCP400 table for die part numbers)



Pioneer 3000 coupling

### HYCP630HE - Hydraulic Crimp Head

- Max output: 22.5 ton
- Range: 16mm<sup>2</sup> - 630mm<sup>2</sup>
- Dies sold separately

Die Code	Crimp Sizes
CP630400D	400mm <sup>2</sup>
CP630500D	500mm <sup>2</sup>
CP630630D	630mm <sup>2</sup>



Pioneer 3000 coupling

### ADP630HE - Die Adapter

- Enables HYCP630HE to take dies of HYCP400 (Refer to HYCP400 table for die part numbers)

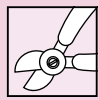


### CEP15SS - Hydraulic Pump

- Length: 319mm
- Weight: 10.0 kg (with two 18V 4.0Ah batteries)
- 1.2 L / min at low pressure
- 0.3 L / min at high pressure
- Pressure and operation data of date display function
- Programming switch for crimping, cutting or lifting propose on the panel
- Warning function: Buzzer alert at long deep if crimping not complete and losing pressure when failure
- Display related pumping pressure and battery capacity



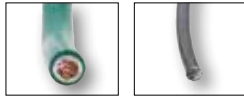




## Cable Cutters and Core Cutters

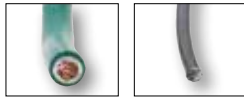
### CC22 - Cable Cutter

- Cuts copper and aluminium
- Cuts up to 25mm<sup>2</sup>
- Length: 165mm



### CC38 - Cable Cutter

- Cuts copper and aluminium
- Cuts up to 38mm<sup>2</sup>
- Length: 210mm



### CC60 - Cable Cutter

- Cuts copper and aluminium
- Cuts up to 60mm<sup>2</sup>
- Length: 235mm



### SCC60 - Cable Cutter

- For steel rod: 5mm max.
- Wire rope: 7mm max.
- Copper cable: 60mm<sup>2</sup>
- AWG 1/0 max.
- Length: 310mm



### RCC325PH - Core Cutter

- Speedy cutting of copper cable
- Not for steel or hard copper
- Capacity: 380mm<sup>2</sup> diameter
- Length: 290mm



### RCC500 - Core Cutter

- Speed and safer operation for cutting cables
- Not for steel or hard copper
- Spare blades available
- Capacity 500mm<sup>2</sup> diameter
- Length: 285mm



### CC250 - Cable Cutter

- Copper cable: 250mm<sup>2</sup>
- Aluminium cable: 250mm<sup>2</sup>
- Length: 600mm



### CC500 - Cable Cutter

- Copper cable: 500mm<sup>2</sup>
- Aluminium cable: 500mm<sup>2</sup>
- Length: 800mm
- Spare blades available on request (CC500BLD)



### S25 - PVC Pipe Cutter

- 34mm PVC cutter
- Metal handle



Note: Some images and specifications may differ from what is displayed in this brochure.



### Tools

#### Rack-a-Tier Dispensing Tool

This multi-purpose premium wire dispensing tool is lightweight and durable. It accommodates a wide range of cable sizes with loads up to 150kg. The one tool that does all: wire disoenser, pipe vise, saw horse, work bench, wall shelf or even a table.

#### Features and Benefits

- Lightweight
- Durable one piece construction
- Waterproof and easy to clean
- Made of recycled material
- Easy to store and transport
- Ease and speed of set up



*Rack-a-Tier.*



*Rack-a-Tier application*

PART NO.	Description	Pack Cont.
RCT1	Rack-a-Tier Wire Dispensing Tool (pipe included)	1
RCT1-Pipe	Pipe for Rack-a-Tier	1

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

## Expertise worldwide

You will find your local contact here:

### Europe

#### HellermannTyton GmbH – Austria

Rennbahnweg 65  
1220 Vienna  
Tel.: +43 12 59 99 55-0  
Fax: +43 12 59 99 11  
Email: office@HellermannTyton.at  
www.HellermannTyton.at

#### HellermannTyton – Czech Republic

Email: officeCZ@HellermannTyton.at  
www.HellermannTyton.cz

#### HellermannTyton – Denmark

Industrivej 44A, 1.  
4000 Roskilde  
Tel.: +45 702 371 20  
Fax: +45 702 371 21  
Email: htdk@HellermannTyton.dk  
www.HellermannTyton.dk

#### HellermannTyton – Finland

Sähkötie 8  
01510 Vantaa  
Tel.: +358 9 8700 450  
Fax: +358 9 8700 4520  
Email: myynti@HellermannTyton.fi  
www.HellermannTyton.fi

