



Detectable Products for Food  
and Beverage Processing



**We brought the first detectable metal conte**  
Today we are leading the next generation of sol



nt tie onto the market.  
utions

## **We understand the challenges you face**

Contamination of food or beverages with foreign objects is a concern of all food processors. It can lead to costly production losses. But even graver, it can damage your reputation and brand and, worse still, threaten the lives of your customers.

Therefore it is even more important to have an experienced partner at your side who understands your safety, hygiene, quality assurance and verification needs when choosing a cable management solution for your production facilities.

## **HellermannTyton is the experienced partner at your side**

We brought the first detectable metal content cable tie onto the market and today we are leading a new generation of proven metal content cable ties and other detectable cable management products. Our solutions are cost effective and go hand in hand with expert service support. This is good news for a highly automated, highly competitive food and beverage industry.

Innovative cable management solutions from HellermannTyton have been designed together with leading food processors to maximize quality assurance and verification using metal detectors, x-ray and visual means. Our solutions include new generation metal content ties, cable tie mounts, easy-to-clean conduits and fitting, corrosion resistant identification tags and other products and system solutions for your industry.

Each product has been manufactured from high-grade materials that comply with standards established by major regulatory bodies and are rigorously tested. Profit from our knowledge and experience, and from the high-quality of our detectable cable management solutions for food and beverage installations.

Your brand is your asset –  
with HellermannTyton it is in good hands.



# We understand the demands of the food a

## Complying with regulatory standards

### Complying with stringent regulatory standards:

We manufacture our products for food and beverage processing from high-grade materials. Most solutions are designed to conform to requirements of the US Food and Drug Administration (FDA), EC No. 1935/2004, as well as to various national standards.

Our detectable metal content ties and other solutions are free of DEHP (Bis(2-ethyl(hexyl)phthalat), considered to be dangerous to health.



nd beverage industry.



**Your partner with over 80 years’ experience in cable management solutions**

From detectable cable ties and easy-to-clean PVDF heatshrink tubing, to corrosion-resistant identification tags, HellermannTyton provides innovative products and system solutions for the food and beverage industry. The extensive product portfolio reflects our long-standing industry expertise.

Wherever foreign objects might enter the food processing chain, it is crucial to use materials that are easily detectable in the production facility. We offer metal content products that are simple to detect, making an important contribution to quality management and helping you achieve compliance to HACCP.

**Professional service:** Our network of branch offices and distribution partners around the globe ensures a consistently high level of service, high flexibility and the fast response and delivery times you expect.

**Solutions for your industry:** Our metal content portfolio is ideal for applications in a wide variety of food and beverage sectors, including beverage production and filling, baking, meat processing as well as in dairy production.

Safety first. Quality first. HellermannTyton



# Cable management solutions with a high level of Quality assurance and verification

## Our contribution to your quality assurance

If a batch has been contaminated by a foreign object, quality has already been compromised. The high quality and reliability of our cable management solutions minimises the risk of contamination to consumers and proactively contributes to assuring the quality of your food and beverage operations.



## el of detectability.

### **Metal content detectability – A unique level of verification**

We know that accidents can happen. A cable tie may be accidentally cut or be damaged, allowing part or all of it to come in contact with food. Detection is crucial. Our metal content cable management solutions offer a high level of metal detectability. We offer a wide range of cable tie types with a metal detection range from a ferrous sphere setting of 1.0 mm up to 3.4 mm. In fact, our MCTS metal content cable tie sets a new benchmark for detectability of metal content ties in food and beverage installations.

### **Meeting the challenges of detectability**

Food and beverage processors are conscious of the challenges faced in detecting contamination with foreign objects, especially plastic objects. Whether, and to what extent, a foreign object is detected depends on a constellation of factors such as material, the type of detector, equipment sensitivity, calibration, conveyance speed and the type of food being conveyed. It is important that metal in a plastic product is uniformly dispersed to allow detection of fragments. Depending on the application, a metal content tie might also need to be resistant to chemicals, high temperatures and to float in liquids.

Detectable solutions from HellermannTyton have been tested by METTLER TOLEDO UK and are developed specifically to meet these and other challenges.



# Safe, sanitary and efficient food and beverage Unmatched cable management solutions



## Stainless Steel Marker Plates

Non-corrosive M-BOSS stainless steel marker plates offer excellent resistance to inorganic acids, hydrochloric acid, and halogens. M-BOSS markers are ideal where high temperatures and / or chemical cleaning agents can have a damaging effect on identification in food production facilities.





ge processing.

## **Metal Content Ties and Mounts**

Metal content products from HellermannTyton are detectable through metal pigments. We offer you a wide range of cable tie types such as MCT and MCTS with a metal detection range from a ferrous sphere setting of 1.0 mm up to 3.4 mm. Furthermore, MCTS ties are highly resistant to corrosion, making these particularly suitable for applications in salty environments or cleanrooms. A uniform dispersion of metal content in all cable ties and mounts makes fragments easily detectable. Metal content mounts are ideal for extra strength in holding MCT series cable ties in position. All metal content cable ties from HellermannTyton for the food and beverage industry are available in blue for high visual detectability. Cable ties can also be ordered in green, russet, mustard, yellow, red and orange.

## **Metal-Content Spiral Binding, Cable Covering and Fittings**

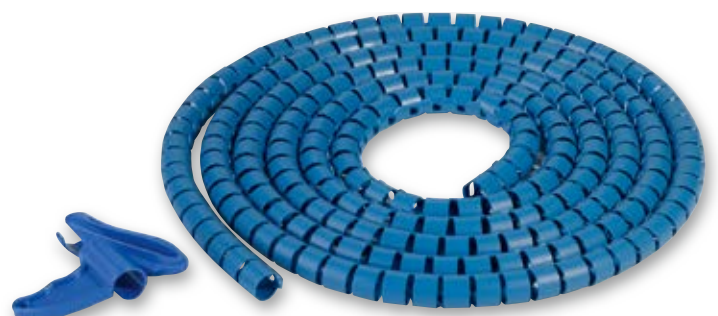
SBPEMC spiral binding and the Helawrap HWPPMC cable covers are ideal for bundling and protecting cables and hoses, including retro-fitting. Both are highly flexible, corrosion resistant, and have a high metal content for reliable detection.

## **Stainless Steel Cable Ties and P-Mounts**

Corrosion-resistant MBT cable ties and P-Mounts made of stainless steel are suitable for the high temperatures and substantial mechanical loads often found in food production processes.

## **Application Processing Tools**

Designed for maximum ergonomics and performance, application processing tools from HellermannTyton combine reduced hand effort and durable components to ensure efficient assembly and longer life cycle.



# The ideal components for your application

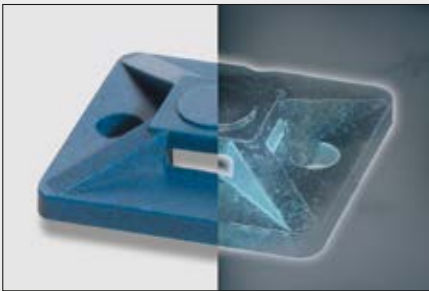
## Overview of products by feature

Requirements for quality food production processes are high. All solutions presented here conform to **REACH Directive (EC) no. 1907/2006** and are **DEHP-free (Bis(2 ethyl(hexyl) phtalat)**, a plasticizer deemed to be toxic for reproduction. All of our products contain special features tailored to food and beverage processing.



### Detection

- Conforms to the HACCP approach
- Even fragments are detectable
- Contamination from plastic cut-offs is virtually impossible
- The MCTS variant is particularly suitable for use in saline environments with high humidity



X-Ray Detection



Magnetic Detection



Visual Detection



### Floating

- Products manufactured from PP and PE will float to the surface of liquids so the products can easily be seen and removed



### Stainless Steel

- High temperature resistance
- Corrosion resistant & weather resistant



### Easy-to-clean

- Flexible conduits which are easy to clean to protect cables against mechanical influences



### Chemical resistance

- Marker plates are designed for use with stainless steel cable ties in harsh environments



requirements.

