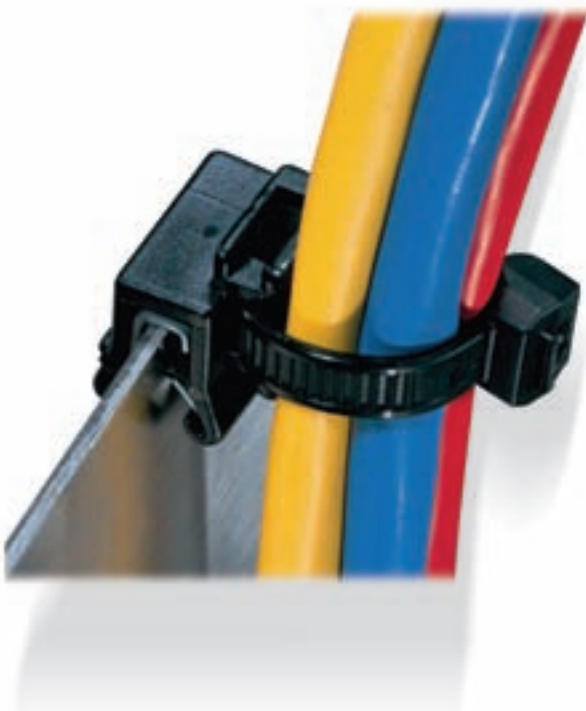


# Fixing Ties

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## One Piece Fixing Ties

One Piece Fixing Ties bring together a solution for the need to bundle a product whilst at the same time providing a fixing solution. HellermannTyton's one-piece fixing ties offer the ideal combination of high specification materials and superior design to give the perfect solution for both bundling and installation of cable bundles, hoses or pipes. Long acknowledged as the market leader for innovative fixings, HellermannTyton has now met some of the challenges set by the automotive, aviation, domestic appliance and electrical industries by combining the best of 'fixing design' with the best of 'cable tie design' – The 'All-New One Piece Ties'.



The additional seal protects against the ingress of moisture or dirt.

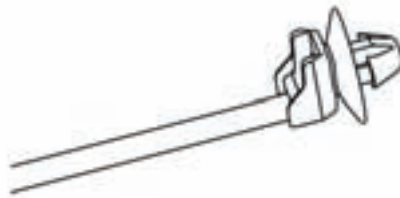


Application in aviation industry.

**T50SOSSFT6.5E** (without foam washer)


**T50SOSSFT6.5E-MD** (with foam washer)

This tie has an arrowhead design of fixing which offers a positive 'click' low push-in force with a high pull-out force. When combined with the optional foam rubber seal it offers additional protection against the ingress of moisture or dirt.



T50SOSSFT6.5E

### Material Data

RoHS	Material	Polyamide 6.6 Heat Stabilised (PA66HS)
	Operating Temperature	-40°C to +105°C Continuous, (+145°C for 500 h)
	Flammability	UL94 V2
		

### Material Data

RoHS	Material	Polyamide 6.6 High Impact Modified, Heat Stabilised (PA66HIRHS)
	Operating Temperature	-40°C to +105°C Continuous, (+145°C for 500 h)
	Flammability	UL94 HB

### Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Hole Ø	Panel Thickness max.	Panel Thickness max.	Material	Colour
T50SOSSFT6.5E-MD	160	4.6	35	225	6.3-6.7	0.6	1.8	PA66HS	Green (GR)
T50SOSSFT6.5E	160	4.6	35	225	6.3-6.7	1.9	2.5	PA66HS	Black (BK)

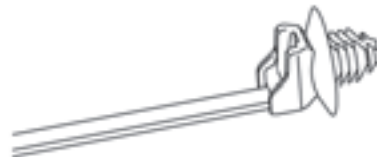
All dimensions in mm. Subject to technical changes.

## T50SOSFT6E

This fir tree fixing tie provides a low insertion force with a high pull-out force. The outside serrations present a smooth surface to the cables, preventing the chafe and damage to the insulation that can often be seen with the use of inside serrated cable ties in vibration environments. The unique head design allows the cable tie to firmly hold cables as small as 1.6 mm diameter.



Application in automotive industries.



T50SOSFT6E

Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Hole Ø	Panel Thickness min.	Panel Thickness max.	Material	Colour
T50SOSFT6E	160	4.6	35	225	6.5-7.0	0.75	3.0	PA66HIRHS	Black (BK)

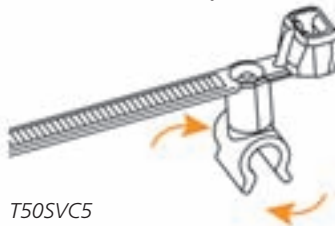
All dimensions in mm. Subject to technical changes.