#### HellermannTyton S.A.S. – France

2 rue des Hêtres - CS 80543  
78197 Trappes Cedex  
Tel.: +33 1 30 13 80 00  
Fax: +33 1 30 13 80 60  
Email: info@HellermannTyton.fr  
www.HellermannTyton.fr

#### HellermannTyton GmbH – Germany

Großer Moorweg 45  
25436 Tornesch  
Tel.: +49 4122 701-0  
Fax: +49 4122 701-400  
Email: info@HellermannTyton.de  
www.HellermannTyton.de

#### HellermannTyton KFT – Hungary

Kisfaludy u. 13  
1044 Budapest  
Tel.: +36 1 369 4151  
Fax: +36 1 369 4151  
Email: officeHU@HellermannTyton.at  
www.HellermannTyton.hu

#### HellermannTyton Ltd – Ireland

Unit A5 Cherry Orchard  
Business Park  
Ballyfermot, Dublin 10  
Tel.: +353 1 626 8267  
Fax: +353 1 626 8022  
Email: sales@HellermannTyton.ie  
www.HellermannTyton.co.uk

#### HellermannTyton S.r.l. – Italy

Via Visco, 3/5  
35010 Limena (PD)  
Tel.: +39 049 767 870  
Fax: +39 049 767 985  
Email: info@HellermannTyton.it  
www.HellermannTyton.it

#### HellermannTyton B.V. – Belgium/Netherlands

Vanadiumweg 11-C  
3812 PX Amersfoort  
Tel.: +31 33 460 06 90  
Fax: +31 33 460 06 99  
Email (NL): info@HellermannTyton.nl  
Email (BE): info@HellermannTyton.be  
www.HellermannTyton.nl  
www.HellermannTyton.be

#### HellermannTyton AS – Norway

PO Box 240 Alnabru  
0614 Oslo  
Tel.: +47 23 17 47 00  
Fax: +47 22 97 09 70  
Email: firmapost@HellermannTyton.no  
www.HellermannTyton.no

#### HellermannTyton Sp. z o.o. – Poland

ul. Berdychów 57A  
62-410 Zagórzów  
Tel.: +48 63 2401 849  
Fax: +48 63 2401 848  
Email: info@HellermannTyton.pl  
www.HellermannTyton.pl

#### HellermannTyton – Romania

Email: officeRO@HellermannTyton.at  
www.HellermannTyton.at

#### OOO HellermannTyton – Russia

40/4, Pulkovskoe road  
BC Technopolis Pulkovo, office A 8081  
196158, St. Petersburg  
Tel.: +7 812 386 00 09  
Fax: +7 812 386 00 08  
Email: info@HellermannTyton.ru  
www.HellermannTyton.ru

#### HellermannTyton – Slovenia

Branch Office Ljubljana  
Podružnica Ljubljana, Leskovaška 6  
1000 Ljubljana  
Tel.: +386 1 433 70 56  
Fax: +386 1 433 63 21  
Email: officeSI@HellermannTyton.at  
www.HellermannTyton.si

#### HellermannTyton España s.l. – Spain/Portugal

Avda. de la Industria 37 2º 2  
28108 Alcobendas, Madrid  
Tel.: +34 91 661 2835  
Fax: +34 91 661 2368  
Email:  
HellermannTyton@HellermannTyton.es  
www.HellermannTyton.es

#### HellermannTyton AB – Sweden

Isafjordsgatan 5  
16440 Kista  
Tel.: +46 8 580 890 00  
Fax: +46 8 580 348 02  
Email: kundsupport@HellermannTyton.se  
www.HellermannTyton.se

#### HellermannTyton Engineering GmbH – Turkey

Saray Mah Dr. Adnan Büyükdüz Cad. No:4  
Akkom Office Park 2. Blok Kat: 10  
34768 Ümraniye-Istanbul  
Tel.: +90 216 687 03 40  
Fax: +90 216 250 32 32  
Email: info@HellermannTyton.com.tr  
www.HellermannTyton.com.tr

#### HellermannTyton Ltd – UK

William Prance Road  
Plymouth International Medical  
and Technology Park  
Plymouth, Devon PL6 5WR  
Tel.: +44 1752 701 261  
Fax: +44 1752 790 058  
Email: info@HellermannTyton.co.uk  
www.HellermannTyton.co.uk