	Detection X-Ray	Detection Magnetic	Detection Visual	Floating	Stainless Steel	Easy-to-clean	Chemical resistance	Page
<b>Cable Ties and Fixings</b>								
<b>Metal Content Ties and Mounts</b>								
MCT-Series	•	•	•					14
MCT-Series releasable	•	•	•					14
MCTS-Series	•	•	•					15
MCT-Series / MCTS-Series PPMP	•	•	•	•			•	16
MCMB Series	•	•	•					17
MCCTAM	•	•	•					18
MCKR-Series with curved design	•	•	•					19
<b>Stainless Steel Cable Ties and Mounts</b>								
MBT SS304	•	•			•	•	•	20
MST SS304	•	•			•	•	•	23
SSPC	•	•			•		•	24
<b>E/TFE Cable Ties and Mounts</b>								
T-Series in E/TFE (Tefzel®)							•	25
KR-Mounts							•	26
<b>Polypropylene Cable Ties</b>								
T-Series in PP				•			•	27
<b>Insulation</b>								
TK20			•			•	•	28
TK29			•			•	•	29
TFE2			•			•	•	30
TFE4			•			•	•	31
<b>Cable Protection Systems</b>								
Helawrap HWPPMC	•	•	•	•			•	32
SBPEMC	•	•	•	•			•	33
PSRSC Smooth Bore/Cover PVC Spiral Reinforced Conduit						•	•	34
PSRSC-FMCFSS Fixed Comp. SS Food Fitting, Ext. Thread	•	•			•	•	•	35
<b>Identification Systems</b>								
Hellermark SSC					•	•	•	36
Hellermark - Carriers SSC					•	•	•	36
Hellermark - Carriers SSCPP						•		36
M-BOSS Compact					•			37
M-BOSS Compact and Organiser					•			37
M-BOSS Compact & Lite Marker	•	•			•	•	•	38
M-BOSS Print Service	•	•			•	•	•	39
Laser Beam Marked Metal Plates and Ties	•	•			•	•	•	39

# Detectable products for food and beverage

## Innovative cable management solutions tailored

### Your advantages at a glance

- Extreme temperature and chemical resistance
- Conform to the HACCP approach
- Fragments also detectable
- Meet material standards laid down by major regulatory bodies such as FDA
- Quality and verification based on development expertise and rigorous testing
- Best-fit solutions: HellermannTyton Products offer you an ideal combination of quality, cost effectiveness and service from one dependable source



processing.  
to your needs



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Cable Protection Systems  
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Identification Systems  
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# Cable Ties and Fixings

## Cable Ties Inside Serrated

### Cable Ties for food industry, detectable

#### • MCT-Series

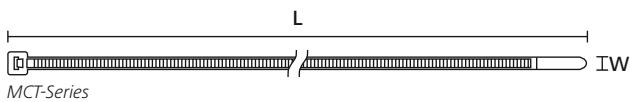
The Metal Content Tie is a cable tie specifically designed for use in the food and pharmaceutical processing industries. A unique manufacturing process, involving the inclusion of a metallic pigment, enables even small 'cut-off' sections of the tie to be detected by standard metal-detecting equipment.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

#### Features and Benefits

- Total metal dispersion throughout the tie available in a wide range of sizes
- Usable as part of HACCP process\*
- Unique blue colour for easy visual detection
- Greatly reduces risk of contamination
- Magnetic and X-Ray detectable versions available



One Step to the Web!



The MCT with metal content.

<b>MATERIAL</b>	Polyamide 6.6 with metal particles (PA66MP)
<b>Operating Temperature</b>	-40 °C to +85 °C, (+105 °C, 500 h)
<b>Flammability</b>	UL94 HB
<b>Specifications</b>	FDA, HACCP



TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Application Tool No.	Article-No.
MCT18R	2.5	100.0	22.0	80	PA66MP	Blue (BU)	100 pcs.	2-11	111-01225
MCT30R	3.5	150.0	35.0	135	PA66MP	Blue (BU)	100 pcs.	2-11	111-00829
MCT50R	4.6	202.0	50.0	225	PA66MP	Blue (BU)	100 pcs.	2-11	111-00830
MCT50L	4.7	380.0	110.0	225	PA66MP	Blue (BU)	100 pcs.	2-11	111-00831
	4.7	380.0	110.0	225	PA66MP	Green (GN)	100 pcs.	2-11	111-01169
	4.7	380.0	110.0	225	PA66MP	Orange (OG)	100 pcs.	2-11	111-01171
	4.7	380.0	110.0	225	PA66MP	Red (RD)	100 pcs.	2-11	111-01167
	4.7	380.0	110.0	225	PA66MP	Yellow (YE)	100 pcs.	2-11	111-01168
MCT120R	7.6	387.0	100.0	535	PA66MP	Blue (BU)	100 pcs.	3;9-12	111-01136

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

#### • MCT-Series releasable

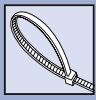
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Application Tool No.	Article-No.
MCTRELK2M	4.6	250.0	65.0	225	PA66MP	Blue (BU)	100 pcs.	2-11	111-00937

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

Application Tool No.											
2	3	4	5	6	7	8	9	10	11	12	
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT	MK9P	

For detailed information on Application Tooling please refer to our Main Catalogue or the Internet.

\*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

#### • MCTS-Series

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

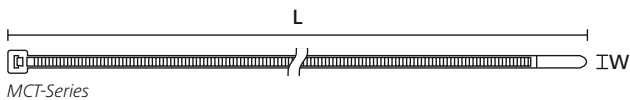
#### Features and Benefits

- Total metal dispersion throughout the tie available in a wide range of sizes
- Usable as part of HACCP process\*
- Unique blue colour for easy visual detection
- Greatly reduces risk of contamination
- Magnetic and X-Ray detectable versions available



MCTS ties are highly resistant to corrosion.

<b>MATERIAL</b>	Polyamide 6.6 with metal particles (PA66MP+)
<b>Operating Temperature</b>	-40 °C to +85 °C
<b>Flammability</b>	UL94 HB
<b>Specifications</b>	HACCP



TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Application Tool No.	Article-No.
MCTS100	2.5	100.0	22.0	60	PA66MP+	Blue (BU)	100 pcs.	2-11	111-01341
	2.5	100.0	22.0	60	PA66MP+	Mint Green (MGN)	100 pcs.	2-11	111-01377
	2.5	100.0	22.0	60	PA66MP+	Mustard (MST)	100 pcs.	2-11	111-01380
	2.5	100.0	22.0	60	PA66MP+	Russet (RUS)	100 pcs.	2-11	111-01383
MCTS150	3.5	153.0	36.0	110	PA66MP+	Blue (BU)	100 pcs.	2-11	111-01342
	3.5	153.0	36.0	110	PA66MP+	Mint Green (MGN)	100 pcs.	2-11	111-01378
	3.5	153.0	36.0	110	PA66MP+	Mustard (MST)	100 pcs.	2-11	111-01381
	3.5	153.0	36.0	110	PA66MP+	Russet (RUS)	100 pcs.	2-11	111-01384
MCTS200	4.7	203.0	50.0	150	PA66MP+	Blue (BU)	100 pcs.	2-11	111-01343
	4.7	203.0	50.0	150	PA66MP+	Mint Green (MGN)	100 pcs.	2-11	111-01379
	4.7	203.0	50.0	150	PA66MP+	Mustard (MST)	100 pcs.	2-11	111-01382
	4.7	203.0	50.0	150	PA66MP+	Russet (RUS)	100 pcs.	2-11	111-01385
MCTS300	4.8	301.0	80.0	150	PA66MP+	Blue (BU)	100 pcs.	2-11	111-01399
	4.8	301.0	80.0	150	PA66MP+	Mint Green (MGN)	100 pcs.	2-11	111-01400
	4.8	301.0	80.0	150	PA66MP+	Mustard (MST)	100 pcs.	2-11	111-01401
	4.8	301.0	80.0	150	PA66MP+	Russet (RUS)	100 pcs.	2-11	111-01402

All dimensions in mm. Subject to technical changes.

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

Application Tool No.									
2	3	4	5	6	7	8	9	10	11
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT

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# Cable Ties and Fixings

## Cable Ties Inside Serrated

### Cable Ties for food industry, detectable

- **MCT-Series / MCTS-Series PPMP**

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

#### Features and Benefits

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



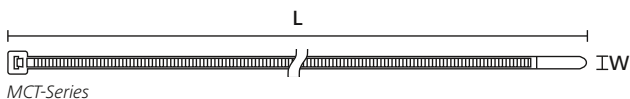
MCTPP ties will float to the surface of liquids so they can easily be seen and removed.

<b>MATERIAL</b>	Polypropylene with metal particles (PPMP+)	Polypropylene with metal particles (PPMP)
<b>Operating Temperature</b>	-40 °C to +85 °C	-40 °C to +115 °C
<b>Flammability</b>	not flame retarded	UL94 HB
<b>Specifications</b>	HACCP	FDA, HACCP

HF ✓

RoHS ✓

RoHS ✓



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

Application Tool No.									
2	3	4	5	6	7	8	9	10	11
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT

For detailed information on Application Tooling please refer to our Main Catalogue or the Internet.

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### Cable Tie Mounts for food industry, detectable

- **MCMB-Series**

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

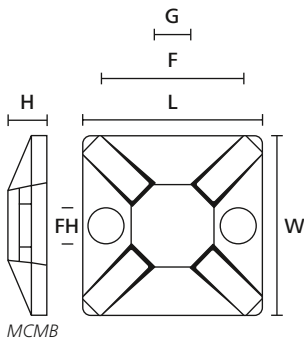
#### Features and Benefits

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



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

<b>MATERIAL</b>	Polyamide 6.6 with metal particles (PA66MP)
<b>Operating Temperature</b>	-40 °C to +85 °C, (+105 °C, 500 h)
<b>Flammability</b>	UL94 HB
<b>Specifications</b>	FDA, HACCP

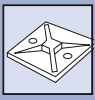


TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
MCMB3	19.0	19.0	3.8	3,1	3.5	PA66MP	Blue (BU)	100 pcs.	151-01169
MCMB4	28.0	28.0	4.7	4,0	4.7	PA66MP	Blue (BU)	100 pcs.	151-01170

All dimensions in mm. Subject to technical changes.

