



Technical Information

Bonding properties of labels	252
Effect of surface energy on bonding properties	253
The material combination is the decisive factor	253
Using labels with protective laminate	254
Thermal transfer films (colour ribbons)	255
Thermal transfer printing	255
Identification with RFID	256



Wire and Cable Markers

Shrinkable markers "Continuous Tube", thermal transfer	
TCGT – 3:1 Commercial Grade Tubing	257
TULT – 3:1	259
TLFX – 2:1 Limited Fire Hazard	261
THTT – 2:1 High Temperature	264
Shrinkable markers "Ladder Style", thermal transfer	
TLFX DS	262
Identification tags for cable bundle, thermal transfer	
TIPTAG HF – Limited Fire Hazard, Halogen free	265
TIPTAG PU – UV-stabilised Tiptags, Polyurethane	266
Identification tags for cable bundle "Ladder Style", thermal transfer	
TAGHT – High Temperature Tiptags	267
Self-laminating labels, thermal transfer	
Helatag 323 (White-Transparent), high temperature	268
Identification for marking cable bundles	
IT Ties – Identification ties	269
Adhesive labels for ties, plates and tags, thermal transfer	
Helatag 892 (White)	270



Industrial Identification

Type label identification, thermal transfer	
Helatag 1204 (Silver-matt)	271
Asset identification label, thermal transfer	
Helatag 1206 (White gloss)	272



RFID Cable Ties and Accessories

Cable ties with integrated RFID transponder	
T50RFID – Low Frequency (LF) and High Frequency (HF)	274
Detectable cable ties with integrated RFID transponder	
MCTRFID – Low Frequency (LF) and High Frequency (HF)	275
Stainless steel ties with RFID transponder	
MBTRFID – High Frequency (HF) and Ultra High Frequency (UHF)	276
Accessories with RFID transponder	
HEXTAG – High Frequency (HF)	277
CRADLE - High Frequency (HF)	278
RFID Readers	
RFID Handheld Reader	279
RFID Desktop Reader	279



Security Labelling

Tamper-evident security labelling, thermal transfer	
Helatag 1208 (White), fragmenting	280
Helatag 951 (Silver, Transparent), 2 parts	281



Hazardous Area Identification

Stainless steel printing system	
M-BOSS Compact Printer	282
M-BOSS Compact and Organiser	282
M-BOSS Compact Markers	283
Identification plates for marking cable bundles	
HFTP PEEK for high temperature applications	284
Protective laminates, thermal transfer	
Helatag 323 (Transparent), high temperature	285



Printers and Software

Labelling software	
TagPrint Pro 3.0	286
Thermal transfer printer	
TT430, Small to medium volume printing	287
TT430 accessories and spare parts	287
TT4030, High volume printing	288
TT4030 accessories and spare parts	288
Thermal transfer ribbons for	
Adhesive Labels	289
Thermal printer ribbons for	
Heatshrink and Tiptags	290

Bonding properties of labels

The great variety of places where adhesive labels can be used require a broad range of different materials and adhesives. The information given below will explain all the important aspects of this adhesion.

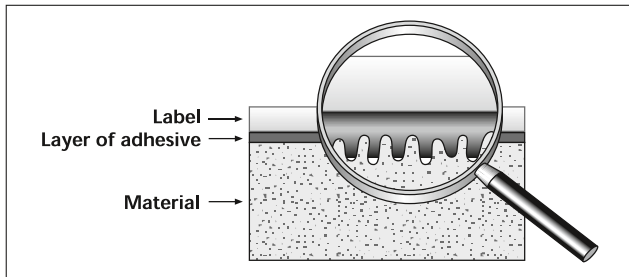
To enable you to make the right choice for your particular application quickly and efficiently, we have set out the most important selection criteria diagrammatically in our flowchart.

Initial and final bonding

In principle there are two different bonding conditions for labels: The initial bonding which occurs immediately after the label and surface are brought together and the final bonding which represents the permanent bonding status between label and surface following the application, pressing on and curing of the adhesive. The bonding of labels is measured in a defined test process (FINAT FTM) and stated in N/mm.

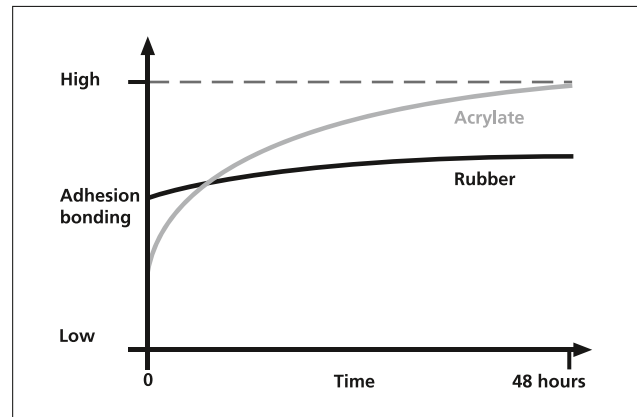
The initial bonding (or tack) describes the bonding ability of the label after it has been applied to the surface, without being pressed down.

The final bonding of labels is ultimately affected by the combined factors of material quality, adhesive basis, curing time, pressure applied and surface tension.



Adhesion: powers of attraction between two materials

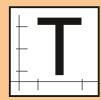
Adhesion can be described, in principle, as the ability of the adhesive to form a bond with the substrate; the substrate is the surface of the material you need the label applied to. The influencing factors for optimum bonding are the quality of the material's surface and the creep ability of the adhesive. The crucial factor is the proportion of the surface which is actually to be 'wetted' by the adhesive. Most surfaces appear – from a microscopic point of view – like a mountain range with peaks and valleys; i.e. the effective surface is much bigger than that seen by the naked eye. No matter how smooth and flat a substrate may appear to be, there is always some roughness. The better the adhesive flows into the valleys, the more bonding points it can form and the better the adhesive will bond to the surface. A thicker layer of adhesive does allow these uneven areas to be filled in better, but a thicker coat of adhesive has negative effects when labels are processed by machine (e.g. leakage of the adhesive or limited storage life).



Adhesive basis

HellermannTyton currently uses acrylate and synthetic rubber as adhesive bases. Acrylate adhesives belong to the family of thermoplastic resins and at normal temperatures they provide high and lasting adhesion. When considering the final bonding of acrylate adhesives, however, it must be noted that the relatively high final bonding is only attained after a certain curing period. This is especially true of labelling materials which may be used for rating plates. Normally you must wait for at least 48 hours in a dry office environment.

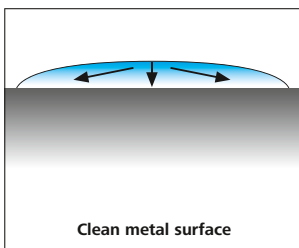
Synthetic rubber-based adhesives, unlike acrylate-based adhesives, are distinguished by their high initial bonding. But this adhesive technology does not achieve a final bonding comparable to acrylate adhesives (see graph). Special mixtures of synthetic rubber are used in labelling technology, for example for removable labels, e.g. HellermannTyton material type 270.



Effect of surface energy on bonding properties

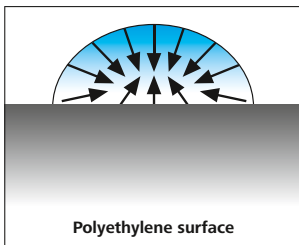
The surface energy (also known as surface tension) is an important factor in the selection of the right adhesive. Because of their chemical formulation, all surfaces have their own polarity and surface tension. The cause of surface tensions is the tendency of liquids to reduce their surface as far as possible, thus to form drops. When a surface which is to be marked (substrate) is wetted with an adhesive, in addition to the adhesive formulation and the surface quality (material, roughness, dampness etc.) the surface energy is also a decisive factor in the maximum attainable bonding force of the adhesive.

As a basic rule, it can be noted that the surface energy of the adhesive must be less than the surface energy of the material to be bonded (substrate). The adhesive should completely wet the substrate and not form any drops.



Flat drops

- High surface energy
- Good wetting
- Good bonding properties



Rounded drops

- Low surface energy
- Poor wetting
- Weak bonding properties

The material combination is the decisive factor

An acrylate-based adhesive is polar and therefore has a relatively high surface energy. Acrylate-based adhesives achieve optimum final bonding on polar substrates (e.g. glass or metals) with a high surface energy. More critical is the application of labels using acrylate-based adhesives on materials with low surface energy (apolar substrates) such as, for example, silicone, polyethylene and polypropylene. The surface tensions of an acrylate-based adhesive can be reduced for particular applications by the addition of specific additives. However, this step brings with it some drawbacks, for example, a free-flowing adhesive and thus a limited life and storage ability of the labels. The lower bonding force of low-energy surfaces must therefore be taken into account of when considering the end use. For optimum marking using acrylate-based adhesive labels, HellermannTyton uses an improved adhesive formulation, which is co-ordinated to the most common materials in industry. In most cases it is possible to guarantee very good application of these labels. In borderline cases, a modified adhesive formulation may be necessary. Talk to us, we'll be delighted to advise you.

Surface energies of different materials

MATERIAL	Surface energy [mN/m]*
Polytetrafluorethylene (PTFE)	18
Silicon (Si)	24
Polyvinyl fluoride (PVF)	25
Natural rubber (CR)	25
Polypropylene (PP)	29
Polyethylene (PE)	35
Polymethyl methacrylate, Acryl (PMMA)	36
Epoxy (EP)	36
Polyoxymethylene, Acetal (POM)	36
Polystyrene (PS)	38
Polyvinyl chloride (PVC)	39
Vinylidene chloride (VC)	40
Polyester (PET)	41
Polyimide (PI)	41
Polyarylsulfone (PAS)	41
Phenolic resin	42
Polyurethane (PUR)	43
Polyamide 6 (PA 6)	43
Polycarbonate (PC)	46
Lead (Pb)	450
Aluminium (Al)	840
Copper (Cu)	1,100
Chromium (Cr)	2,400
Iron (Fe)	2,550

*The values stated are non-binding reference values and for guidance purposes only.

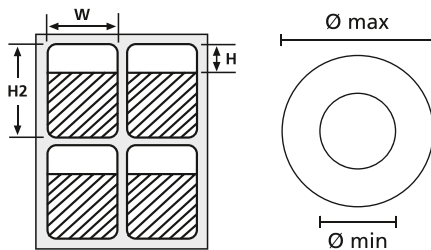
Instructions for using labels with protective laminate

Labels with protective laminate (also known as cable laminators) have a white or coloured label field which can be written on either manually using a marker pen (see RiteOn and HELASIGN) or using a matrix, laser or thermal transfer printer (see Helatag). Depending on the design for the respective type of printing, the title block has a special surface finish to achieve the optimum print anchorage to the label substrate. This results in long-lasting, clear, sharp writing with text, graphics or barcode. A special feature is that most of the HellermannTyton protective laminate labels come with rounded corners. This achieves greater final adhesion of the protective laminate and counteracts any undesirable removal of the label, especially with cables of small diameter and in heavy-duty applications.

When calculating the minimum and maximum diameters, the following formula has been used:

$$\text{Diameter} = \frac{\text{Length of laminate}}{\pi}$$

Pi (π) is the constant 3.14.



Helatag self-laminating labels.

Minimum diameter:

To save time, when wrapping the cable with the cable laminator, a limit of max. 2 windings has been set. The protective laminate length is calculated from: Height H2 – height H

By applying the “diameter” formula this produces the approx. minimum diameter:

$$\text{Diameter}_{\min} = \frac{H2 - H}{2 * \pi}$$

Example: TAG136LA4 (H = 19.05 mm; H2 = 67.7 mm)

$$\text{Diameter}_{\min} = \frac{67.7 - 19.05}{2 * 3.14}$$

Maximum diameter:

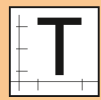
In this case the minimum requirement is complete coverage of the label field with the protective laminate with a single winding. The length of the protective laminate is again obtained from the formula: H2 – H.

By applying the “diameter” formula this produces the approx. maximum diameter, which also corresponds to double the minimum diameter:

$$\text{Diameter}_{\max} = \frac{H2 - H}{\pi} = 2 * \text{Diameter}_{\min}$$

Example: TAG136LA4 (H = 19.05 mm; H2 = 67.7 mm)

$$\text{Diameter}_{\max} = \frac{67.7 - 19.05}{3.14} = 2 * \text{Diameter}_{\min}$$



Interesting facts about thermal transfer films (colour ribbons)

The thermal transfer ribbon is perhaps the most important consumable that is used in this printing system - using the right ribbon for a particular application is extremely important.