#### HellermannTyton Ltd – UK

Sharston Green Business Park  
1 Robeson Way  
Altrincham Road, Wythenshawe  
Manchester M22 4TY  
Tel.: +44 161 947 2200  
Fax: +44 161 947 2220  
Email: sales@HellermannTyton.co.uk  
www.HellermannTyton.co.uk

#### HellermannTyton Ltd – UK

Cley Road, Kingswood Lakeside  
Cannock, Staffordshire  
WS11 8AA  
Tel.: 01543-728282  
Freephone line: 0808-1642204  
Fax: 01543-728284  
Email: info@HellermannTyton.co.uk  
www.HellermannTyton.co.uk

#### HellermannTyton Data Ltd – UK

Cornwell Business Park  
43-45 Salthouse Road, Brackmills  
Northampton NN4 7EX  
Tel.: +44 1604 707 420  
Fax: +44 1604 705 454  
Email: sales@htdata.co.uk  
www.htdata.co.uk

### Middle East

#### HellermannTyton – UAE

Email: info@HellermannTyton.ae  
www.HellermannTyton.ae

### North America

#### HellermannTyton – Canada

Tel.: +1 905 726 1221  
Fax: +1 905 726 8538  
Email: sales@HellermannTyton.ca  
www.HellermannTyton.ca

#### HellermannTyton – Mexico

Tel.: +52 333 133 9880  
Fax: +52 333 133 9861  
Email: info@HellermannTyton.com.mx  
www.HellermannTyton.com

#### HellermannTyton – USA

Tel.: +1 414 355 1130  
Fax: +1 414 355 7341  
Email: corp@htamericas.com  
www.HellermannTyton.com

### South America

#### HellermannTyton – Argentina

Tel.: +54 11 4754 5400  
Fax: +54 11 4752 0374  
Email: ventas@HellermannTyton.com.ar  
www.HellermannTyton.com.ar

#### HellermannTyton – Brazil

Tel.: +55 11 4815 9000  
Fax: +55 11 4815 9030  
Email: vendas@HellermannTyton.com.br  
www.HellermannTyton.com.br

### Asia-Pacific

#### HellermannTyton – Australia

Tel.: +61 2 9540 3955  
Fax: +61 2 9540 3457  
Email: cservice@HellermannTyton.com.au  
www.HellermannTyton.com.au

#### HellermannTyton – China

Tel.: +86 510 8528 2536  
Fax: +86 510 8528 2731  
Email: cservice@HellermannTyton.com.cn  
www.HellermannTyton.com.cn

#### HellermannTyton – Hong Kong

Tel.: +852 2832 9090  
Fax: +852 2832 9381  
Email: cservice@HellermannTyton.com.hk  
www.HellermannTyton.com.sg

#### HellermannTyton – India

Tel.: +91 120 413 3384  
Email: info@HellermannTyton.co.in  
www.HellermannTyton.co.in

#### HellermannTyton – Japan

Tel.: +81 3 5790 3111  
Fax: +81 3 5790 3112  
Email: mkt@hellermanntyton.co.jp  
www.HellermannTyton.co.jp

#### HellermannTyton – Republic of Korea

Tel.: +82 32 833 8012  
Fax: +82 32 833 8013  
Email: sales@HellermannTyton.co.kr  
www.HellermannTyton.co.kr

#### HellermannTyton – Philippines

Tel.: +63 2 752 6551  
Fax: +63 2 752 6553  
Email: cservice@HellermannTyton.com.ph  
www.HellermannTyton.com.ph

#### HellermannTyton – Singapore

Tel.: +65 6 852 8585  
Fax: +65 6 756 6798  
Email: cservice@HellermannTyton.sg  
www.HellermannTyton.com.sg

#### HellermannTyton – Thailand

Tel.: +662 237 6702 / 266 0624  
Fax: +662 266 8664  
Email: cservice@HellermannTyton.co.th  
www.HellermannTyton.com.sg

### Africa

#### HellermannTyton – South Africa

Tel.: +27 11 879 6600  
Fax: +27 11 879 6603  
Email: jhb.sales@Hellermann.co.za  
www.HellermannTyton.co.za





## HellermannTyton

HellermannTyton Australia  
Unit 2, 12 - 14 Mangrove Lane  
Taren Point NSW 2229  
PO Box 2225 Taren Point 2229  
Toll Free: 1800 815 018  
Tel: +61 2 9540 3955  
Fax: +61 2 9540 3457  
E-Mail: [cservice@HellermannTyton.com.au](mailto:cservice@HellermannTyton.com.au)  
[www.HellermannTyton.com.au](http://www.HellermannTyton.com.au)