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

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# Cable Ties and Fixings

## Cable Tie Mounts

### Cable Tie Mounts for food industry, detectable

- **MCCTAM-Series, for applications where space is limited**

MCCTAM 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

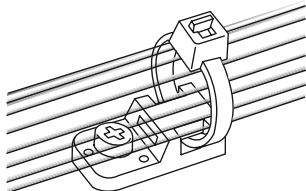
- Distinctive blue colour for easy visual detection
- Suitable for applications with minimal space
- Mounted before cable installation and in line with cable
- CTAM has 4-way entry design for use in line or at 90° angle to cable run
- Magnetic detectable – perfect for use with food and pharmaceutical grade detection equipment
- Total metal dispersion provides consistent detectability, even for small 'cut-off' pieces
- Greatly reduced risk of contamination within food products
- Usable as part of HACCP process\*



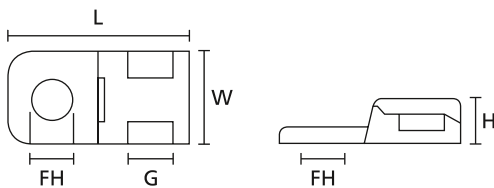
Detectable fixing solution containing of MCCTAM1 Mount and MCTS cable tie.



MCCTAM mounts, detectable, for applications with limited space.



Cable Tie Mounts CTAM1/CTAM2



CTAM Series

<b>MATERIAL</b>	Polyamide 6.6 with metal particles (PA66MP+)
<b>Operating Temperature</b>	-40 °C to +85 °C
<b>Specifications</b>	HACCP



TYPE	Width (W)	Length (L)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
MCCTAM1	10.3	20.7	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.

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### Cable Tie Mounts for food industry, detectable

- **MCKR-Series with curved design**

MCKR mounts with curved design 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

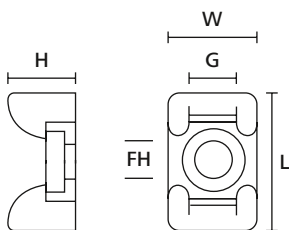
- Distinctive blue colour for easy visual detection
- Curved design for additional cable support
- Simple to install with a screw or bolt
- Excellent security, particularly in areas of high vibration
- Magnetic detectable – perfect for use with food and pharmaceutical grade detection equipment
- Total metal dispersion provides consistent detectability, even for small 'cut-off' pieces
- Greatly reduced risk of contamination within food products
- Usable as part of HACCP process\*



Detectable fixing solution containing of MCKR Mount and MCTS cable tie.



MCKR Mount, screwable, detectable.



Cable Tie Mounts KR6G5, KR8G5 and CTM

<b>MATERIAL</b>	Polyamide 6.6 with metal particles (PA66MP+)
<b>Operating Temperature</b>	-40 °C to +85 °C
<b>Specifications</b>	HACCP



TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
<b>MCKR6G5</b>	11.8	17.8	8.8	4,5	6.4	PA66MP+	Blue (BU)	100 pcs.	151-00950
<b>MCKR8G5-5</b>	14.3	24.8	12.0	5,2	8.3	PA66MP+	Blue (BU)	100 pcs.	151-01020

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.



# Cable Ties and Fixings

## Cable Ties, Stainless Steel

### Cable Ties with Ball-Lock

- MBT-Series, Stainless Steel 304

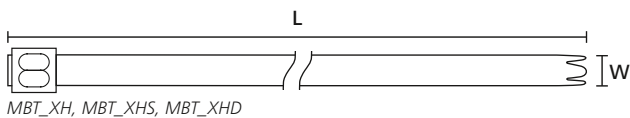
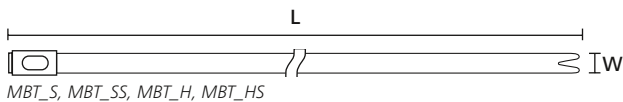
Metal ties are ideal for all applications that require high strength, reliability and fire resistance. The MBT range of stainless steel cable ties can be used in chemical industries and on oil platforms as well as in mass transit, shipbuilding and mining industries. MBT ties are also suitable for machine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

#### Features and Benefits

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



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



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



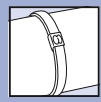
TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Material	Pack Cont.	Application Tool No.	Article-No.
MBT5SS	4.6	127.0	12.0	25.0	900	SS304	100 pcs.	15-16;18	111-93058
MBT8SS	4.6	201.0	17.0	50.0	900	SS304	100 pcs.	15-16;18	111-93088
MBT14SS	4.6	362.0	17.0	102.0	900	SS304	100 pcs.	15-16;18	111-93148
MBT20SS	4.6	521.0	17.0	152.0	900	SS304	100 pcs.	15-16;18	111-93208
MBT27SS	4.6	685.0	17.0	203.0	900	SS304	100 pcs.	15-16;18	111-93278
MBT33SS	4.6	838.0	17.0	254.0	900	SS304	100 pcs.	15-16;18	111-93338
MBT8HS	7.9	201.0	17.0	50.0	2,000	SS304	50 pcs.	15-16;18	111-94088
MBT14HS	7.9	362.0	17.0	102.0	2,000	SS304	50 pcs.	15-16;18	111-94148
MBT20HS	7.9	521.0	17.0	152.0	2,000	SS304	50 pcs.	15-16;18	111-94208
MBT27HS	7.9	685.0	17.0	203.0	2,000	SS304	50 pcs.	15-16;18	111-94278
MBT33HS	7.9	838.0	17.0	254.0	2,000	SS304	50 pcs.	15-16;18	111-94338
MBT14XHS	12.3	362.0	17.0	102.0	2,700	SS304	50 pcs.	15-16;18	111-95148
MBT20XHS	12.3	521.0	17.0	152.0	2,700	SS304	50 pcs.	15-16;18	111-95208
MBT27XHS	12.3	681.0	17.0	203.0	2,700	SS304	50 pcs.	15-16;18	111-95278
MBT33XHS	12.3	838.0	17.0	254.0	2,700	SS304	50 pcs.	15-16;18	111-95338

All dimensions in mm. Subject to technical changes. The MBT-Series (up to 7.9 mm) can be used in combination with the stainless steel P-Mount. The mount is simple to install with a screw or bolt and ensures a durable fixing solution.

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

Application Tool No.			
15	16	17	18
MK9SST	MK9PSST	HDT16	KST-STG200

For detailed information on Application Tooling please refer to our Main Catalogue or the Internet.



### Cable Ties with Ball-Lock

- MBT-Series, Stainless Steel 316

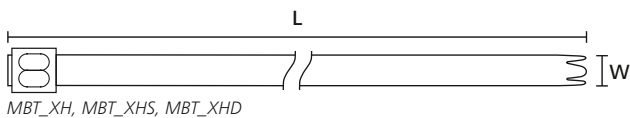
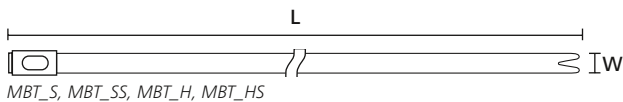
Metal ties are predestinated for all areas with requirements for high holding force, reliability and fire resistance. The MBT range of stainless steel cable ties can be used in chemical industry and on oil platform as well as in mass transit, shipbuilding and mining industry. MBT ties are also suitable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

#### Features and Benefits

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



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



<b>MATERIAL</b>	Stainless Steel (SS316)
<b>Operating Temperature</b>	-80 °C to +538 °C
<b>Flammability</b>	Non burning
<b>Specifications</b>	ABS, BV, Det Norske Veritas, GL

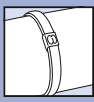


TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Material	Pack Cont.	Application Tool No.	Article-No.
MBT5S	4.6	127.0	12.0	25.0	900	SS316	100 pcs.	15-16;18	111-93059
MBT8S	4.6	201.0	12.0	50.0	900	SS316	100 pcs.	15-16;18	111-93089
MBT14S	4.6	362.0	12.0	102.0	900	SS316	100 pcs.	15-16;18	111-93149
MBT20S	4.6	521.0	12.0	152.0	900	SS316	100 pcs.	15-16;18	111-93209
MBT27S	4.6	685.0	12.0	203.0	900	SS316	100 pcs.	15-16;18	111-93279
MBT33S	4.6	838.0	12.0	254.0	900	SS316	100 pcs.	15-16;18	111-93339
MBT8H	7.9	201.0	12.0	50.0	2,000	SS316	50 pcs.	15-16;18	111-94089
MBT14H	7.9	362.0	12.0	102.0	2,000	SS316	50 pcs.	15-16;18	111-94149
MBT20H	7.9	521.0	12.0	152.0	2,000	SS316	50 pcs.	15-16;18	111-94209
MBT27H	7.9	685.0	12.0	203.0	2,000	SS316	50 pcs.	15-16;18	111-94279
MBT33H	7.9	838.0	12.0	254.0	2,000	SS316	50 pcs.	15-16;18	111-94339
MBT14XH	12.3	362.0	12.0	102.0	2,700	SS316	50 pcs.	15-16;18	111-95149
MBT20XH	12.3	521.0	12.0	152.0	2,700	SS316	50 pcs.	15-16;18	111-95209
MBT27XH	12.3	681.0	12.0	203.0	2,700	SS316	50 pcs.	15-16;18	111-95279
MBT33XH	12.3	838.0	12.0	254.0	2,700	SS316	50 pcs.	15-16;18	111-95339
MBT14UH	16.0	362.0	12.0	102.0	4,100	SS316	50 pcs.	17	111-01301
MBT20UH	16.0	521.0	12.0	152.0	4,100	SS316	50 pcs.	17	111-01302
MBT27UH	16.0	681.0	12.0	203.0	4,100	SS316	50 pcs.	17	111-01303
MBT33UH	16.0	838.0	12.0	254.0	4,100	SS316	50 pcs.	17	111-01304
MBT43UH	16.0	1,092.0	12.0	330.0	4,100	SS316	25 pcs.	17	111-01305
MBT49UH	16.0	1,245.0	12.0	380.0	4,100	SS316	25 pcs.	17	111-01306