Not every transfer ribbon is equally suited to any purpose. Depending on the printing requirements (e.g. smudge or scratchproof) to be met, what type of labels will be used, an appropriate thermal transfer ribbon must be used.

Another important consideration for the thermal transfer ribbon is the electrostatic charging which can arise during the printing process. Some transfer ribbons become statically charged during the printing process, which can damage an ESD-sensitive printer head in the long run.

To clarify: The thermal transfer printer head is in physical contact with the back of the thermal transfer ribbon and consists solely of electronic, voltage-sensitive elements, which are known as dots.

These can become damaged when the thermal transfer ribbon causes discharges, which usually results in dot drop-outs. At points where the print head is damaged, no more colour is transferred. This leaves gaps on the label.

Thermal transfer films usually consist of three layers:

- A polyester strip as supporting material
- A protective, gliding backing layer on one side
- A colour layer on the other side.

The colour remains solid at room temperature, but liquefies under the effect of heat. To manufacture the colour ribbons, the polyester ribbon is coated with a special backing and then the respective coloured ink is applied. Print characteristics and bonding ability on various materials depend mainly on the chemical composition of this colour ink.

The main distinguishing feature of thermal transfer ribbons is the so-called quality of the coating. There are two basic types of thermal transfer ribbons:

Wax-resin-based films – good synthesis

With this quality of a wax-resin mixture, the good print characteristics of the wax are essentially retained, but the resin content increases mechanical strength. The print image produced has high resistance to heat, solvents, abrasion and scratching and high print quality, e.g. for barcodes. These colour ribbons are suitable for use on synthetic materials. They can be used for most applications at standard print temperatures.

- TT932DOUT
- TT822OUT8

Resin-based films – for very heavy-duty purposes

The colour layer at this quality level is based entirely on synthetic resins, developed for industrial applications and extreme conditions. Resin-based colour ribbons guarantee maximum readability, even on the most difficult materials (e.g. barcodes). Depending on the backing material, medium to high print temperatures and slow print speeds are necessary when using these thermal transfer films. In return, a print image is obtained which stands out for its high resistance to abrasion and scratching and great solvent and heat resistance.

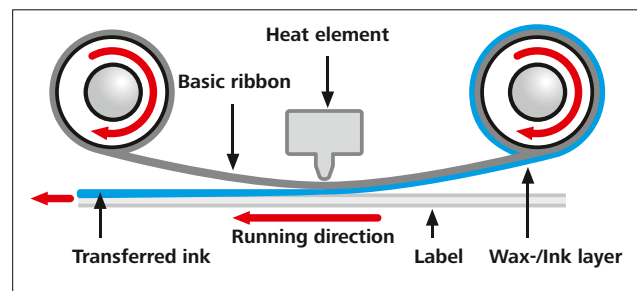
- TT822OUT
- TTRR
- TTRW
- TT122OUT
- TTDTHOUT
- TTRC+
- TTRHT

Interesting facts about thermal transfer printing

Thermal transfer printing plays a central role, especially in the field of printing variable data, single-proofs and even for small series. This is largely due to the fact that thermal transfer printing is a non-impact printing (NIP) process. Unlike traditional printing processes, such as offset-printing, a NIP printing process does not require a fixed printing block and can therefore print out different data with consistent quality from print to print.

Due to the increasing spread and importance of one and two-dimensional barcodes in goods inventory systems, logistics and in the field of component identification, the market potential of thermal transfer printing is growing all the time. The same is also true of incremental serial numbers, inventory designations, entrance tickets, rating plates, wine labels and many more.

Good print quality, high print speeds and the option of printing almost all backing materials permanently – these are the critical advantages of thermal transfer printing. It's good readability, resistance and abrasion resistance allow thermal transfer printing to be put to use in applications where the print results from laser, inkjet or dot matrix printers are not satisfactory.



Heated dots strike a special colour ribbon, the thermal transfer film, which transfers liquefied colour ink at exactly that point onto the backing material (labels, tubes, rating plates). Our modern printers use what is known as "thin film technology", in which the very brief liquid phase of the ink produces faster print speeds and better and more precise images than with the "thick film technology" formerly used.

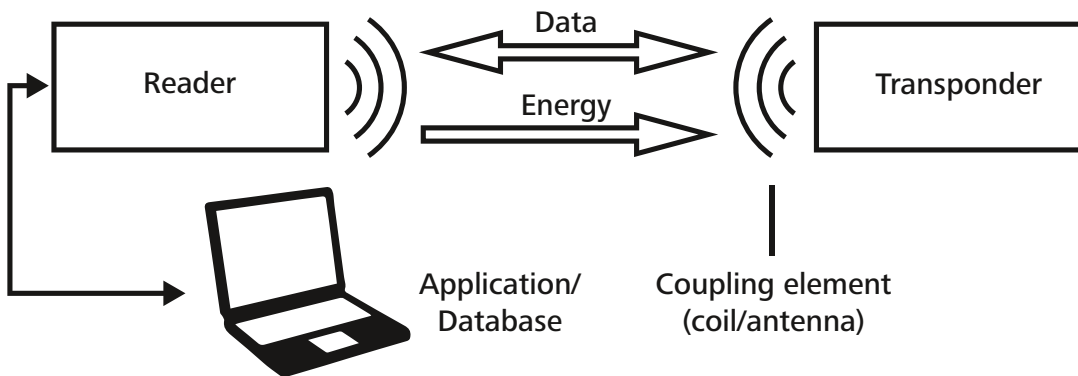
Moreover, the linear orientation of the labels or of the heatshrink tubing makes it possible to print on demand. The printing is then carried out as required. This is especially useful in the production of rating plates in series production.

In thermal transfer printing, the print image is defined by the three components: printer, label material and thermal transfer film (colour ribbon).

The advantages at a glance:

- High print quality with a resolution of 8-12 dots/mm (12 dots/mm corresponds to approx. 300 dpi)
- Barcode printing in excellent quality, hence good optical readability
- High print speeds of between 30mm/sec and 150mm/sec
- Individual graphics capability
- Problem free and rapid realisation of self designed drafts
- Quiet and service friendly printers
- Prints are UV fast and permanent with high definition and contrast and good resistance to mechanical and chemical influences.

What is RFID?



Radio frequency identification, for short RFID, simply means the identification by radio waves. The data transfer is affected by means of electromagnetic waves. This technology allows a contactless storing and reading of data and makes a communication between devices possible. There are several methods of identification, but the most common is to store a serial number that identifies a person or object, and perhaps other information, on a microchip that is attached to an antenna (the chip and the antenna together are called an RFID transponder or an RFID tag). With an RFID reader the stored information can be evaluated.

HellermannTyton offers a range of RFID cable ties complete with choice of transponders which can be read with HellermannTyton RFID readers to deliver quick and accurate reporting.

RFID (Radio Frequency Identification) is a digital system to manage equipment inspections and reporting for business that are still using paper based systems and wants to improve resource performance.

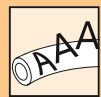
The benefits of RFID cable ties and accessories are:

- Fast and paperless data collection
- Elimination of typing errors in reports
- Reduction of working hours due to reduction of paper work
- Controlled administration of devices and warehouse
- Comply with legislation
- Easy to share up-to-date information
- Reliable operation in harsh environments, for example wet, dusty, dirty conditions; corrosive environments; vibration and shock
- No need for contact or line-of-sight

HellermannTyton has developed a range of cable ties to host RFID transponders to enable users to easily fix the RFID tag to equipment that needs to carry a serial number for tracking and identification purposes.

Applications for RFID include:

- Resource and asset management
- Theft preventing and traceability
- Security tagging
- Essential maintenance
- Attendance verification and time recording
- Leak detection
- Baggage tagging
- Vehicle identification
- Automation processes



Shrinkable markers, "Continuous Tube", thermal transfer

TCGT – 3:1 Commercial Grade

TCGT is a commercial grade 3:1 heat shrink marker material supplied as a continuous tube and printable on both sides. TCGT's polyolefin compound has good mechanical strength and resistance to organic solvents and chemicals. The surface of the tubing has been especially prepared so that print performance is excellent at all times. HellermannTyton's printer range allow users to create a high quality print. In addition it is possible to either perforate the tubing at pre-determined lengths or fully sever the markers.

Features and benefits

- Shrink ratio 3:1
- Available in black, blue, red, white and yellow
- Cable range from 39 mm to 1 mm
- Good mechanical strength and resistance to organic solvents and chemicals
- Highly flexible
- Delivery in convenient storage boxes



TCGT – five colours of printable tube to cover a wide range of diameters.

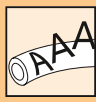
MATERIAL	Polyolefin, cross-linked (PO-X)
Operating Temperature	-55 °C to +135 °C
Min. Shrink Temperature	+90 °C
Shrink Ratio	3:1
Recommended Ribbon Type	TTRC+, TTDTHOUT, TTRW, TT822OUT8
Thermal Transfer Printer	TT430, TT4030, TrakMark DS



PART DESCRIPTION	Supplied Ø D min.	Recov. Ø d max.	Wall (WT)
TCGT3-1BK-PO-X-BK	3.0	1.0	0.60
TCGT3-1BU-PO-X-BU	3.0	1.0	0.60
TCGT3-1RD-PO-X-RD	3.0	1.0	0.60
TCGT3-1WH-PO-X-WH	3.0	1.0	0.60
TCGT3-1YE-PO-X-YE	3.0	1.0	0.60
TCGT4.8-1.6BK-PO-X-BK	4.8	1.6	0.65
TCGT4.8-1.6BU-PO-X-BU	4.8	1.6	0.65
TCGT4.8-1.6RD-PO-X-RD	4.8	1.6	0.65
TCGT4.8-1.6WH-PO-X-WH	4.8	1.6	0.65
TCGT4.8-1.6YE-PO-X-YE	4.8	1.6	0.65
TCGT6-2BK-PO-X-BK	6.0	2.0	0.70
TCGT6-2BU-PO-X-BU	6.0	2.0	0.70
TCGT6-2RD-PO-X-RD	6.0	2.0	0.70
TCGT6-2WH-PO-X-WH	6.0	2.0	0.70
TCGT6-2YE-PO-X-YE	6.0	2.0	0.70
TCGT9-3BK-PO-X-BK	9.0	3.0	0.80
TCGT9-3BU-PO-X-BU	9.0	3.0	0.80
TCGT9-3RD-PO-X-RD	9.0	3.0	0.80
TCGT9-3WH-PO-X-WH	9.0	3.0	0.80

All dimensions in mm. Subject to technical changes.
More colours on request.





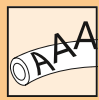
Shrinkable markers, "Continuous Tube", thermal transfer

TCGT – 3:1 Commercial Grade



PART DESCRIPTION	Supplied Ø D min.	Recov. Ø d max.	Wall (WT)
TCGT9-3YE-PO-X-YE	9.0	3.0	0.80
TCGT12-4BK-PO-X-BK	12.0	4.0	0.85
TCGT12-4BU-PO-X-BU	12.0	4.0	0.85
TCGT12-4RD-PO-X-RD	12.0	4.0	0.85
TCGT12-4WH-PO-X-WH	12.0	4.0	0.85
TCGT12-4YE-PO-X-YE	12.0	4.0	0.85
TCGT18-6BK-PO-X-BK	18.0	6.0	1.00
TCGT18-6BU-PO-X-BU	18.0	6.0	1.00
TCGT18-6RD-PO-X-RD	18.0	6.0	1.00
TCGT18-6WH-PO-X-WH	18.0	6.0	1.00
TCGT18-6YE-PO-X-YE	18.0	6.0	1.00
TCGT24-8BK-PO-X-BK	24.0	8.0	1.20
TCGT24-8BU-PO-X-BU	24.0	8.0	1.20
TCGT24-8RD-PO-X-RD	24.0	8.0	1.20
TCGT24-8WH-PO-X-WH	24.0	8.0	1.20
TCGT24-8YE-PO-X-YE	24.0	8.0	1.20
TCGT39-13BK-PO-X-BK	39.0	13.0	1.25
TCGT39-13BU-PO-X-BU	39.0	13.0	1.25
TCGT39-13RD-PO-X-RD	39.0	13.0	1.25
TCGT39-13WH-PO-X-WH	39.0	13.0	1.25
TCGT39-13YE-PO-X-YE	39.0	13.0	1.25

All dimensions in mm. Subject to technical changes.
More colours on request.



Shrinkable markers "Continuous Tube", thermal transfer

TULT – 3:1

TULT is a UL recognized 3:1 heat shrink marker material supplied as a continuous tube and printable on both sides. TULT's polyolefin compound has good mechanical strength and resistance to organic solvents and chemicals. The surface of the tubing has been especially prepared so that print performance is excellent at all times. HellermannTyton's printer range allow users to create a high quality print. In addition it is possible to either perforate the tubing at pre-determined lengths or fully sever the markers.

Features and benefits

- Shrink ratio 3:1
- Available in black, blue, red, white and yellow
- Cable range from 39 mm to 1 mm
- Good mechanical strength and resistance to organic solvents and chemicals
- Highly flexible
- Delivery in convenient storage boxes



TULT – good mechanical strength and resistance to organic solvents and chemicals.

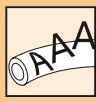
MATERIAL	Polyolefin, cross-linked (PO-X)
Operating Temperature	-55 °C to +135 °C
Min. Shrink Temperature	+90 °C
Shrink Ratio	3:1
Recommended Ribbon Type	TTRC+, TTDTHOUT, TTRW, TT822OUT8
Thermal Transfer Printer	TT430, TT4030, TrakMark DS



RoHS ✓

PART DESCRIPTION	Supplied Ø D min.	Recov. Ø d max.	Wall (WT)
TULT3-1BK-PO-X-BK	3.0	1.0	0.60
TULT3-1BU-PO-X-BU	3.0	1.0	0.60
TULT3-1RD-PO-X-RD	3.0	1.0	0.60
TULT3-1WH-PO-X-WH	3.0	1.0	0.60
TULT3-1YE-PO-X-YE	3.0	1.0	0.60
TULT4.8-1.6BK-PO-X-BK	4.8	1.6	0.65
TULT4.8-1.6BU-PO-X-BU	4.8	1.6	0.65
TULT4.8-1.6RD-PO-X-RD	4.8	1.6	0.65
TULT4.8-1.6WH-PO-X-WH	4.8	1.6	0.65
TULT4.8-1.6YE-PO-X-YE	4.8	1.6	0.65
TULT6-2BK-PO-X-BK	6.0	2.0	0.70
TULT6-2BU-PO-X-BU	6.0	2.0	0.70
TULT6-2RD-PO-X-RD	6.0	2.0	0.70
TULT6-2WH-PO-X-WH	6.0	2.0	0.70
TULT6-2YE-PO-X-YE	6.0	2.0	0.70
TULT9-3BK-PO-X-BK	9.0	3.0	0.80
TULT9-3BU-PO-X-BU	9.0	3.0	0.80
TULT9-3RD-PO-X-RD	9.0	3.0	0.80
TULT9-3WH-PO-X-WH	9.0	3.0	0.80
TULT9-3YE-PO-X-YE	9.0	3.0	0.80

All dimensions in mm. Subject to technical changes.
More colours on request.



Shrinkable markers "Continuous Tube", thermal transfer

TULT - 3:1



PART DESCRIPTION	Supplied Ø D min.	Recov. Ø d max.	Wall (WT)
TULT12-4BK-PO-X-BK	12.0	4.0	0.85
TULT12-4BU-PO-X-BU	12.0	4.0	0.85
TULT12-4RD-PO-X-RD	12.0	4.0	0.85
TULT12-4WH-PO-X-WH	12.0	4.0	0.85
TULT12-4YE-PO-X-YE	12.0	4.0	0.85
TULT18-6BK-PO-X-BK	18.0	6.0	1.00
TULT18-6BU-PO-X-BU	18.0	6.0	1.00
TULT18-6RD-PO-X-RD	18.0	6.0	1.00
TULT18-6WH-PO-X-WH	18.0	6.0	1.00
TULT18-6YE-PO-X-YE	18.0	6.0	1.00
TULT24-8BK-PO-X-BK	24.0	8.0	1.20
TULT24-8BU-PO-X-BU	24.0	8.0	1.20
TULT24-8RD-PO-X-RD	24.0	8.0	1.20
TULT24-8WH-PO-X-WH	24.0	8.0	1.20
TULT24-8YE-PO-X-YE	24.0	8.0	1.20
TULT39-13BK-PO-X-BK	39.0	13.0	1.25
TULT39-13BU-PO-X-BU	39.0	13.0	1.25
TULT39-13RD-PO-X-RD	39.0	13.0	1.25
TULT39-13WH-PO-X-WH	39.0	13.0	1.25
TULT39-13YE-PO-X-YE	39.0	13.0	1.25

All dimensions in mm. Subject to technical changes.
More colours on request.



Shrinkable markers "Continuous Tube", thermal transfer

TLFX – 2:1 Limited Fire Hazard

TLFX is a halogen free European rail approved 2:1 heat shrink marker material supplied as a continuous tube and printable on both sides. Special material properties show low smoke propagation, density and toxicity. The tubing has been especially prepared so that print performance is excellent at all times. HellermannTyton's printer range allow users to create a high quality print. In addition it is possible to either perforate the tubing at pre-determined lengths or fully sever the markers.

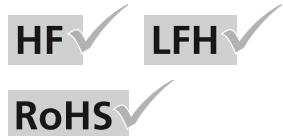
Features and benefits

- Shrink ratio 2:1
- Halogen Free
- Low smoke propagation, density and toxicity
- High Oxygen Index value (36.5 %)
- Available in yellow or white
- Cable range 50.8 mm to 1.2 mm
- Delivery in convenient storage boxes



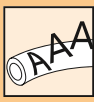
TLFX- high performance halogen free heat shrink tube.

MATERIAL	Polyolefin, cross-linked (PO-X)
Operating Temperature	-55 °C to +105 °C
Min. Shrink Temperature	+100 °C
Shrink Ratio	2:1
Recommended Ribbon Type	TTDTHOUT
Thermal Transfer Printer	TT430, TT4030, TrakMark DS
EN 45545-2 Classification	R22 HL3, R23 HL3



PART DESCRIPTION	Supplied Ø D min.	Recov. Ø d max.	Wall (WT)
TLFX24WH-PO-X-WH	2.4	1.2	0.57
TLFX24YE-PO-X-YE	2.4	1.2	0.57
TLFX32WH-PO-X-WH	3.2	1.6	0.58
TLFX32YE-PO-X-YE	3.2	1.6	0.58
TLFX48WH-PO-X-WH	4.8	2.4	0.61
TLFX48YE-PO-X-YE	4.8	2.4	0.61
TLFX64WH-PO-X-WH	6.4	3.2	0.61
TLFX64YE-PO-X-YE	6.4	3.2	0.61
TLFX95WH-PO-X-WH	9.5	4.8	0.66
TLFX95YE-PO-X-YE	9.5	4.8	0.66
TLFX127WH-PO-X-WH	12.7	6.4	0.68
TLFX127YE-PO-X-YE	12.7	6.4	0.68
TLFX190WH-PO-X-WH	19.0	9.5	0.69
TLFX190YE-PO-X-YE	19.0	9.5	0.69
TLFX254WH-PO-X-WH	25.4	12.7	0.69
TLFX254YE-PO-X-YE	25.4	12.7	0.69
TLFX381WH-PO-X-WH	38.1	19.0	0.70
TLFX381YE-PO-X-YE	38.1	19.0	0.70
TLFX508WH-PO-X-WH	50.8	25.4	0.73
TLFX508YE-PO-X-YE	50.8	25.4	0.73

All dimensions in mm. Subject to technical changes.



Shrinkable markers "Ladder Style", thermal transfer

TLFX DS – 2:1 Limited Fire Hazard "Ladder Style"

TLFX DS is a halogen free European rail approved 2:1 heat shrink marker material supplied pre-cut and formatted into a convenient "ladder" system. Special material properties show low smoke propagation, density and toxicity. This pre-cut format not only allows printing on both sides of the marker but the user can also easily choose and pick each required marker. Special material properties show low smoke propagation, density and toxicity. The tubing has been especially prepared so that the print performance is excellent at all times using HellermannTyton's printer range.

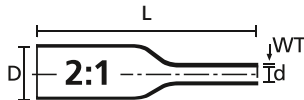
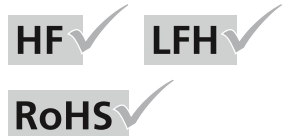
Features and benefits

- Shrink ratio 2:1
- Halogen Free
- Low smoke propagation, density and toxicity
- High Oxygen Index value (35.4%)
- 50 mm, 25 mm and 16 mm pre-cut marker options as standard, other lengths available on request
- Available in yellow or white
- Cable range 38.1 mm to 1.2 mm
- Delivery in convenient storage boxes



Shrinkable rail approved markers TLFX DS.

MATERIAL	Polyolefin, cross-linked (PO-X)
Operating Temperature	-55 °C to +105 °C
Min. Shrink Temperature	+100 °C
Shrink Ratio	2:1
Recommended Ribbon Type	TTDTHOUT
Thermal Transfer Printer	TT430, TT4030, TrakMark DS
EN 45545-2 Classification	R22 HL3, R23 HL3



PART DESCRIPTION	Supplied Ø D min.	Recov. Ø d max.	Length (L)	Wall (WT)
TLFX24DS-2x25WH-PO-X-WH	2.4	1.2	25.0	0.52
TLFX24DS-2x25YE-PO-X-YE	2.4	1.2	25.0	0.52
TLFX24DS-1x50WH-PO-X-WH	2.4	1.2	50.0	0.52
TLFX24DS-1x50YE-PO-X-YE	2.4	1.2	50.0	0.52
TLFX32DS-2x25WH-PO-X-WH	3.2	1.6	25.0	0.64
TLFX32DS-2x25YE-PO-X-YE	3.2	1.6	25.0	0.64
TLFX32DS-1x50WH-PO-X-WH	3.2	1.6	50.0	0.64
TLFX32DS-1x50YE-PO-X-YE	3.2	1.6	50.0	0.64
TLFX48DS-2x25WH-PO-X-WH	4.8	2.4	25.0	0.64
TLFX48DS-2x25YE-PO-X-YE	4.8	2.4	25.0	0.64
TLFX48DS-1x50WH-PO-X-WH	4.8	2.4	50.0	0.64
TLFX48DS-1x50YE-PO-X-YE	4.8	2.4	50.0	0.64
TLFX64DS-2x25WH-PO-X-WH	6.4	3.2	25.0	0.73
TLFX64DS-2x25YE-PO-X-YE	6.4	3.2	25.0	0.73
TLFX64DS-1x50WH-PO-X-WH	6.4	3.2	50.0	0.73
TLFX64DS-1x50YE-PO-X-YE	6.4	3.2	50.0	0.73
TLFX95DS-2x25WH-PO-X-WH	9.5	4.8	25.0	0.70

All dimensions in mm. Subject to technical changes.

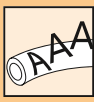


Shrinkable markers "Ladder Style", thermal transfer

TLFX DS – 2:1 Limited Fire Hazard "Ladder Style"

PART DESCRIPTION	Supplied Ø D min.	Recov. Ø d max.	Length (L)	Wall (WT)
TLFX95DS-2x25YE-PO-X-YE	9.5	4.8	25.0	0.70
TLFX95DS-1x50WH-PO-X-WH	9.5	4.8	50.0	0.70
TLFX95DS-1x50YE-PO-X-YE	9.5	4.8	50.0	0.70
TLFX127DS-2x25WH-PO-X-WH	12.7	6.4	25.0	0.70
TLFX127DS-2x25YE-PO-X-YE	12.7	6.4	25.0	0.70
TLFX127DS-1x50WH-PO-X-WH	12.7	6.4	50.0	0.70
TLFX127DS-1x50YE-PO-X-YE	12.7	6.4	50.0	0.70
TLFX190DS-2x25WH-PO-X-WH	19.0	9.5	25.0	0.78
TLFX190DS-2x25YE-PO-X-YE	19.0	9.5	25.0	0.78
TLFX190DS-1x50WH-PO-X-WH	19.0	9.5	50.0	0.78
TLFX190DS-1x50YE-PO-X-YE	19.0	9.5	50.0	0.78
TLFX254DS-2x25WH-PO-X-WH	25.4	12.7	25.0	0.93
TLFX254DS-2x25YE-PO-X-YE	25.4	12.7	25.0	0.93
TLFX254DS-1x50WH-PO-X-WH	25.4	12.7	50.0	0.93
TLFX254DS-1x50YE-PO-X-YE	25.4	12.7	50.0	0.93
TLFX381DS-2x25WH-PO-X-WH	38.1	19.1	25.0	0.98
TLFX381DS-2x25YE-PO-X-YE	38.1	19.1	25.0	0.98
TLFX381DS-1x50WH-PO-X-WH	38.1	19.1	50.0	0.98
TLFX381DS-1x50YE-PO-X-YE	38.1	19.1	50.0	0.98

All dimensions in mm. Subject to technical changes.