All dimensions in mm. Subject to technical changes. The MBT-Series (up to 7.9 mm) can be used in combination with the stainless steel P-Mount. The mount is simple to install with a screw or bolt and ensures a durable fixing solution. Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Please note! Not all products listed on this page may have this approval.



# Cable Ties and Fixings

## Cable Ties, Stainless Steel

### Double Wrap Cable Ties with Ball-Lock

- MBTXHD- / MBTUHD-Series, Stainless Steel 316

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

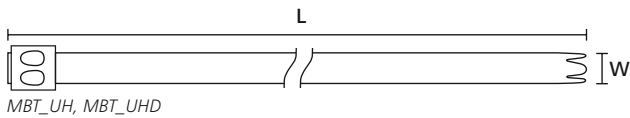
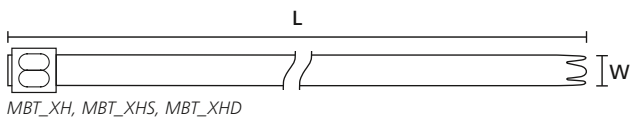
#### Features and Benefits

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



Double-Wrap Stainless Steel Cable Ties, uncoated, MBT\_UHD.

<b>MATERIAL</b>	Stainless Steel (SS316)
<b>Operating Temperature</b>	-80 °C to +538 °C
<b>Flammability</b>	Non burning



TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Pack Cont.	Application Tool No.	Article-No.
MBT27XHD	12.3	681.0	100.0	5,000	SS316	50 pcs.	15-16;18	111-01307
MBT33XHD	12.3	838.0	120.0	5,000	SS316	50 pcs.	15-16;18	111-01308
MBT43XHD	12.3	1,092.0	160.0	5,000	SS316	25 pcs.	15-16;18	111-01309
MBT49XHD	12.3	1,245.0	180.0	5,000	SS316	25 pcs.	15-16;18	111-01310
MBT60XHD	12.3	1,524.0	230.0	5,000	SS316	25 pcs.	15-16;18	111-01311
MBT27UHD	16.0	681.0	100.0	7,000	SS316	50 pcs.	17	111-01312
MBT33UHD	16.0	838.0	120.0	7,000	SS316	50 pcs.	17	111-01313
MBT43UHD	16.0	1,092.0	160.0	7,000	SS316	25 pcs.	17	111-01314
MBT49UHD	16.0	1,245.0	180.0	7,000	SS316	25 pcs.	17	111-01315
MBT60UHD	16.0	1,524.0	230.0	7,000	SS316	25 pcs.	17	111-01316

All dimensions in mm. Subject to technical changes.

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

Application Tool No.			
15	16	17	18
MK9SST	MK9PSST	HDT16	KST-STG200

For detailed information on Application Tooling please refer to our Main Catalogue or the Internet.



### Cable Ties with punch-locking mechanism

- **MST-Series, Stainless Steel 304**

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

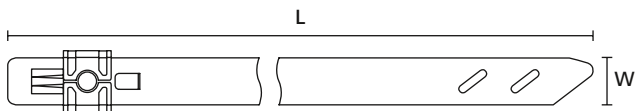
#### Features and Benefits

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



Stainless Steel Cable Ties MST-Series.

<b>MATERIAL</b>	Stainless Steel (SS304)
<b>Operating Temperature</b>	-80 °C to +538 °C
<b>Flammability</b>	Non burning
<b>Specifications</b>	Det Norske Veritas



MST tie

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

All dimensions in mm. Subject to technical changes.

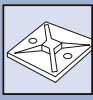
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Application Tool No.	
19	20
MST6	MST9

For detailed information on Application Tooling please refer to our Main Catalogue or the Internet.



One Step to the Web!



### Screw Fixing Mounts

- **Stainless Steel 316 mounts for MBT Ties**

Suitable for the secure fixing of cables, tubing, conduits and pipes within the most arduous of environments. Providing a complete fastening and fixing solution when used in conjunction with stainless steel ties up to 10.0 mm width. They are ideal for use within shipbuilding, oil and gas (offshore), industrial machinery and vehicles, food and beverage, power, renewable energy and process industries.

#### Features and Benefits

- 2-way fixing for stainless steel cable ties
- High performance stainless steel 316 material
- Single 4mm, 5mm or 6mm fixing hole
- Heavy duty design
- Robust and durable solution
- Resistant to a range of materials and conditions
- Quick and easy to install
- Safe and secure solution for cables, tubing, conduits and pipes
- Ideal for a range of industries and applications

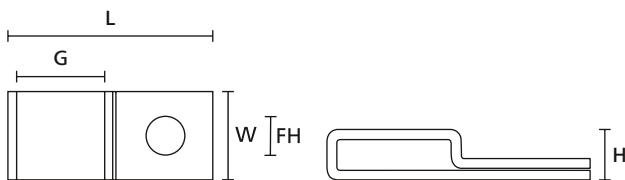


Stainless Steel P-Mount SSPC.

<b>MATERIAL</b>	Stainless Steel (SS316)
<b>Operating Temperature</b>	-80 °C to +538 °C
<b>Flammability</b>	Non burning



One Step to the Web!



SSPC-Series

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
SSPC4	10.2	23.0	4.5	4,2	10.0	SS316	Metal (ML)	100 pcs.	151-00837
SSPC5	10.2	23.0	4.5	5,3	10.0	SS316	Metal (ML)	100 pcs.	151-00838
SSPC6	10.2	23.0	4.5	6,3	10.0	SS316	Metal (ML)	100 pcs.	151-00839

All dimensions in mm. Subject to technical changes.

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





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

- **T-Series in E/TFE (Tefzel®)**

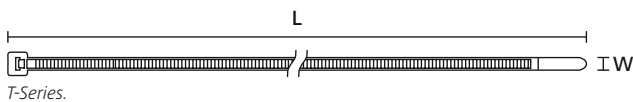
T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for nearly all kinds of applications, especially when a high chemical resistance is required.

#### Features and Benefits

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



<b>MATERIAL</b>	Ethylene Tetrafluoroethylene (E/TFE)
<b>Operating Temperature</b>	-80 °C to +170 °C
<b>Flammability</b>	UL94 V0

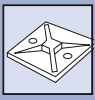


TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Application Tool No.	Article-No.
T18R	2.5	100.0	22.0	80	E/TFE	Blue (BU)	100 pcs.	2;4-6;8	111-00659
T30R	3.5	150.0	36.0	133	E/TFE	Blue (BU)	100 pcs.	2;4-6;8	111-00698
T50R	4.7	201.0	50.0	222	E/TFE	Blue (BU)	100 pcs.	2-11	111-00732
T50L	4.7	382.0	105.0	222	E/TFE	Blue (BU)	100 pcs.	2-11	111-00718
T120R	7.4	387.0	105.0	535	E/TFE	Blue (BU)	50 pcs.	3;9-11	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.

Application Tool No.									
2	3	4	5	6	7	8	9	10	11
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT

For detailed information on Application Tooling please refer to our Main Catalogue or the Internet.



# Cable Ties and Fixings

## Cable Tie Mounts

### Screw Fixing Mounts

- **KR-E/TFE for a broad temperature range**

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 7.6 mm wide.

#### Features and Benefits

- Curved design for additional cable support
- Simple to install with a screw or bolt
- Excellent security, particularly in areas of high vibration



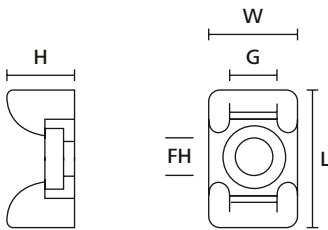
Fixing Tie Mount KR6G5-E/TFE.



The KR Srew Fixing Mounts made of E/TFE can ideally be used with the T-Series in E/TFE, please see page 25.