Shrinkable markers "Continuous Tube", thermal transfer

THTT – 2:1 High Temperature

THTT is a 2:1 high temperature, flame retardant heat shrink marker supplied in continuous tube and on convenient reels that allows printing on both sides if required. The printed marker is ideal for use in applications where high temperature and exposure to aggressive solutions are found. The tubing has been especially prepared so that the print performance is excellent at all times using HellermannTyton's printer range. A standard heat gun with reflector is used to shrink the sleeves onto the wire or cable to achieve a permanent mark. In addition it is possible to either perforate the tubing at pre-determined lengths or fully sever the markers. The material is also especially formulated to be printable with laser beam printers.

Features and benefits

- Shrink ratio 2:1
- PVDFX high temperature tube
- Thermal transfer or laser beam printable
- Available in white and black as standard
- Good mechanical strength and highly flexible
- Delivery in convenient storage boxes



THTT - High temperature tube in black and white.

MATERIAL	Polyvinylidene Fluoride cross-linked (PVDFX)
Operating Temperature	-55 °C to +225 °C
Min. Shrink Temperature	+120 °C
Shrink Ratio	2:1
Recommended Ribbon Type	TTRHT
Thermal Transfer Printer	TT430, TT4030, TrakMark DS



PART DESCRIPTION	Supplied Ø D min.	Recov. Ø d max.	Wall (WT)
THTT24BK-PVDFX-BK	2.4	1.2	0.41
THTT24WH-PVDFX-WH	2.4	1.2	0.41
THTT32BK-PVDFX-BK	3.2	1.6	0.27
THTT32WH-PVDFX-WH	3.2	1.6	0.27
THTT48BK-PVDFX-BK	4.8	2.4	0.27
THTT48WH-PVDFX-WH	4.8	2.4	0.27
THTT64BK-PVDFX-BK	6.4	3.2	0.33
THTT64WH-PVDFX-WH	6.4	3.2	0.33
THTT95BK-PVDFX-BK	9.5	4.8	0.33
THTT95WH-PVDFX-WH	9.5	4.8	0.33
THTT127BK-PVDFX-BK	12.7	6.4	0.33
THTT127WH-PVDFX-WH	12.7	6.4	0.33
THTT190BK-PVDFX-BK	19.0	9.5	0.43
THTT190WH-PVDFX-WH	19.0	9.5	0.43
THTT254BK-PVDFX-BK	25.4	12.7	0.48
THTT254WH-PVDFX-WH	25.4	12.7	0.48
THTT381BK-PVDFX-BK	38.1	19.1	0.50
THTT381WH-PVDFX-WH	38.1	19.1	0.50

All dimensions in mm. Subject to technical changes.



Identification tags for cable bundle, thermal transfer

TIPTAG HF – Limited Fire Hazard, Halogen free

The Tiptag HF cable markers have been designed to identify larger wires and cable bundles not only in the electronics and general cabling environments but also in the railway industry. Tiptag HF is halogen free and its material properties show low smoke propagation, density and toxicity. Tiptags are presented in a special perforated format which include fastening slots for easy fitting with cable ties. They are also suitable for retrofit purposes.

Print from the reel with HellermannTyton's premium range of thermal transfer printers and ribbons for optimum print quality and longevity.

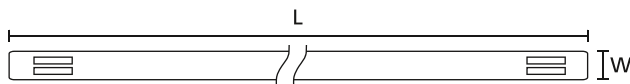
Features and benefits

- Ideal for marking larger wire and cable bundles
- Halogen free
- Low smoke propagation and toxicity
- Perforated format that includes fastening slots for cable ties
- Available in various colours



TIPTAG - high performance cable bundle marking.

MATERIAL	Polyolefin (PO)
Operating Temperature	-40 °C to +90 °C, (+160 °C, for 200 h)
Flammability	Limited Fire Hazard, low generation of toxic gases and corrosive acid, low smoke generation, halogen free
Recommended Ribbon Type	TTDTHOUT
Thermal Transfer Printer	TT430, TT4030
EN 45545-2 Classification	R22 HL3, R23 HL3



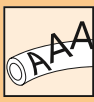
HF ✓

LFH ✓

RoHS ✓

PART DESCRIPTION	Length (L)	Width (w)
TIPTAG11X65BU-PO-BU	65.0	11.0
TIPTAG11X65RD-PO-RD	65.0	11.0
TIPTAG11X65WH-PO-WH	65.0	11.0
TIPTAG11X65YE-PO-YE	65.0	11.0
TIPTAG15X65WH-PO-WH	65.0	15.0
TIPTAG15X65YE-PO-YE	65.0	15.0
TIPTAG11X100BU-PO-BU	100.0	11.0
TIPTAG11X100RD-PO-RD	100.0	11.0
TIPTAG11X100WH-PO-WH	100.0	11.0
TIPTAG11X100YE-PO-YE	100.0	11.0
TIPTAG15X100RD-PO-RD	100.0	15.0
TIPTAG15X100WH-PO-WH	100.0	15.0
TIPTAG15X100YE-PO-YE	100.0	15.0

All dimensions in mm. Subject to technical changes.
More colours on request.



Identification tags for cable bundle, thermal transfer

TIPTAG PU – UV-stabilised Tiptags, Polyurethane

The Tiptag PU cable markers consist of a robust and flexible polyurethane material. It is especially suited for harsh environments where the material is exposed to chemical, fluids or abrasion. Tiptag PU's are presented in a special perforated format which include fastening slots for easy fitting with cable ties. They are also suitable for retrofit purposes.

Print from the reel with HellermannTyton's premium range of thermal transfer printers.

A special ribbon has been developed for Tiptag PU to create a "tattoo" effect so that the marking cannot be rubbed off and is particularly durable and resistant to harsh abrasion.

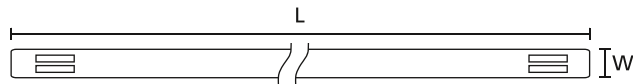


TIPTAG PU – printed mark has a tattoo-like permanency.

Features and benefits

- Durable and robust polyurethane material
- For large cable bundles and wires
- Flame retardant
- Weather resistant
- Abrasion resistant
- Good resistance to chemicals
- Available in white and yellow as standard
- Perforated format with fastening slots for cable ties

MATERIAL	Polyurethane (PUR)
Operating Temperature	-65 °C to +120 °C, intermittent +150 °C
Flammability	self-extinguishing, UL 94 V0 (3 mm)
Recommended Ribbon Type	TTRC+
Thermal Transfer Printer	TT430, TT4030



PART DESCRIPTION	Length (L)	Width (W)
TTAGPU11X65WH-PUR-WH	65.0	11.0
TTAGPU11X65YE-PUR-YE	65.0	11.0
TTAGPU15X65WH-PUR-WH	65.0	15.0
TTAGPU15X65YE-PUR-YE	65.0	15.0
TTAGPU11X100WH-PUR-WH	100.0	11.0
TTAGPU11X100YE-PUR-YE	100.0	11.0
TTAGPU15X100WH-PUR-WH	100.0	15.0
TTAGPU15X100YE-PUR-YE	100.0	15.0

All dimensions in mm. Subject to technical changes.
More colours on request.



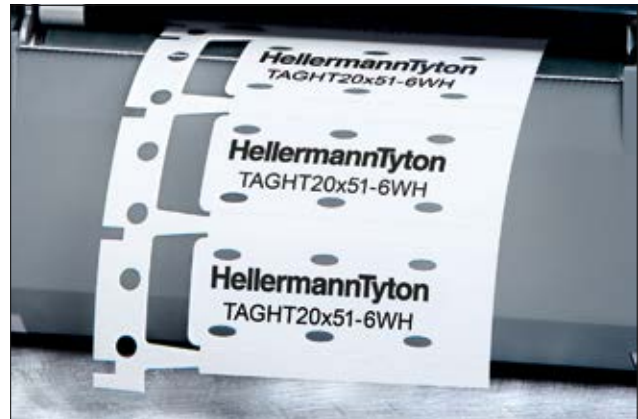
Identification tags for cable bundle "Ladder Style", thermal transfer

TAGHT – High Temperature Tiptags

TAGHT is a high temperature, flame retardant cable marker used to identify larger cables and wire harnesses. The marker is ideal for applications where high temperatures and exposure to aggressive solutions are found, e.g. in the aerospace industry. They are supplied pre-cut and have been formatted into a convenient "ladder" system. Simply print and press out the required TAGHT and apply to cables and harness assemblies with cable ties, they are also suitable for retrofit purposes. Print with HellermannTyton's premium range of thermal printers and ribbons or a laser beam marking device.

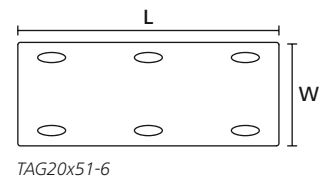
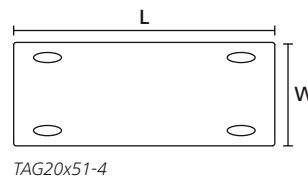
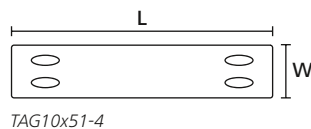
Features and benefits

- High temperature cable marker
- For larger cables, bundles and harnesses
- Thermal transfer or laser beam printable
- Good mechanical strength and highly flexible
- Delivery in convenient storage boxes



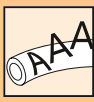
TAGHT – High temperature tag to identify cables and wire harnesses.

MATERIAL	Polyvinylidene Fluoride cross-linked (PVDFX)
Operating Temperature	-55 °C to +225 °C
Flammability	UL 224 VW-1
Recommended Ribbon Type	TTRHT
Thermal Transfer Printer	TT430, TT4030



PART DESCRIPTION	Length (L)	Width (W)
TAGHT10X51-4WH-PVDFX-WH	51.0	10.0
TAGHT20X51-4WH-PVDFX-WH	51.0	20.0
TAGHT20X51-6WH-PVDFX-WH	51.0	20.0

All dimensions in mm. Subject to technical changes.



Self-laminating labels, thermal transfer

Helatag 323 (White-Transparent), high temperature

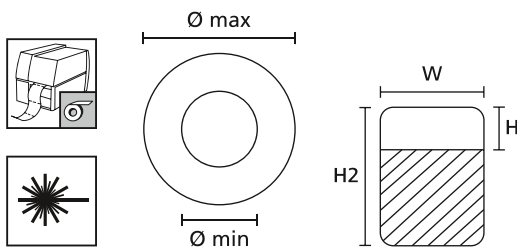
This self-laminating label consists of a printable area plus a lamination function for protection of print text against humidity, dirt, debris and mechanical abrasion. It is ideally suited for wire and cable marking in both high temperature and outside environments, particular used in industry as well as military technology.

Features and benefits

- High temperature self-laminating labels with an inscription field
- Extremely scratch and chemical resistant
- Protective laminating foil ensures optimal protection against humidity, dirt, debris, and mechanical abrasion
- Survives 5 years external weathering in central European climate



Easy marking of flexible, semi-rigid and rigid cables and wires.