<b>MATERIAL</b>	Ethylene Tetrafluoroethylene (E/TFE)
<b>Operating Temperature</b>	-80 °C to +170 °C
<b>Flammability</b>	UL94 V0

RoHS



Cable Tie Mounts KR6G5, KR8G5 and CTM

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
<b>KR6G5</b>	11.8	17.8	8.8	4,5	6.4	E/TFE	Blue (BU)	100 pcs.	151-00653
<b>KR8G5</b>	14.3	24.8	12.1	6,5	8.3	E/TFE	Blue (BU)	100 pcs.	151-00654

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

- **T-Series in PP**

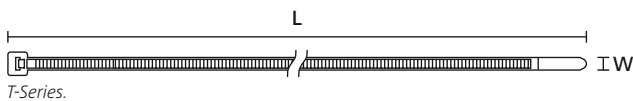
These cable ties are used for routing, bundling and securing cables, pipes and hoses.

#### Features and Benefits

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



<b>MATERIAL</b>	Polypropylene (PP)
<b>Operating Temperature</b>	-40 °C to +115 °C
<b>Flammability</b>	UL94 HB



TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Application Tool No.	Article-No.
T18R	2.5	100.0	22.0	36	PP	Black (BK)	100 pcs.	2;4-6;8	111-01917
	2.5	100.0	22.0	36	PP	Natural (NA)	1,000 pcs.	2;4-6;8	111-01922
T30R	3.6	148.0	32.0	89	PP	Natural (NA)	100 pcs.	2;4-6;8	111-03017
T50R	4.8	202.0	44.5	111	PP	Black (BK)	100 pcs.	2-11	111-04928
	4.8	202.0	44.5	111	PP	Natural (NA)	100 pcs.	2-11	111-04931
T120S	7.6	225.0	55.0	267	PP	Black (BK)	500 pcs.	3;9-11	111-12827
T120R	7.6	390.0	105.0	267	PP	Black (BK)	500 pcs.	3;9-11	111-12066

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

Application Tool No.									
2	3	4	5	6	7	8	9	10	11
MK20	MK21	MK3SP	MK3PNSP2	EVO7	MK7HT	MK7P	MK6	MK9	MK9HT

For detailed information on Application Tooling please refer to our Main Catalogue or the Internet.



### Heat Shrinkable Tubing 2:1 - PVDF

- TK20

Typical applications of this translucent tubing are where high-temperature performance is required. Also very suitable for applications that ask for visual inspection of covered components, or if a low friction surface is needed. TK20 is also used as oil stop for energy cables.

This thin walled, translucent heat shrink tubing is often used for chemical applications.

#### Features and Benefits

- Semi-rigid heat shrinkable tubing made of PVDF
- Thin walled and tough
- For higher temperature applications
- Very good mechanical strength, abrasion resistance and chemical resistance
- Meets various industrial standards
- Self extinguishing, UL 224 VW1 listed



*This thin walled, translucent heat shrink tubing is often used for chemical applications.*

<b>MATERIAL</b>	Polyvinylidene Fluoride (PVDF)
<b>Shrink Ratio</b>	2:1
<b>Operating Temperature</b>	-55 °C to +175 °C
<b>Minimum Shrink Temperature</b>	+175 °C
<b>Longitudinal change after shrinkage</b>	+/-10% max
<b>Dielectric Strength</b>	≥ 30 kV/mm min. according to ASTM D2171
<b>Flammability</b>	UL224 VW-1
<b>Specifications</b>	SAE - AMS - DTL-23053 / 8, UL224 150 °C 600V VW-1, VG 95343



TYPE	Supplied Ø D min.	Recov. Ø d max.	Wall (WT)	Length (L)	Colour	Designation as per VG-Norm	Article-No.
TK20-1.2/0.6	1.2	0.6	0.25	1.2 m	Transparent (CL)	VG95343T05F001M	331-00129
TK20-1.6/0.8	1.6	0.8	0.25	1.2 m	Transparent (CL)	VG95343T05F002M	311-00169
TK20-2.4/1.2	2.4	1.2	0.25	1.2 m	Transparent (CL)	VG95343T05F003M	311-00249
TK20-3.2/1.6	3.2	1.6	0.25	1.2 m	Transparent (CL)	VG95343T05F004M	311-00329
TK20-4.8/2.4	4.8	2.4	0.25	1.2 m	Transparent (CL)	VG95343T05F005M	311-00489
TK20-6.4/3.2	6.4	3.2	0.30	1.2 m	Transparent (CL)	VG95343T05F006M	311-00649
TK20-9.5/4.8	9.5	4.8	0.30	1.2 m	Transparent (CL)	VG95343T05F007M	311-00959
TK20-12.7/6.4	12.7	6.4	0.30	1.2 m	Transparent (CL)	VG95343T05F008M	311-01279
TK20-19.1/9.5	19.1	9.5	0.43	1.2 m	Transparent (CL)	VG95343T05F009M	311-01909
TK20-25.4/12.7	25.4	12.7	0.48	1.2 m	Transparent (CL)	VG95343T05F010M	311-02549
TK20-38.1/19.1	38.1	19.1	0.51	1.2 m	Transparent (CL)	-	311-03819
TK20-50.8/25.4	50.8	25.4	0.51	1.2 m	Transparent (CL)	-	311-05089

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



Please note! Not all products listed on this page may have this approval.

### Heat Shrinkable Tubing 2:1 - PVDF

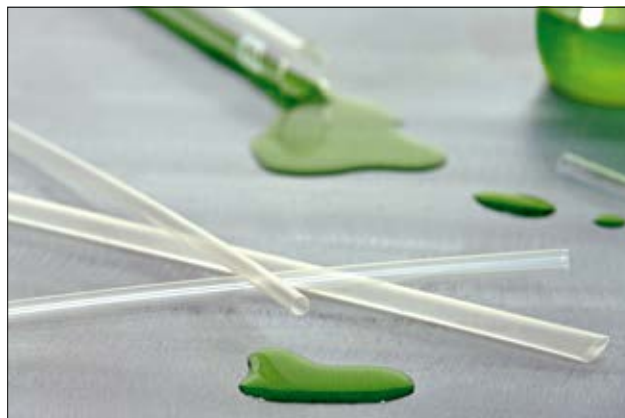
- TK29

Typical applications of this translucent tubing are where high-temperature performance is required. Also very suitable for applications that ask for visual inspection of covered components, or if low friction surface is needed. TK29 is also used as oil stop for energy cables.

This thin walled, translucent heat shrink tubing is often used for chemical applications.

#### Features and Benefits

- Transparent, semi-flexible heat shrinkable tubing
- Very thin walled and tough
- Self extinguishing
- For higher temperature applications
- Very good mechanical strength and chemical resistance
- Meets lots of industrial standards
- Supplied on reel



TK29 thin walled, translucent heat shrink tubing on reel.

<b>MATERIAL</b>	Polyvinylidene Fluoride (PVDF)
<b>Shrink Ratio</b>	2:1
<b>Operating Temperature</b>	-55 °C to +175 °C
<b>Minimum Shrink Temperature</b>	+150 °C
<b>Longitudinal change after shrinkage</b>	+/-10% max
<b>Dielectric Strength</b>	≥ 30 kV/mm min. according to ASTM D2171
<b>Flammability</b>	UL224 VW-1
<b>Specifications</b>	MIL-DTL-23053, UL224 VW-1

RoHS 

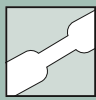


TYPE	Supplied Ø D min.	Recov. Ø d max.	Wall (WT)	Reel Length	Colour	Article-No.
TK29-1.2/0.6	1.2	0.6	0.25	300 m	Transparent (CL)	311-90129
TK29-1.6/0.8	1.6	0.8	0.25	300 m	Transparent (CL)	311-90169
TK29-2.4/1.2	2.4	1.2	0.25	150 m	Transparent (CL)	311-90249
TK29-3.2/1.6	3.2	1.6	0.25	150 m	Transparent (CL)	311-90329
TK29-4.8/2.4	4.8	2.4	0.25	60 m	Transparent (CL)	311-90489
TK29-6.4/3.2	6.4	3.2	0.30	60 m	Transparent (CL)	311-90649
TK29-9.5/4.8	9.5	4.8	0.30	60 m	Transparent (CL)	311-90959
TK29-12.7/6.4	12.7	6.4	0.30	60 m	Transparent (CL)	311-91279
TK29-19.1/9.5	19.1	9.5	0.43	60 m	Transparent (CL)	311-91909
TK29-25.4/12.7	25.4	12.7	0.48	60 m	Transparent (CL)	311-92549
TK29-38.1/19.1	38.1	19.1	0.51	60 m	Transparent (CL)	311-93819
TK29-50.8/25.4	50.8	25.4	0.51	60 m	Transparent (CL)	311-95089

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



Please note! Not all products listed on this page may have this approval.



### Heat Shrinkable Tubing - PTFE

- TFE2 2:1
- TFE4 4:1

TFE is ideal for high temperature applications, when resistance to aggressive fluids is required or a very thin walled tubing is needed, for example in pH-measuring instruments. TFE tubing is also used to reduce movement due to friction, covering cylinders for example.