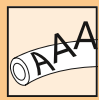


MATERIAL	Type 323, Polyvinylidene Fluoride (PVDF)
Operating Temperature	-40 °C to +140 °C, intermittent +160 °C
Curing Temperature	from +10 °C
Adhesive	Acrylic
Thickness of Foil	25 µm
Chem. Material Properties	Excellent resistance against water, UV radiation, weather influence and solvents based on petroleum.
Recommended Ribbon Type	TT932DOUT
Thermal Transfer Printer	TT430, TT4030



PART DESCRIPTION	Bundle Ø min.	Bundle Ø max.	Width (W)	Height (H)	Height (H2)	Width of Liner (WL)	Labels per Row
TAG51TD3-323-WHCL-323-CL/WH	1.4	3.0	25.4	8.8	19.1	85.0	3 pcs.
TAG26TD6-323-WHCL-323-CL/WH	1.5	3.0	12.7	9.5	19.1	85.0	6 pcs.
TAG36TD7-323-WHCL-323-CL/WH	2.0	4.7	12.7	9.0	23.8	95.0	7 pcs.
TAG24TD1-323-WHCL-323-CL/WH	3.5	7.6	50.8	12.7	36.5	55.0	1 pc.
TAG2TD6-323-WHCL-323-CL/WH	3.5	7.6	12.7	12.7	36.5	82.0	6 pcs.
TAG22TD3-323-WHCL-323-CL/WH	3.5	7.6	25.4	12.7	36.5	82.0	3 pcs.
TAG23TD5-323-WHCL-323-CL/WH	4.5	10.0	19.1	12.7	44.5	101.6	5 pcs.
TAG25TD3-323-WHCL-323-CL/WH	4.5	10.0	25.4	12.7	44.5	82.0	3 pcs.
TAG9TD3-323-WHCL-323-CL/WH	5.5	12.1	25.4	19.1	57.1	82.0	3 pcs.
TAG10TD2-323-WHCL-323-CL/WH	5.5	12.1	49.5	19.1	57.1	101.6	2 pcs.
TAG1TD2-323-WHCL-323-CL/WH	8.5	18.2	48.2	19.1	79.2	101.6	2 pcs.
TAG3TD3-323-WHCL-323-CL/WH	10.0	22.2	25.4	25.4	95.3	82.0	3 pcs.
TAG6TD1-323-WHCL-323-CL/WH	10.0	22.2	50.8	25.4	95.3	55.0	1 pc.
TAG107TD3-323-WHCL-323-CL/WH	12.0	37.5	25.4	31.8	149.9	82.0	3 pcs.
TAG38TD3-323-WHCL-323-CL/WH	20.8	47.5	25.4	38.1	187.2	82.0	3 pcs.
TAG07TD1-323-WHCL-323-CL/WH	20.8	47.5	50.8	25.4	187.2	55.0	1 pc.

All dimensions in mm. Subject to technical changes.
More colours on request.



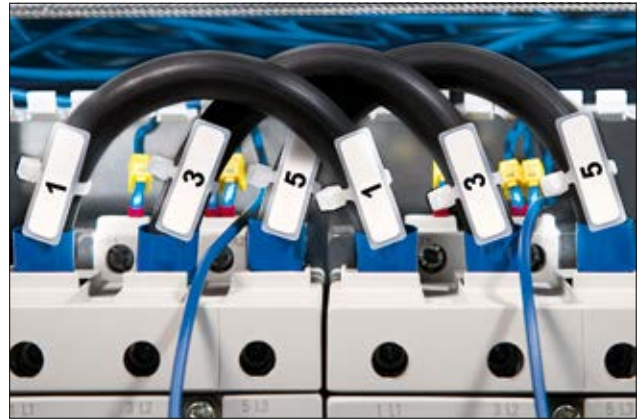
Identification ties and plates for marking cable bundles

IT Ties

One of the major benefits is the ability to both secure and identify cable bundles at different times.

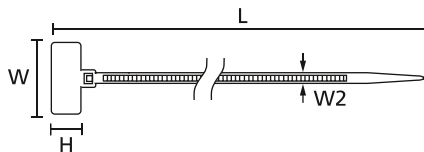
Features and benefits

- Identification ties made of Polyamide 6.6
- For simple identification and securing of cable bundles in one step
- Printable labels are available for a professional finish
- Manual or temporary marking is possible with an indelible pen (T82S-BK / T82R-RD)

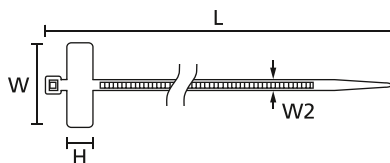


One operation with two user benefits.

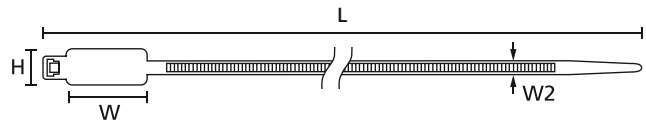
MATERIAL	Polyamide 6.6 (PA66)
Operating Temperature	-40 °C to +85 °C
Flammability	UL 94 V2



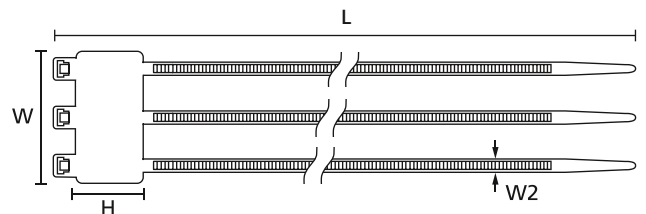
IT18FL



IT18R



IT50R



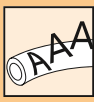
IT50RT

PART DESCRIPTION	Bundle Ø min.	Bundle Ø max.	Width (W)	Height (H)	Length (L)	Width (W2)		Recommended Labels
IT18FL-PA66-NA	1.5	19.0	20.5	9.0	110.0	2.5	80	TAG18-07TD1
IT18R-PA66-NA	6.0	22.0	25.0	8.0	100.0	2.3	80	TAG23-06TD1
IT50R-PA66-NA	9.5	44.5	28.0	12.9	203.0	4.6	225	TAG23-10TD1
IT50RD-PA66-NA	10.0	44.0	29.0	26.3	205.0	4.7	225	TAG26-21TD1
IT50RT-PA66-NA	10.0	44.0	46.0	26.3	205.0	4.7	225	TAG43-21TD1
IT50L-PA66-NA	19.0	100.0	56.0	12.8	390.0	4.7	225	TAG52-10TD1

All dimensions in mm. Subject to technical changes.
More colours on request.

PART DESCRIPTION	Description
T82S-BK-PL-BK	Indelible Marker Pen
T82R-RD-PL-RD	Indelible Marker Pen

Subject to technical changes.



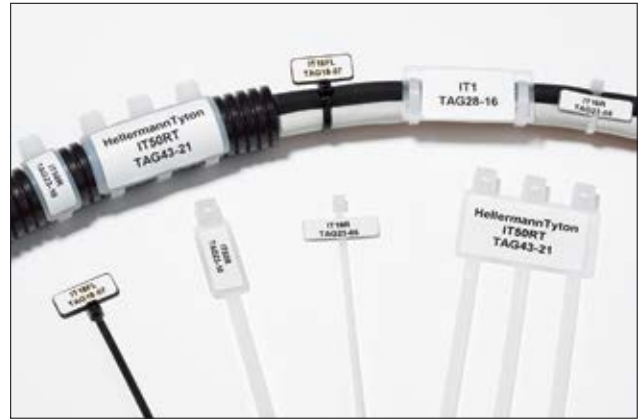
Labels for IT ties, IMP plates and Q-tags, thermal transfer

Helatag 892 (White)

These labels are specially tailored to the sizes used in the IT marking tie and IMP/IT as well as Q-tag range. The flexible material sticks to the marking tie or tag, even on rounded surfaces. Print with HellermannTyton's premium range of thermal transfer printers and ribbons for optimum print results. Using unique numbering, graphics or barcodes the labels give excellent asset identification possibilities. This solution produces professional marking of tubes, pipes, cables and other parts.

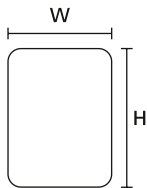
Features and benefits

- Suited to the slightly rough surfaces of Q-tags, IT ties and IMP/IT plates
- Adheres to rounded surfaces
- Rounded corners ensure better long term durability of adhesion
- White labels give excellent contrast



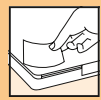
Identification ties and tags.

MATERIAL	Type 892, Vinyl (PVC), white (WH)
Operating Temperature	-40 °C to +80 °C
Curing Temperature	from 0 °C
Adhesive	Acrylic
Thickness of Foil	83 µm
Chem. Material Properties	Good resistance against water, oils and most solvents.
Recommended Ribbon Type	TT822OUT
Thermal Transfer Printer	TT430, TT4030



PART DESCRIPTION	Width (W)	Height (H)	Width of Liner (WL)	Labels per Row	For Size
TAG18-07TD1-892-WH-892-WH	18.0	7.0	24.0	1 pc.	IT18FL
TAG18-16TD1-892-WH-892-WH	18.0	16.0	24.0	1 pc.	IMP1.5
TAG23-06TD1-892-WH-892-WH	23.0	6.0	30.0	1 pc.	IT18R
TAG23-10TD1-892-WH-892-WH	23.0	10.0	30.0	1 pc.	IT50R
TAG26-21TD2-892-WH-892-WH	26.0	21.0	57.0	2 pcs.	IT50RD
TAG28-16TD1-892-WH-892-WH	28.0	16.0	34.0	1 pc.	IT1, IMP2
TAG43-16TD1-892-WH-892-WH	43.0	16.0	50.0	1 pc.	IMP2.5
TAG43-21TD1-892-WH-892-WH	43.0	21.0	50.0	1 pc.	IT50RT
TAG43-41TD1-892-WH-892-WH	43.0	41.0	50.0	1 pc.	IMP2.5W1.75
TAG52-10TD1-892-WH-892-WH	52.0	10.0	58.0	1 pc.	IT50L
TAG63TD1-892-WH-892-WH	63.5	38.1	70.0	1 pc.	QT7040R, QT7040S
TAG68-16TD1-892-WH-892-WH	68.0	16.0	74.0	1 pc.	IMP3.5, QT7016R
TAG102-64TD1-892-WH-892-WH	102.0	64.0	106.0	1 pc.	QT10065R

All dimensions in mm. Subject to technical changes.



Type label identification, thermal transfer

Helatag 1204 (Silver-matt)

This silver-matt label is scratch-resistant and is ideal for usage as identification or name plate in industrial environments. The high temperature range suits a wide range of applications on flat surfaces. The adhesive is also suitable for critical surfaces like plastic and paint. Designing and printing labels is simple and users can quickly print out professional labels in a matter of moments when using TagPrint Pro labelling software.

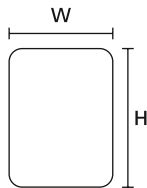
Features and benefits

- Replacement option for aluminium plates
- For applications on flat surfaces
- Allows the identification on critical surfaces, e.g. paints and plastic variants
- Print labels with customer unique references
- Use text, graphics and barcodes as required



Professional type plate on a heating unit.

MATERIAL	Type 1204, Polyester (PET)
Operating Temperature	-40 °C to +150 °C
Curing Temperature	from 0 °C
Adhesive	Acrylic
Thickness of Foil	55 µm
Chem. Material Properties	Excellent resistance to water, alcohol, most oils, greases, fuel, aliphatic solvents, weak acids, salts and alkalis.
Recommended Ribbon Type	TT822OUT
Thermal Transfer Printer	TT430, TT4030



PART DESCRIPTION	Width (W)	Height (H)	Width of Liner (WL)	Labels per Row
TAG71TD6-1204-SR-1204-ML	12.7	11.1	101.6	6 pcs.
TAG13TD4-1204-SR-1204-ML	19.1	6.4	101.6	4 pcs.
TAG34TD3-1204-SR-1204-ML	25.4	9.5	85.1	3 pcs.
TAG15TD3-1204-SR-1204-ML	25.4	12.7	85.1	3 pcs.
TAG35TD3-1204-SR-1204-ML	31.8	9.5	101.6	3 pcs.
TAG17TD2-1204-SR-1204-ML	38.1	6.4	85.1	2 pcs.
TAG27TD2-1204-SR-1204-ML	38.1	19.1	85.1	2 pcs.
TAG67TD2-1204-SR-1204-ML	38.1	31.8	85.1	2 pcs.
TAG69TD2-1204-SR-1204-ML	40.6	22.9	89.0	2 pcs.
TAG77TD1-1204-SR-1204-ML	50.8	22.9	55.0	1 pc.
TAG73TD1-1204-SR-1204-ML	50.8	25.4	55.0	1 pc.
TAG66TD1-1204-SR-1204-ML	50.8	36.5	56.8	1 pc.
TAG63TD1-1204-SR-1204-ML	63.5	38.1	70.0	1 pc.
TAG76TD1-1204-SR-1204-ML	63.5	50.8	70.0	1 pc.
TAG72TD1-1204-SR-1204-ML	69.9	31.8	76.0	1 pc.
TAG65TD1-1204-SR-1204-ML	76.2	36.5	82.0	1 pc.
TAG62TD1-1204-SR-1204-ML	76.2	50.8	82.0	1 pc.
TAG64TD1-1204-SR-1204-ML	88.9	36.5	95.0	1 pc.
TAG97TD1-1204-SR-1204-ML	101.6	74.0	106.0	1 pc.
TAG02TD1-1204-SR-1204-ML	104.0	12.0	104.0	1 pc.
TAGR3TD1-1204-SR-1204-ML	104.0	75,000.0	108.0	1 pc.

All dimensions in mm. Subject to technical changes.



Asset identification label, thermal transfer

Helatag 1206 (White gloss)

This white label is scratch-resistant and is ideal for usage as identification or name plate in industrial environments. The high temperature range suits a wide range of applications on flat surfaces. The adhesive is also suitable for critical surfaces like plastic and paint.

Designing and printing labels is simple and users can quickly print out professional labels in a matter of moments when using TagPrint Pro labelling software.

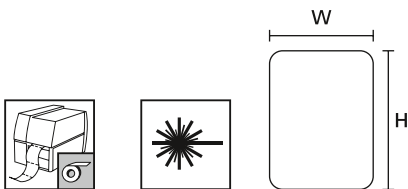
Features and benefits

- Ideal for machinery operating in high temperature areas (up to +150 °C)
- For applications on flat surfaces
- Chemical resistant polyester foil
- For permanent and ageing-resistant identification
- Barcodes and alphanumeric text remain pin sharp on this high quality material
- White colour guarantees a suitable contrast for all barcode scanners to read printed barcodes



Helatag labels for permanent asset identification.

MATERIAL	Type 1206, Polyester (PET), white gloss (GSWH)
Operating Temperature	-40 °C to +150 °C
Curing Temperature	from 0 °C
Adhesive	Acrylic
Thickness of Foil	50 µm
Chem. Material Properties	Excellent resistance to water, alcohol, most oils, greases, fuel, aliphatic solvents, weak acids, salts and alkalis.
Recommended Ribbon Type	TT822OUT
Thermal Transfer Printer	TT430, TT4030



PART DESCRIPTION	Width (W)	Height (H)	Width of Liner (WL)	Labels per Row
TAG71TD6-1206-WH-1206-WH	12.7	11.1	101.6	6 pcs.
TAG13TD4-1206-WH-1206-WH	19.1	6.4	101.6	4 pcs.
TAG16TD3-1206-WH-1206-WH	22.9	6.4	80.0	3 pcs.
TAG61TD3-1206-WH-1206-WH	25.4	4.8	89.0	3 pcs.
TAG01TD3-1206-WH-1206-WH	25.4	6.4	89.0	3 pcs.
TAG34TD3-1206-WH-1206-WH	25.4	9.5	85.1	3 pcs.
TAG15TD3-1206-WH-1206-WH	25.4	12.7	85.1	3 pcs.
TAG31TD3-1206-WH-1206-WH	25.4	19.1	85.1	3 pcs.
TAG35TD3-1206-WH-1206-WH	31.8	9.5	101.6	3 pcs.
TAG17TD2-1206-WH-1206-WH	38.1	6.4	85.1	2 pcs.
TAG27TD2-1206-WH-1206-WH	38.1	19.1	85.1	2 pcs.

All dimensions in mm. Subject to technical changes.

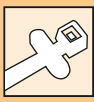


Asset identification label, thermal transfer

Helatag 1206 (White gloss)

PART DESCRIPTION	Width (W)	Height (H)	Width of Liner (WL)	Labels per Row
TAG67TD2-1206-WH-1206-WH	38.1	31.8	85.1	2 pcs.
TAG69TD2-1206-WH-1206-WH	40.6	22.9	89.0	2 pcs.
TAG77TD1-1206-WH-1206-WH	50.8	22.9	55.0	1 pc.
TAG73TD1-1206-WH-1206-WH	50.8	25.4	55.0	1 pc.
TAG68TD1-1206-WH-1206-WH	63.5	25.4	69.0	1 pc.
TAG63TD1-1206-WH-1206-WH	63.5	38.1	70.0	1 pc.
TAG76TD1-1206-WH-1206-WH	63.5	50.8	70.0	1 pc.
TAG4TD1-1206-WH-1206-WH	65.0	20.0	70.0	1 pc.
TAG72TD1-1206-WH-1206-WH	69.9	31.8	76.0	1 pc.
TAG65TD1-1206-WH-1206-WH	76.2	36.5	82.0	1 pc.
TAG62TD1-1206-WH-1206-WH	76.2	50.8	82.0	1 pc.
TAG64TD1-1206-WH-1206-WH	88.9	36.5	95.0	1 pc.

All dimensions in mm. Subject to technical changes.



Cable ties 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.

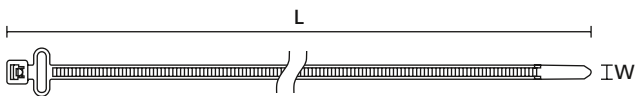
Features and benefits

- 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




T50RFID – cable ties with RFID transponder.


MATERIAL	Polyamide 6.6 (PA66)	
Frequency	125 kHz (LF)	13.56 MHz (HF)
Idle Temperature	-40 °C to +85 °C	
Operating Temperature	-40 °C to +85 °C	-25 °C to +85 °C
Flammability	UL 94 V2	

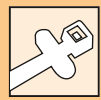


T50RFID, MCTRFID

PART DESCRIPTION	Frequency	Bundle Ø min.	Bundle Ø max.	Width (W)	Length (L)	
T50RFIDCLA-PA66-YE	125 kHz (LF)	1.5	50.0	4.6	200.0	225
T50RFIDCHA-PA66-YE	13.56 MHz (HF)	1.5	50.0	4.6	200.0	225
T50RFIDCHA-PA66-BK	13.56 MHz (HF)	1.5	50.0	4.6	200.0	225
T50RFIDCHA-PA66-BU	13.56 MHz (HF)	1.5	50.0	4.6	200.0	225

All dimensions in mm. Subject to technical changes.

 = Minimum Loop Tensile Strength for Cable Ties (Newton)



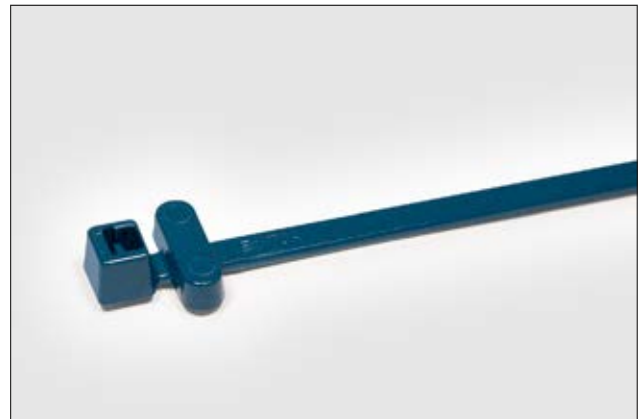
Detectable cable ties with integrated RFID transponder

MCTRFID – Low Frequency (LF) and High Frequency (HF)

Metal content RFID cable ties offer an innovative solution for unique and fast product identification thanks to the fitting of a transponder directly to the cable tie. The metal content RFID cable ties are made with a percentage of a metallic trace element (magnet/X-Ray) and have been especially developed for industries where the potential for foreign body contamination is a problem. The ties can be used for securing, serialisation, tracking and identification of products e.g. in the food processing or pharmaceutical industry to support quality control effort.

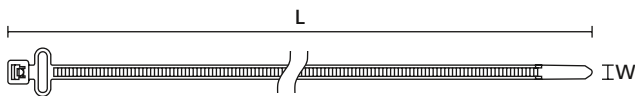
Features and benefits

- Magnetic or X-Ray detectable RFID cable ties (detection level depending on specific application)
- Total metal dispersion throughout the tie
- For safe handling of production processes
- Blue colour for easy visual detection
- 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




MCTRFID – detectable cable ties (metal content) with RFID transponder.

MATERIAL	Polyamide 6.6, with metal particles (PA66MP)	
Frequency	125 kHz (LF)	13.56 MHz (HF)
Idle Temperature	-40 °C to +85 °C	
Operating Temperature	-40 °C to +85 °C	-25 °C to +85 °C
Flammability	UL 94 HB	

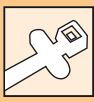


T50RFID, MCTRFID

PART DESCRIPTION	Frequency	Bundle Ø min.	Bundle Ø max.	Width (W)	Length (L)	
MCTRFIDCLA-PA66MP-BU	125 kHz (LF)	1.5	50.0	4.6	200.0	225
MCTRFIDCHA-PA66MP-BU	13.56 MHz (HF)	1.5	50.0	4.6	200.0	225

All dimensions in mm. Subject to technical changes.

 = Minimum Loop Tensile Strength for Cable Ties (Newton)



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 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.

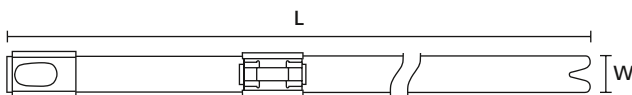
Features and benefits

- 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.


MATERIAL	Stainless Steel (SS316), Polyester (SP)	
Frequency	13.56 MHz (HF)	869 MHz (UHF)
Idle Temperature	-25 °C to +70 °C	-40 °C to +85 °C
Operating Temperature	-25 °C to +70 °C	-40 °C to +85 °C
Flammability	non-burning (except coating)	



MBTRFID

PART DESCRIPTION	Frequency	Bundle Ø min.	Bundle Ø max.	Width (W)	Length (L)	
MBT8HFCRFID-SS316/SP-RD	13.56 MHz (HF)	17.0	50.0	7.9	201.0	1,020
MBT14HFCRFID-SS316/SP-RD	13.56 MHz (HF)	17.0	102.0	7.9	362.0	1,020
MBT20HFCRFID-SS316/SP-RD	13.56 MHz (HF)	17.0	152.0	7.9	521.0	1,020
MBT27HFCRFID-SS316/SP-RD	13.56 MHz (HF)	17.0	203.0	7.9	681.0	1,020
MBT33HFCRFID-SS316/SP-RD	13.56 MHz (HF)	17.0	254.0	7.9	838.0	1,020
MBT8HHFRFID-SS316/SP-RD	869 MHz (UHF)	17.0	50.0	7.9	201.0	1,020
MBT14HHFRFID-SS316/SP-RD	869 MHz (UHF)	17.0	102.0	7.9	362.0	1,020
MBT20HHFRFID-SS316/SP-RD	869 MHz (UHF)	17.0	152.0	7.9	521.0	1,020
MBT27HHFRFID-SS316/SP-RD	869 MHz (UHF)	17.0	203.0	7.9	681.0	1,020
MBT33HHFRFID-SS316/SP-RD	869 MHz (UHF)	17.0	254.0	7.9	838.0	1,020

All dimensions in mm. Subject to technical changes.

 = Minimum Loop Tensile Strength for Cable Ties (Newton)



Accessories with RFID transponder

HEXTAG – High Frequency (HF)

The HEXTAG made from PA66 is equipped with a transponder of HF frequency. The central hole allows a simple mounting in applications where a RFID cable tie solution is not suitable. All HellermannTyton RFID products can be used 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.

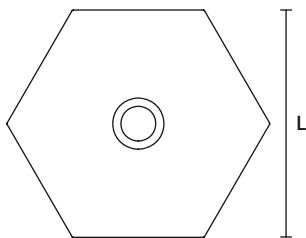
Features and benefits

- Can be fitted using a chosen fixing element through the centre hole
- 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
- High frequency (HF – 13.56 MHz)
- Rewritable
- Yellow colour for easy visual detection



RFID HEXTAG – for applications where a RFID cable tie solution is not suitable.