#### Features and Benefits

- PTFE heat shrink tubing
- Very high temperature resistance
- Extra thin wall translucent tubing
- High abrasion resistance and good resistance against aggressive chemicals
- Available in either 2:1 (TFE2) or 4:1 (TFE4) shrink ratios



TFE is available in either 2:1 or 4:1 shrink ratios.

<b>MATERIAL</b>	Polytetrafluoroethylene (PTFE)
<b>Operating Temperature</b>	-70 °C to +260 °C
<b>Minimum Shrink Temperature</b>	+350 °C
<b>Longitudinal change after shrinkage</b>	-20% max.
<b>Dielectric Strength</b>	40 kV/mm according to DIN 53481
<b>Flammability</b>	Non burning



Heat Shrinkable Tubing 2:1

TYPE	Supplied Ø D min.	Recov. Ø d max.	Wire Size (AWG)	Wall (WT)	Length (L)	Colour	Shrink Ratio	Article-No.
TFE2-30	0.86	0.38	30	0.23	1.2 m	Transparent (CL)	2:1	336-00079
TFE2-28	0.96	0.46	28	0.23	1.2 m	Transparent (CL)	2:1	336-00099
TFE2-26	1.17	0.56	26	0.23	1.2 m	Transparent (CL)	2:1	336-00109
TFE2-24	1.27	0.69	24	0.25	1.2 m	Transparent (CL)	2:1	336-00139
TFE2-22	1.39	0.82	22	0.25	1.2 m	Transparent (CL)	2:1	336-00149
TFE2-20	1.52	0.99	20	0.30	1.2 m	Transparent (CL)	2:1	336-00159
TFE2-18	1.93	1.25	18	0.30	1.2 m	Transparent (CL)	2:1	336-00199
TFE2-16	2.36	1.55	16	0.30	1.2 m	Transparent (CL)	2:1	336-00249
TFE2-14	3.05	1.83	14	0.30	1.2 m	Transparent (CL)	2:1	336-00319
TFE2-12	3.81	2.26	12	0.30	1.2 m	Transparent (CL)	2:1	336-00399
TFE2-10	4.85	2.85	10	0.30	1.2 m	Transparent (CL)	2:1	336-00489
TFE2-8	6.10	3.58	8	0.38	1.2 m	Transparent (CL)	2:1	336-00619
TFE2-6	7.67	4.52	6	0.38	1.2 m	Transparent (CL)	2:1	336-00779
TFE2-4	9.40	5.69	4	0.38	1.2 m	Transparent (CL)	2:1	336-00949
TFE2-2	10.92	7.06	2	0.38	1.2 m	Transparent (CL)	2:1	336-01109
TFE2-0	11.94	8.81	0	0.38	1.2 m	Transparent (CL)	2:1	336-01209

All dimensions in mm. Subject to technical changes.

AWG: American Wire Gauge Minimum Order Quantity (MOQ) may differ from package content.



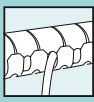
• TFE4 4:1



Heat Shrinkable Tubing 4:1

TYPE	Supplied Ø D min.	Recov. Ø d max.	Size (imperial)	Wall (WT)	Length (L)	Colour	Shrink Ratio	Article-No.
TFE4-5/64	1.98	0.64	5/64 "	0.22	1.2 m	Transparent (CL)	4:1	339-00209
TFE4-1/8	3.17	0.94	1/8 "	0.25	1.2 m	Transparent (CL)	4:1	339-00329
TFE4-3/16	4.75	1.27	3/16 "	0.30	1.2 m	Transparent (CL)	4:1	339-00340
TFE4-1/4	6.35	1.60	1/4 "	0.30	1.2 m	Transparent (CL)	4:1	339-00649
TFE4-3/8	9.52	2.44	3/8 "	0.30	1.2 m	Transparent (CL)	4:1	339-00959
TFE4-1/2	12.70	3.66	1/2 "	0.38	1.2 m	Transparent (CL)	4:1	339-01279
TFE4-5/8	15.87	4.52	5/8 "	0.38	1.2 m	Transparent (CL)	4:1	339-01599
TFE4-3/4	19.05	5.69	3/4 "	0.38	1.2 m	Transparent (CL)	4:1	339-01909
TFE4-1	25.40	7.06	1 "	0.38	1.2 m	Transparent (CL)	4:1	339-02549
TFE4-1 1/4	31.75	8.82	1 "	0.38	1.2 m	Transparent (CL)	4:1	339-03189

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



# Cable Protection Systems

## Protective Tubing and Spiral Binding

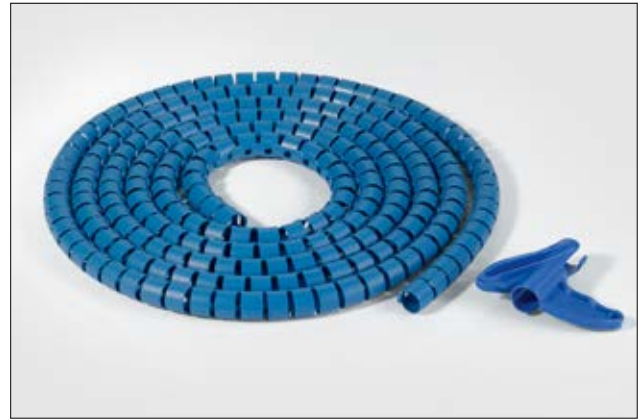
### Metal-Content Cable Cover

- **Helawrap HWPPMC**

HWPPMC is particularly suitable for installation and maintenance for food-processing machines and in food-processing plants.

#### Features and Benefits

- High metal-content for reliable detection with standard detection equipment
- Quick and effortless to apply
- Stainless steel preserves resistance to corrosion
- Blue colour for enhanced visibility
- Ideal solution for bundling and protecting cables and hoses
- Highly flexible
- Very good abrasion protection
- Special profile enables branching off cable at any point
- Can be removed and reused
- Handy applicator tool included



HWPPMC metal-content cable cover.

<b>MATERIAL</b>	Polypropylene (PP), Stainless Steel (SS)
<b>Operating Temperature</b>	-60 °C to +100 °C, intermittent +140 °C
<b>Flammability</b>	UL94 HB
<b>Specifications</b>	FDA, HACCP

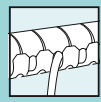


TYPE	Bundle Ø max.	Colour	Reel Length	Application Tool	Article-No.
<b>HWPPMC8</b>	9.0	Blue (BU)	25 m	HAT8	161-66000
<b>HWPPMC16</b>	16.0	Blue (BU)	25 m	HAT16	161-66100
<b>HWPPMC20</b>	21.0	Blue (BU)	25 m	HAT20	161-66200
<b>HWPPMC25</b>	27.0	Blue (BU)	25 m	HAT25	161-66300
<b>HWPPMC30</b>	32.0	Blue (BU)	25 m	HAT30	161-66400

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

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.





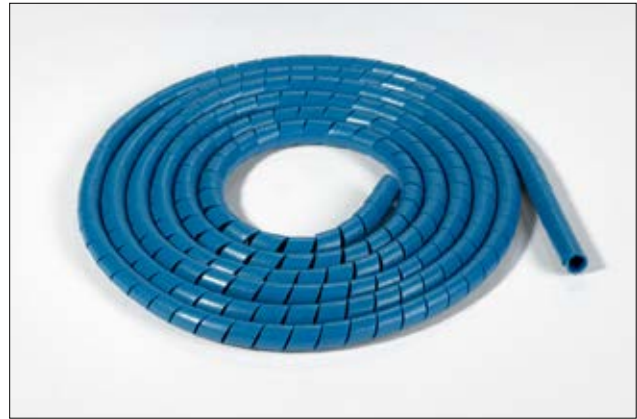
### Metal-Content Spiral Binding

- SBPEMC

SBPEMC is designed for applications in food-processing plants and machines.

#### Features and Benefits

- High metal-content for reliable detection with standard detection equipment
- Stainless steel preserves resistance to corrosion
- Blue colour for enhanced visibility
- Ideal solution for bundling and protecting cables and hoses
- Highly flexible
- Suitable for retro-fitting
- Branching off cable at any point

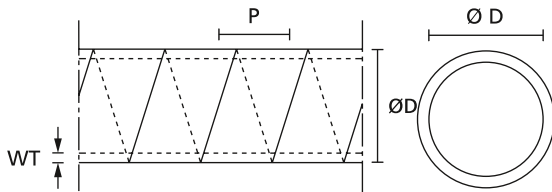


SBPEMC metal-content spiral binding.



One Step to the Web!