MATERIAL	Polyamide 6.6 (PA66)
Frequency	13.56 MHz (HF)
Idle Temperature	-40 °C to +85 °C
Operating Temperature	-40 °C to +85 °C
Flammability	UL 94 V2



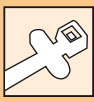
HEXTAG (front view)



HEXTAG (side view)

PART DESCRIPTION	Frequency	Height (H)	Length (L)	Length (L2)
RFID HEXTAG-PA66-YE	13.56 MHz (HF)	8.0	33.4	38.39

All dimensions in mm. Subject to technical changes.



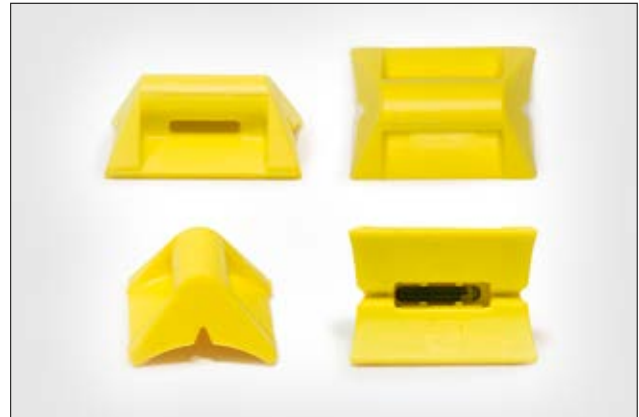
Accessories with RFID transponder

CRADLE – High Frequency (HF)

The CRADLE equipped with a HF transponder can be used with standard HellermannTyton cable ties. All RFID products can be used 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.

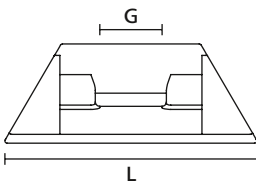
Features and benefits

- Cable tie slot to suit HellermannTyton's standard cable ties up to 7.9 mm wide
- Made from durable TPU and is suitable to be used in salt water conditions
- 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
- Date on RFID chip can be reprogrammed (HF) – no waste
- Yellow colour for easy visual detection
- Other colours and frequencies are available on request
- High frequency (HF – 13.56 MHz)
- Rewritable

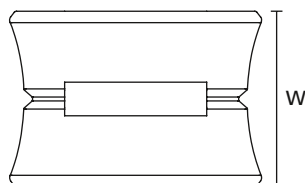


RFID CRADLE – can be used with a standard HellermannTyton cable tie.

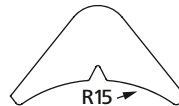
MATERIAL	Thermoplastic Polyurethane (TPU)
Frequency	13.56 MHz (HF)
Idle Temperature	-40 °C to +85 °C
Operating Temperature	-25 °C to +85 °C
Flammability	UL 94 V2



CRADLE (front view)



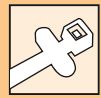
CRADLE (rear view)



CRADLE (side view)

PART DESCRIPTION	Frequency	Width (W)	Length (L)	Strap Width max. (G)
RFID CRADLE-TPU-YE	13.56 MHz (HF)	19.8	27.9	7.9

All dimensions in mm. Subject to technical changes.



RFID Readers

RFID Handheld Reader

The HS9 handheld RFID readers are designed to read LF transponders and read/write to HF transponders fitted to HellermannTyton RFID cable ties and accessories. The readers act as an interface between the RFID transponder and computer systems or databases. Radio waves transmit the data from the RFID transponder to the reader, so that contactless reading and/or writing of information is possible. The HS9 reader is available for low frequency (LF, 125 kHz, read-only) and for high-frequency (HF, 13.56 MHz, read and write) transponders. RFID system solutions can make a significant contribution to improving the process reliability and quality in a variety of industries.

Features and benefits

- RFID handheld reader
- Write capability on request
- Low frequency (LF – 125 kHz)
- High frequency (HF – 13.56 MHz)
- USB, HID interface
- Wireless transmission via Bluetooth
- Operator convenience
- Lightweight and handy design
- Compatible with Android- and iOS-devices
- 9V alkaline battery included



RFID-HS9 – handheld readers for low frequency (LF) and high frequency (HF) transponders.

Operating Temperature	0 °C to +55 °C
Interfaces	USB, Bluetooth, HID
L x W x H	135.0 mm x 70.0 mm x 24.0 mm



PART DESCRIPTION	Frequency	Weight
RFID-HS9BT-LF-ABS-BK	125 kHz (LF)	0.165 kg
RFID-HS9BT-HF-ABS-BK	13.56 MHz (HF)	0.185 kg

Subject to technical changes.

RFID Desktop Reader

The RFID-DT22 desktop reader for stationary use has been designed to read and write from/to high frequency (HF 13.56 MHz) transponders fitted to HellermannTyton RFID cable ties and accessories. The reader acts as an interface to computer systems and databases. Radio waves transmit the data from the transponder to the reader, so that contactless reading of information is possible. RFID system solutions can make a significant contribution to improving the process reliability and quality in a variety of industries.

Features and benefits

- RFID desktop reader
- High frequency (HF – 13.56 MHz)
- For reading and writing of data
- USB, HID interface
- Operator convenience
- Lightweight and handy design



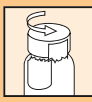
RFID-DT22 – desktop reader for high frequency (HF) transponders.

Operating Temperature	-25 °C to +60 °C
Interfaces	USB, HID
L x W x H	110.0 mm x 110.0 mm x 30.0 mm



PART DESCRIPTION	Frequency	Weight
RFID-DT22-HF-ABS-BK	13.56 MHz (HF)	0.2 kg

Subject to technical changes.



Tamper-evident security labelling, thermal transfer

Helatag 1208 (White), fragmenting

These special labels are optimally suited for tamper-proof identification of valuable inventory items as well as a security and guarantee seal for components and housings.

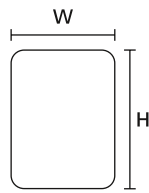
Features and benefits

- Security label
- Fragments on removal
- Designed weak spots makes label removal time consuming



Helatag 1208 – a secure way of identifying if an asset label has been tampered with.

MATERIAL	Type 1208, Acetate foil (CA), white (WH), tamper-proof
Operating Temperature	-40 °C to +150 °C
Curing Temperature	from +4 °C
Adhesive	Acrylic
Thickness of Foil	56 µm
Chem. Material Properties	Resistant to oils, water and solvents.
Recommended Ribbon Type	TT822OUT
Thermal Transfer Printer	TT430, TT4030



PART DESCRIPTION	Width (W)	Height (H)	Width of Liner (WL)	Labels per Row
TAG71TD6-1208-WH-1208-WH	12.7	11.1	101.6	6 pcs.
TAG15TD3-1208-WH-1208-WH	25.4	12.7	85.1	3 pcs.
TAG27TD2-1208-WH-1208-WH	38.1	19.1	85.1	2 pcs.
TAG67TD2-1208-WH-1208-WH	38.1	31.8	85.1	2 pcs.
TAG69TD2-1208-WH-1208-WH	40.6	22.9	89.0	2 pcs.
TAG73TD1-1208-WH-1208-WH	50.8	25.4	55.0	1 pc.
TAG66TD1-1208-WH-1208-WH	50.8	36.5	56.8	1 pc.

All dimensions in mm. Subject to technical changes.



Tamper-evident security labelling, thermal transfer

Helatag 951 (Silver, Transparent), 2 parts

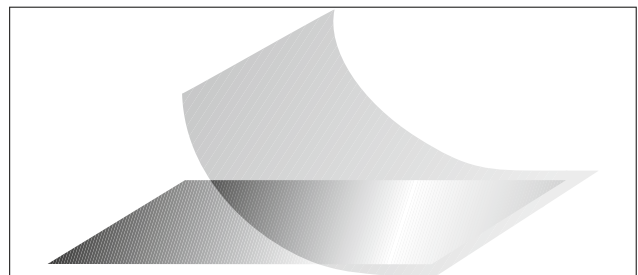
These labels are primarily used for tamper-proof type label applications in the automotive and electrical industries. They are ideally suited for labelling flat surfaces, e.g. on vehicle frames and can be used as a replacement for conventional aluminium plates. The transparent protective laminate guarantees good resistance to dirt and abrasion and can be easily applied by hand.

Features and benefits

- 2-part label, delivered on reel together with the protective label
- Designed for highly visible and rugged identification on trucks and trailers
- Tamper-evident, when pulled off a checkered pattern will be visible as evident
- High durability in outside use
- Thickness of 951A label 36 µm and 951B laminate 25 µm
- Particularly suitable as type label for vehicles

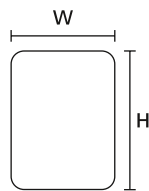


Type plate of an HGV trailer with protective laminate.



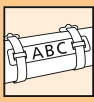
The printed silver type plate (Mat. 951A) is protected by the transparent laminate (Mat. 951B).

MATERIAL	Type 951, Polyester (PET), silver (SR) and Polyester (PET), transparent (CL)
Operating Temperature	-40 °C to +150 °C
Curing Temperature	from 0 °C (label), from +4 °C (laminate)
Adhesive	Acrylic
Thickness of Foil	36 µm, 25 µm
Chem. Material Properties	Resistant to gasoline, mineral oils, greases, aliphatic solvents, weak acids, salts and alkalis.
Recommended Ribbon Type	TT822OUT
Thermal Transfer Printer	TT430, TT4030



PART DESCRIPTION	Width (W)	Height (H)	Width of Liner (WL)	Labels per Row
TAG25.4-12.7TD1-951 SET-951-ML	25.4	12.7	31.5	1 pc.
TAG50.8-25.4TD1-951 SET-951-ML	50.8	25.4	56.8	1 pc.
TAG63.5-50.8TD1-951 SET-951-ML	63.5	50.8	69.5	1 pc.
TAG101-74TD1-951 SET-951-ML	101.6	74.0	107.0	1 pc.
TAG101-160TD1-951 SET-951-ML	101.6	160.0	105.8	1 pc.

All dimensions in mm. Subject to technical changes.



Stainless steel embossing 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
- 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
- 45 piece character set as standard - can be upgraded to 60 characters
- 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
- Other symbols available on request



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

Print Method	Embossing
Power Supply	AC 110V-240V, 45/65 Hz, 1.5A-3A
Cycle Time	1 second per character
Interfaces	USB 2.0
System Requirements	MS Windows XP SP3, Vista SP1, Win 7, 8, 10
Dimensions W x H x D	480 mm x 353 mm x 570 mm
Weight	41.0 kg



For problem-free printing we recommend TagPrint Pro, page 286.



PART DESCRIPTION

M-BOSS Compact-BU

Subject to technical changes.



1.5 million strikes per character without maintenance

Stainless steel embossing system

M-BOSS Compact including Organiser

The M-BOSS Compact with included 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 430 mm 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 simple solution to managing your printer output.

PART DESCRIPTION

M-BOSS Compact Organiser-BU

Subject to technical changes.



Stainless steel printing system

M-BOSS Compact Markers

M-BOSS Compact 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.

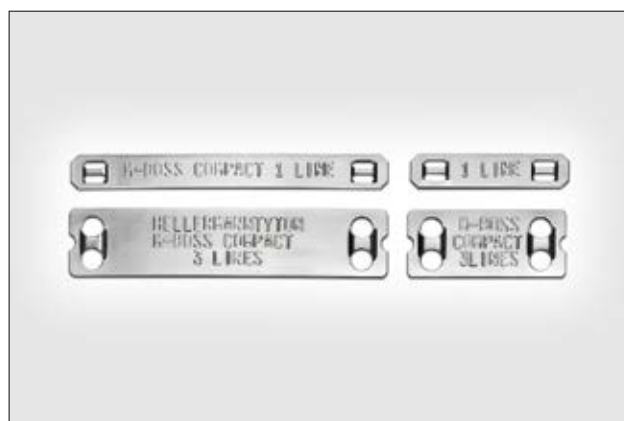
The raised surface of the embossed print ensures that the text remains visible even with dirt, grease, and paint cover the marker. The physical characteristics of the metal and the height of the embossed mark allows users to apply a stiff or metallic brush to the surface and remove excess layers of paint 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

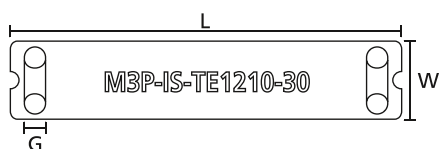


Marker plates designed to survive the harshest environments.