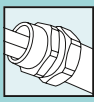
<b>MATERIAL</b>	Polyethylene (PE), Stainless Steel (SS)
<b>Operating Temperature</b>	-60 °C to +80 °C, intermittent +120 °C
<b>Flammability</b>	UL94 HB
<b>Specifications</b>	FDA, HACCP



TYPE	Wall (WT)	Pitch (P)	Bundle Ø min.	Bundle Ø max.	Colour	Reel Length	Article-No.
SBPEMC1.5	0.80	6.0	1.6	8.0	Blue (BU)	30 m	161-46000
SBPEMC16	1.00	7.8	20.0	150.0	Blue (BU)	30 m	161-46300
SBPEMC4	1.40	12.5	5.0	20.0	Blue (BU)	30 m	161-46100
SBPEMC9	1.60	16.0	10.0	100.0	Blue (BU)	30 m	161-46200

All dimensions in mm. Subject to technical changes.  
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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 Protection Systems

## Spiral-Reinforced Conduit Systems

### Spiral-reinforced PVC Conduits

- **PSRSC Conduit**

Machine building, plant construction, shipbuilding, automation, electrical installations

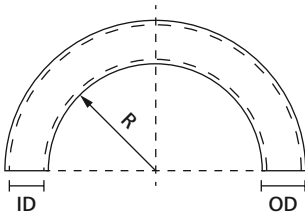
#### Features and Benefits

- Flexible
- Easy to clean outside surface
- Withstands some torsional movement
- Self-extinguishing
- Easy to feed cables
- Can be used with PSR PA66 fittings and PSRSC metal fittings
- Colour: black; light grey, orange (highly flexible), green (oil resistant), blue (high temperature resistant) upon request



*HelaGuard PSRSC conduit and PSRSC-FMCSSFF stainless steel fittings: an easy-to-easy cable protection system for food-processing applications.*

<b>MATERIAL</b>	Polyvinylchloride (PVC)
<b>Operating Temperature</b>	-5 °C to +70 °C
<b>Flammability</b>	self-extinguishing according to EN IEC 61386



*HelaGuard spiral-reinforced conduit, smooth outer coating*

TYPE	Nominal Ø	Outside Ø (OD)	Inside Ø (ID)	Bending Radius (R)	Weight (g/m)	Reel Length	Colour	Article-No.
PSRSC16	16	17.8	12.0	50	139	30 m	Grey (GY)	166-40302
PSRSC20	20	21.1	16.0	70	174	30 m	Grey (GY)	166-40303
PSRSC25	25	26.4	21.0	90	235	30 m	Grey (GY)	166-40304
PSRSC32	32	33.1	26.5	140	327	30 m	Grey (GY)	166-40305
PSRSC40	40	41.8	35.4	190	448	30 m	Grey (GY)	166-40306
PSRSC50	50	47.9	40.0	240	725	30 m	Grey (GY)	166-40307
PSRSC63	63	59.7	51.3	270	948	30 m	Grey (GY)	166-40308

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



### Fittings for spiral-reinforced PVC conduits

- PSRSC-FMCFSS compression fitting for food-processing applications

Straight fitting, external thread, stainless steel (SS316).

Fulfils IP66, IP67, IP68 and IP69k with PSRSC conduits.

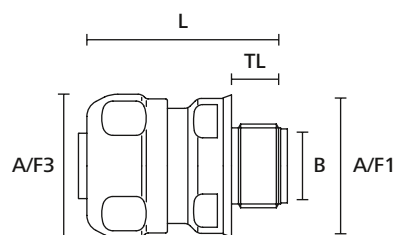
#### Features and Benefits

- Multipart stainless steel (SS316) compression fitting including elastomeric seal
- Rounded edges, smooth surfaces and no crevices where food or other substances can collect or bacteria grow
- Can be used for knockouts or threaded entries as fitting rotates until tightened
- Fits PSRSC conduits



*HelaGuard PSRSC-FMCFSS stainless steel fittings for applications in the food-processing industry.*

<b>MATERIAL</b>	Stainless Steel (SS316), Nickel Plated Brass (NPB), Polyamide 6 (PA6)
<b>Operating Temperature</b>	-50 °C to +135 °C
<b>Specifications</b>	EN 1672-2, EN ISO 14155



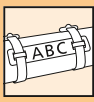
*HelaGuard compression fitting, straight with fixed external thread*

TYPE	Thread Size (metric)	Min. Bore Size (B)	Length (L)	A/F Body (A/F1)	A/F Nut (A/F3)	Thread Length (TL)	Pack Cont.	Colour	Article-No.
PSRSC16-FMCFSS-M16	M16	10.7	46.0	27	29	10	1 pcs.	Metal (ML)	166-41601
PSRSC20-FMCFSS-M20	M20	14.5	49.3	30	32	12	1 pcs.	Metal (ML)	166-41602
PSRSC25-FMCFSS-M25	M25	18.7	53.7	36	38	14	1 pcs.	Metal (ML)	166-41603
PSRSC32-FMCFSS-M32	M32	24.6	53.7	42	45	15	1 pcs.	Metal (ML)	166-41604
PSRSC40-FMCFSS-M40	M40	32.7	58.4	52	55	16	1 pcs.	Metal (ML)	166-41605
PSRSC50-FMCFSS-M50	M50	37.7	63.0	59	62	16	1 pcs.	Metal (ML)	166-41606

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



Please note! Not all products listed on this page may have this approval.



### Stainless Steel Pre-embossed Marking System, manual

- Hellermark SSC
- Hellermark SSM

Hellermark is used in the rail, marine, offshore, petrochemical, food and construction industries, for the identification of cables, pipes and other equipment in harsh environments.



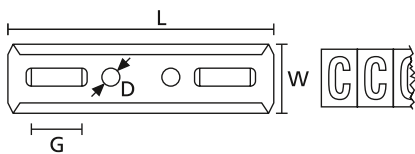
Hellermark SSC and SSM.

#### Features and Benefits

- Stainless steel pre-embossed marker tiles and carriers
- Made of grade 316 stainless steel for ideal use in aggressive environments
- Insert marker tiles (SSM) into fitting carrier (SSC) and either seal with a plastic cap (SSCPP) or close ends with pliers
- Fasten carriers using stainless steel cable ties with max. strap width of 8mm
- Carrier can be riveted or screw-fixed using two 3mm holes at each end

TYPE	Marking Text	Article-No.	TYPE	Marking Text	Article-No.
SSM	-	540-01703	SSM	F	540-01060
	,	540-01702		G	540-01070
	/	540-01720		H	540-01080
	.	540-01701		I	540-01090
	+	540-01700		J	540-01100
	⊥	540-01730		K	540-01110
	0	540-01600		L	540-01120
	1	540-01610		M	540-01130
	2	540-01620		N	540-01140
	3	540-01630		O	540-01150
	4	540-01640		P	540-01160
	5	540-01650		Q	540-01170
	6	540-01660		R	540-01180
	7	540-01670		S	540-01190
	8	540-01680		T	540-01200
	9	540-01690		U	540-01210
A	540-01010	V	540-01220		
B	540-01020	W	540-01230		
C	540-01030	X	540-01240		
D	540-01040	Y	540-01250		
E	540-01050	Z	540-01260		

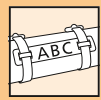
Subject to technical changes. Package content of 200 pcs.



TYPE	Width (W)	Length (L)	Marker tiles per carrier	Pack Cont.	Article-No.
SSCPP (Plastic)	-	7.0	-	100 pcs.	540-02011
SSC46	11.0	46.0	5	10 pcs.	540-01046
SSC56	11.0	56.0	7	10 pcs.	540-01056
SSC82	11.0	82.0	11	10 pcs.	540-01082
SSC106	11.0	106.0	15	10 pcs.	540-01106
SSC134	11.0	134.0	20	10 pcs.	540-01134
SSC286	11.0	286.0	45	10 pcs.	540-01286

All dimensions in mm. Subject to technical changes.

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



### Stainless Steel Printing System

#### • M-BOSS Compact

M-BOSS Compact is a quiet easy-to-use metal plate embossing printer with a small production footprint. It is simple to install and operate and only needs a standard electrical supply and a PC. Texts are created with Tagprint Pro 3.0. Simply open the easy to use program to create print lists.

Improved cooling system now ensures a continuous operation between 8-10 hours.

Marker plates are attached to pipes and cables using 4.6 mm width MBT cable ties and a MK9SST hand tool.

#### Features and Benefits

- Small and easy to use metal plate embosser
- Quiet embossing mechanism suited to production and office environments
- Emboss first marker within a minute of power up
- Embossed characters have been tested to withstand 1.5 million strikes each
- Improved cooling systems allows 8-10 hours continuous printing
- Use Tagprint Pro 3.0 labelling software with pre-loaded templates to simplify print jobs
- Powered by a standard electrical supply
- Organiser is available to manage printed output (UNS: 544-21000), increases printer weight to 45kg
- Printer is delivered with the following 45 piece 4mm character set:
- Letters: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
- Numbers: 0 1 2 3 4 5 6 7 8 9
- Symbols: & - / . , ' Ä, Ö, Ü

TYPE	Pack Cont.	Article-No.
M-BOSS Compact	1 pcs.	544-20000

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

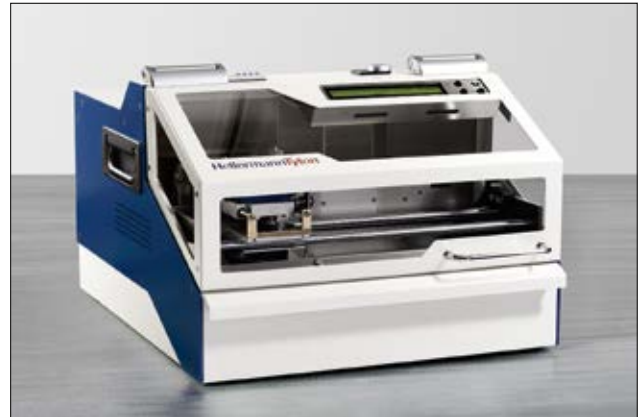
#### • M-BOSS Compact and Organiser

M-BOSS Compact and Organiser system gives the added advantage of a self-contained storage system within the print unit.

The organiser is a 10 container carousel storage system that can be programmed to hold either an individual or a pre-defined set of marker plates. This means that users have the flexibility to manage how they work with the printed output. A simple input screen on the top of the machine is used to specify the quantity per container within the carousel. The carousel drawer when opened extends 430mm from the front of the printer.

#### Features and Benefits

- Ability to manage how the printed marker plates are organised
- Carousel system under the printer has 10 removable marker plate containers
- Flexible output means all marker plates or a set amount can be sent to each container
- Carousel system will hold up to 400 markers
- Each container can hold 40 marker plates



A quiet, durable, and easy to use metal plate embossing printer.

Patent Pending

<b>Print Method</b>	Embossed
<b>Power Supply</b>	110 Volt AC- 240 Volt AC 50/60 Hz
<b>Cycle Time</b>	1 second per character
<b>Printer Interfaces</b>	USB 2.0
<b>System Requirements</b>	MS Windows XP, W7
<b>Dimensions W x H x D</b>	480 mm x 360 mm x 570 mm
<b>Weight</b>	41 kg
<b>Specifications</b>	CE

RoHS



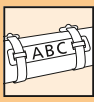
1.5 million strikes per character without maintenance



A simple solution to managing your printer output.

TYPE	Pack Cont.	Article-No.
M-BOSS Compact and Organiser	1 pcs.	544-21000

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



### Stainless Steel Printing System

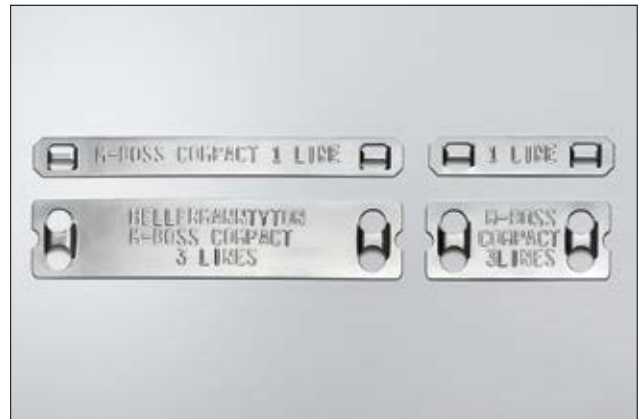
- **M-BOSS Compact Markers**

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.

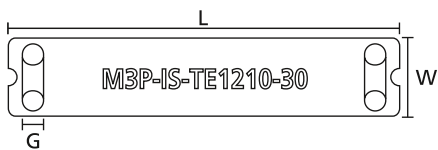
#### Features and Benefits

- 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



A range of metal plate sizes to suit your needs.

<b>MATERIAL</b>	Stainless Steel (SS316)
<b>Operating Temperature</b>	-80 °C to +538 °C



TYPE	Strap Width max. (G)	Number of lines	Characters per line	Number of characters	Width (W)	Length (L)	Pack Cont.	Article-No.
<b>MBML10X45</b>	4.6	1	8	8	10.0	45.0	1,000	544-80101
<b>MBML10X90</b>	4.6	1	23	23	10.0	90.0	500	544-80102
<b>MBML20X45</b>	4.6	3	8	24	20.0	45.0	1,000	544-80201
<b>MBML20X90</b>	4.6	3	23	69	20.0	90.0	500	544-80202

All dimensions in mm. Subject to technical changes.

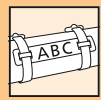
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Identification for hazardous environments: M-BOSS Compact stainless steel markers.



One Step to the Web!



### Stainless Steel Printing System

- M-BOSS Print Service**

Customised embossed stainless steel SS316 markers are now available. Simply send required texts electronically for perfect embossed markers.

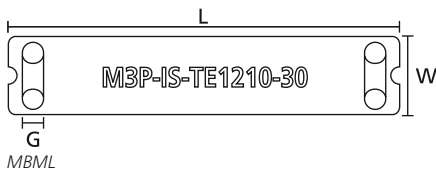
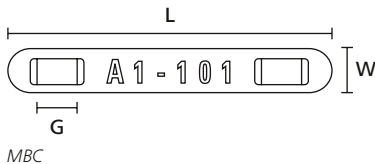
Characters are embossed so that dirt, dust, paint and debris can be removed leaving a clear visible mark.

MBC marker plates are designed with a high bridge that allows both plastic and metal cable ties; metal ties up to 7.9mm wide and 0.27mm thick, and plastic ties up to 4.6mm wide and 1.5mm thick.

The MBML range of marker plates can only be used with metal ties up to 4.6mm wide.



M-BOSS markers remain visible in areas of dirt, grease and paint.



<b>MATERIAL</b>	Stainless Steel (SS316)
<b>Operating Temperature</b>	-80 °C to +538 °C



TYPE	Strap Width max. (G)	Number of lines	Characters per line	Number of characters	Width (W)	Length (L)	Pack Cont.	Article-No.
MBMLE-DE10X45	4.6	1	8	8	10.0	45.0	1,000	544-80103
MBMLE-DE10X90	4.6	1	23	23	10.0	90.0	500	544-80104
MBMLE-DE20X45	4.6	3	8	24	20.0	45.0	1,000	544-80203
MBMLE-DE20X90	4.6	3	23	69	20.0	90.0	500	544-80204
MBCE-DE10X60	8.0	1	10	10	10.0	60.0	10	540-10048
MBCE-DE10X80	8.0	1	15	15	10.0	80.0	10	540-10049
MBCE-DE10X100	8.0	1	20	20	10.0	100.0	10	540-10003
MBCE-DE14X100	8.0	2	20	40	14.0	100.0	10	540-10050

All dimensions in mm. Subject to technical changes.

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

- Laser Beam Marked Metal Plates and Ties**

Customised stainless steel SS316 markers are now available. Simply send required texts, barcodes, and logos electronically for perfect laser etched marker plates.

- Excellent character legibility
- Resistant to weathering and extreme levels of UV light
- Printed mark will last the lifetime of the metal plate and cable tie
- MBC or MBML marker plates are possible





### Manual Tensioning Tool Plastic Housing

- EVO7 up to 4.8 mm strap width

#### Features and Benefits

- 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
- Extended, slim nose for use in narrow spaces
- Housing made of resilient and lightweight glass fibre-reinforced polyester
- Standard grip span (90 mm) and short grip span (80 mm) available



EVO7.

TYPE	Description	Strap Width max. (G)	Strap Thickness max.	Weight	Article-No.
EVO7	EVO7	4.8	1.5	277 g	110-70129
EVO7SP	EVO7SP	4.8	-	278 g	110-70130
BLADEKT	Blade-Kit	-	-	-	110-70106

All dimensions in mm. Subject to technical changes.

### TLC-Technology: Tension - Lock - Cut

The new EVO7 protects muscles and joints and increases effectiveness

- Less recoil shock reduces impact to the operator's hand
- Application of force is significantly reduced



Application video: EVO7



1. Tension: Tie is tensioned as usual.

2. Lock: When the desired tension is met the locking mechanism locks the tie in place.



3. Cut: Innovative, effortless and less recoil shock cut-off function.





### Manual Tensioning Tool with Plastic Housing

- MK9 up to 13.5 mm strap width

MK9 tool is used to apply bigger cable ties as they are used in trucks and busses. MIL and VG certification allows the use of MK9 for military vehicle and aviation construction.

#### Features and Benefits

- Glass-fibre-reinforced housing
- Ergonomic design
- For HellermannTyton plastic cable ties up to 13.5 mm width
- Consistent tensioning and automatically flush cutting
- Infinitely adjustable tension force combined with two-step quick adjustment
- MIL and VG approved



MK9.

<b>Specifications</b>	MIL-MS-90387-2, VG 95387-105
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TYPE	Description	Strap Width max. (G)	Strap Thickness max.	Weight	Article-No.
<b>MK9</b>	MK9.9A	13.5	2.0	0.385 kg	110-09500
<b>Replacement Blade</b>	GUNPART.9AA	-	-	0.01 kg	110-09511
<b>Lock cap tensioning knob</b>	Lock cap tensioning knob	-	-	0.011 kg	110-07200

All dimensions in mm. Subject to technical changes.



Please note! Not all products listed on this page may have this approval.



### Manual Tensioning Tool for Metal Ties MBT-Series

- MK9SST up to 16.0 mm strap width

#### 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. (G)	Strap Thickness max.	Weight	Article-No.
MK9SST	MK9SST.9A	16.0	0.3	0.6 kg	110-95000
Replacement Blade	Replacement Blade	-	-	0.01 kg	110-95273

All dimensions in mm. Subject to technical changes.

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