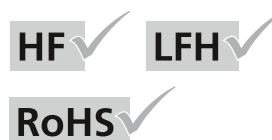


A range of metal plate sizes to suit your needs.

MATERIAL	Stainless Steel (SS316)
Operating Temperature	-80 °C to +538 °C

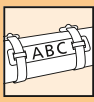


MBML



PART DESCRIPTION	Strap Width max. (G)	Number of lines	Characters per line	Number of characters	Width (W)	Length (L)
MBML10X45-SS316-ML	4.6	1	8	8	10.0	44.5
MBML10X90-SS316-ML	4.6	1	23	23	10.0	89.5
MBML20X45-SS316-ML	4.6	3	8	24	20.0	44.5
MBML20X90-SS316-ML	4.6	3	23	69	20.0	89.5

All dimensions in mm. Subject to technical changes.



Identification plates for marking cable bundles

HFTP PEEK for high temperature applications

PEEK tags have been specifically designed for use in high temperature environments. The HFTP tags are applied to cables and harness assemblies with cable ties, and are also suitable for retrofit purposes. The material has been conditioned for printing with a laser beam and gives both excellent print definition and print durability.

Features and benefits

- For high temperature applications from -55°C up to +240°C
- Laser beam printable
- Identify cable or cable bundles
- Available in beige
- Fixed with PEEK cable ties

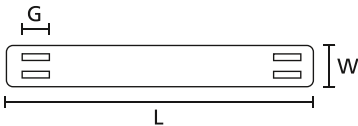


A clearly better way of identifying cables and pipes.

MATERIAL	Polyetheretherketone (PEEK)
Operating Temperature	-55 °C to +240 °C
Flammability	UL 94 V0



Other dimensions are available on request.



HFTP48

PART DESCRIPTION	Length (L)	Width (W)	Strap Width max. (G)
HFTP48-PEEK-BGE	48.0	9.5	3.4

All dimensions in mm. Subject to technical changes.



Protective laminates, thermal transfer

Helatag 323 (Transparent), high temperature

Protective laminates are used for the additional protection of printed type labels, for example in the automotive sector and for other outdoor installations. The protective laminates are also used if the contours of a label, for example on glass surfaces or backlit objects, should not be visible (no-label look).

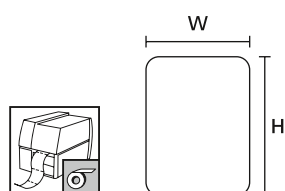
Features and benefits

- High temperature transparent material
- Ideal as a protective laminate or as a printed label
- The barrier label needs to overlap the covered label
- Survives 5 years external weathering in central European climate
- Provides additional protection against chemicals for the underlying label



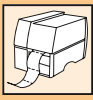
Helatag protective laminates.

MATERIAL	Type 323, Polyvinylidene Fluoride (PVDF), transparent (CL)
Operating Temperature	-40 °C to +140 °C, intermittent +160 °C
Curing Temperature	from +10 °C
Adhesive	Acrylic
Thickness of Foil	25 µm
Chem. Material Properties	Excellent resistance against water, UV radiation, weather influence and solvents based on petroleum.
Recommended Ribbon Type	TT822OUT
Thermal Transfer Printer	TT430, TT4030



PART DESCRIPTION	Width (W)	Height (H)	Width of Liner (WL)	Labels per Row
TAG0638TL2-323-CL-323-CL	43.2	11.4	94.9	2 pcs.
TAG1351TL1-323-CL-323-CL	55.9	17.8	62.0	1 pc.
TAG2551TL1-323-CL-323-CL	55.9	30.5	62.0	1 pc.
TAG3863TL1-323-CL-323-CL	68.6	43.2	75.0	1 pc.

All dimensions in mm. Subject to technical changes.



Labelling software

TagPrint Pro 3.0

TagPrint Pro 3.0 is the easy-to-use label/marker design and printing software in the HellermannTyton printing. Compatible with Windows® 7, Vista and XP as well as future operating systems such as Windows® 8, TagPrint Pro 3.0 delivers an individualised, task-based experience that enables a user to easily develop print templates including bar codes, text and graphics to meet numerous applications. TagPrint Pro 3.0 streamlines labeling production by offering a user full control over the importing or entering of data, advanced security features, the option to group label designs under a single file name or job number, and the ability to batch print to either one or more printers at the same time.

Features and benefits

- Easy and intuitive label/marker template design
- WYSIWYG
- Print to multiple printers at one time
- Save jobs in a queue and print all at one time with "Print later" function
- Connect or import directly from other databases including Excel, Access, text files
- Text, graphics and barcode functionalities
- Full text editing functions
- Inverse, flip, and mirror image options for graphic images
- Print log available



The easy to use software speeds up production of markers, labels and identification tags.

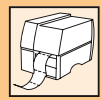
System Requirements	<p>TagPrint Pro Standalone/TagPrint Pro Client PC running Microsoft Windows XP SP3, Vista SP1 or later, Windows 7, 8, 10 .NET Framework 4 512 MB RAM (XP SP3) 1.0 GB RAM (Vista/Windows 7, 8, 10) 500 MB available hard disk space.</p>
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PART DESCRIPTION

TagPrint Pro 3.0 EMEA-PL-WH

Subject to technical changes.



Thermal transfer printer

TT430, Small to medium volume printing

The TT430 thermal transfer printer is perfect for printing on HellermannTyton materials such as self-adhesive labels, shrinkable tubing and identification tags. Thanks to its low weight and compact construction, the TT430 integrates seamlessly into any workstation. It is easy to use due to its intuitive touch display and clear status messages which can be shown in multiple languages. The optional cutter and perforator make this printer ideal for a wide range of applications. 300 dpi resolution ensures that barcodes, warning symbols, logos and text are as sharp as they can be.

Features and benefits

- Medium volume single sided printing
- Print on HellermannTyton cable markers and labels
- Uses standard ribbons
- Barcodes: standard and 2D
- Print speed up to 125 mm/s (30 mm/s recommended for Ladder Style products and tubing)
- Adjustable label sensor
- Multiple language selection
- Windows drivers: 32/64 bit for Windows XP, Windows Vista, Windows 7, 8, 10



TT430 thermal transfer printer.

Print Method	Thermal transfer
Print Head Type	300 dpi, flat type
Print Speed	up to 125 mm/s
Max. Print Width	106 mm
Label Height Max (metric)	1,000 mm
Interfaces	USB 2.0, Ethernet 10/100 Base T
Supported Barcodes, Printer	Standard and 2D
Printer Memory	64 MB RAM
Dimensions W x H x D	253 mm x 189 mm x 322 mm
Weight	4 kg

PART DESCRIPTION

TT430-GY

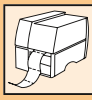
Subject to technical changes.



Accessories for Thermal Transfer Printer TT430

PART DESCRIPTION	Description
S430 Cutter-GY	Cutter for TT430
P430 Perforator-GY	Perforator for TT430
TT External Reel Holder-GY	External Reel Holder
TT430 300dpi Printhead-BK	Printhead for TT430
TT430 Print Roller-BK	Print Roller for TT430

Subject to technical changes.



Thermal transfer printer

TT4030, High volume printing

HellermannTyton's premium printer TT4030 is specifically designed for medium and heavy duty industrial applications. The 300 dpi print head fulfils all standard requirements for printing bar codes, warning signs, logos and written information. Optional premium quality accessories such as a perforator and cutter are designed to work seamlessly with the printer and will suit the most demanding needs.

Printing high definition graphics such as 2D barcodes, standard bar codes, numbers and text on adhesive labels, thermo plastics such as heat shrink and cable markers (Tiptags) is easily done.

A colour LCD Touchscreen with modern user interface helps intuitive operation.

Creation of professional looking industrial identification is simplified by the use of HellermannTyton's label creation software TagPrint Pro 3.0.

Whether in stand-alone mode, as a PC application or in a network - the robust TT4030 printers can meet every requirement.

Features and benefits

- High volume single sided printing
- Print on HellermannTyton heatshrink tubing, cable markers and labels
- Uses standard 300 m ribbons
- Barcodes: standard and 2D
- Print speed up to 300 mm/s (30 mm/s recommended for ladder style products and tubing)
- Multiple language selection
- Windows drivers: 32 / 64 bit for Windows XP, Windows Vista, Windows 7, 8, 10



TT4030 thermal transfer printer for high volumes.

Print Method	Thermal transfer
Print Head Type	300 dpi, flat type
Print Speed	up to 300mm/s
Max. Print Width	105.70 mm
Label Height Max (metric)	2,000 mm
Interfaces	RS232 C, USB 2.0, Ethernet 10/100 Base T
Supported Barcodes, Printer	Standard, 2D
Printer Memory	256 MB RAM
Dimensions W x H x D	252 mm x 288 mm x 460 mm
Weight	10 kg



PART DESCRIPTION

TT4030-MET-GY

Subject to technical changes.

Thermal Transfer Printer Accessories

PART DESCRIPTION	Description
P4030 Perforator-DIV-GY	Perforator for TT4030
TT4030 Printhead-DIV-GY	Printhead for TT4030
S4030 Cutter-DIV-GY	S4030 Cutter for TT4030
TT External Reel Holder-GY	External Reel Holder
Printer Roller TT4030/TT4000+-DIV-GN	Printer Roller for TT4030/TT4000+

Subject to technical changes.



Thermal transfer ribbons for

Adhesive Labels

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. All HellermannTyton ribbons consist of a special resin composition to maximise print performance. In combination with HellermannTyton printers the ribbons ensure the highest of print quality on all HellermannTyton thermal printable identification materials.

Features and benefits

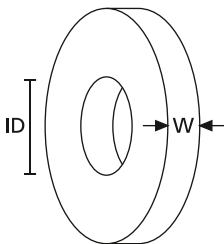
- Thermal transfer ribbons for highest quality and performance of printed labels
- Ribbons are specifically designed to maximise print performance for the recommended material



Ribbons for printing on adhesive labels.

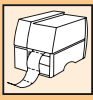


ID: The standard inside core diameter is 25.4 mm.



PART DESCRIPTION	Recommended Material	Width (W)
TT822OUT-PET-BK	323/823/880/892/951/1203/1204/1206/1208/1210/1211/1213/1216/1220/1221	60.0
	323/823/880/892/951/1203/1204/1206/1208/1210/1211/1213/1216/1220/1221	110.0
TT932DOUT 85MM-BK	323/1209	85.0
TT932DOUT 110MM-BK	323/1209	110.0

All dimensions in mm. Subject to technical changes.



Thermal printer ribbons for

Heatshrink and Tiptags

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. All HellermannTyton ribbons consist of a special resin composition to maximise print performance. In combination with HellermannTyton printers the ribbons ensure the highest of print quality on all HellermannTyton thermal printable identification materials.

Features and benefits

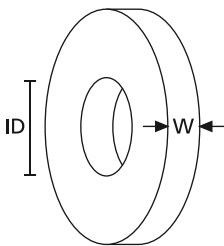
- Thermal transfer ribbons for high quality print results on heat shrink tubing and Tiptag identification tags
- Ribbons are specifically designed to maximize print performance for the recommended material



Ribbons for printing on tubes and Tiptags.



ID: The standard inside core diameter is 25.4 mm.



PART DESCRIPTION	Recommended Material	Width (W)
TTDTHOUT 60MM-PET-BK	TCGT/TULT(DS)/TLFX(DS)/TDRT(DS)/TLFD DS/TIPTAG	60.0
TTDTHOUT 100MM-PET-BK	TCGT/TULT(DS)/TLFX(DS)/TDRT(DS)/TLFD DS/TIPTAG	100.0
TTRHTBK 70MM-BK	THTT/THTT DS/TAGHT	70.0
TTRHTBK 100mm-BK	THTT/THTT DS/TAGHT	100.0
TTRHTWH 70mm-WH	THTT/THTT DS/TAGHT	70.0
TTRHTWH 100mm-WH	THTT/THTT DS/TAGHT	100.0

All dimensions in mm. Subject to technical changes.

Configure this! Modular routing clips and clamps.

MOC clips and LOC clamps combine versatility, durability and vibration-resistance. Over 300 configurations with 12 standard MOC parts give you the freedom to configure perfect fastenings for your hoses and harnesses.

Brochure available here:
[HellermannTyton.com/cc-gac](https://www.hellermann-tyton.com/cc-gac)

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