## T50SVC5

This simple to use inside serrated tie provides the opportunity to attach an additional 5 mm diameter cable, pipe or hose to an existing bundle. Offering the facility of a full 360° of rotation, the second bundle can be orientated in any direction in relation to the main harness. Ideally suited for any application where the cable, pipe or hose can move in relation to the fixing point.



T50SVC5 rotates in any direction.



T50SVC5

Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Attach to Ø	Material	Colour
T50SVC5	155	4.7	35	225	4.5 - 5.2	PA66HS	Black (BK)

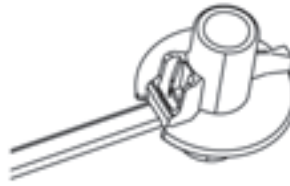
All dimensions in mm. Subject to technical changes.

## T50SOSSBH5E

This cable tie offers three distinct benefits to the user. Firstly it offers the opportunity to retain insulation material. Secondly, it allows cables, pipes or hoses to be bundled. Thirdly it has a simple 'soft push' mechanism which allows it to be installed onto a weld stud without the use of any tools. The unique head design allows the cable tie to firmly hold bundles as small as 1.6 mm diameter.



The new head design offers additional fixing of soft materials.



T50SOSSBH5E

Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Stud Ø	Panel Thickness min.	Panel Thickness max.	Material	Colour
T50SOSSBH5E	165	4.6	35	225	5	-	-	PA66HS	Black (BK)

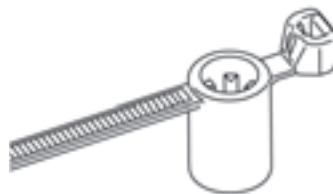
All dimensions in mm. Subject to technical changes.

## T50SSBS50TE

Using the 'soft push' technology, this inside serrated tie is mounted on the top of the stud. The additional height gained by this design gives a clear "stand off" from the panel. Ideal applications include mass transit industries, panel builders, and white goods manufacturers.



The T50SSBS50TE allows very precise routing of cable bundles.



T50SSBS50TE

Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Stud Ø	Panel Thickness min.	Panel Thickness max.	Material	Colour
T50SSBS50TE*	165	4.6	35	200	5	-	-	PA66HS	Black (BK)

All dimensions in mm. Subject to technical changes.

\* Since the bundled cables lie directly above or on the weld stud, care must be taken to ensure that the length of the weld stud does not exceed the height of the sheath. To avoid damage, we recommend a maximum weld stud length of 16.5 mm.

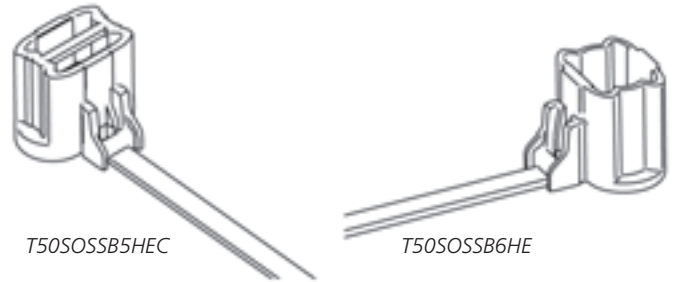
## T50SOSSB5HEC

## T50SOSSB6 High E

The special oval shape of the fixing on this stud mounted fixing tie provides a 5-6mm lateral adjustment to cater for any misalignment of the stud or incorrect positioning of the tie on the cables. The simple 'soft push' mechanism allows for easier installation onto a weld stud without the use of any tools.

## T50SOSSB5E

Providing an especially strong fixing method, the design of this fixing tie offers the 'soft push' mounting technology with the ability to mount the cables very close to the fixing stud. The outside serrations present a smooth surface to the cables preventing chafe and damage to the insulation, especially in mass transit applications.



T50SOSSB5HEC

T50SOSSB6HE

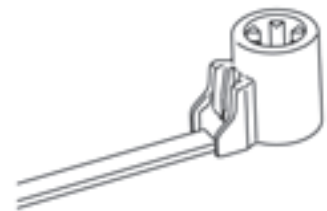


This outside serrated cable tie with weld stud mounting keeps the cables close to the fixing stud.

Technical Table							
Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Stud Ø	Material	Colour
T50SOSSB5HEC	160	4.6	35	170	5	PA66HS	Black (BK)
T50SOSSB6HE	160	4.6	35	170	6	PA66HS	Black (BK)
T50SOSSB5E	160	4.6	35	225	5	PA66HS	Black (BK)
T50SOSSB5-HIGH-E	160	4.6	35	225	5	PA66HS	Black (BK)
T50SOSWSP5E	163	4.6	35	200	5	PA66HS	Black (BK)

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Stud Ø	Material	Colour
T50SOSSB5HEC	160	4.6	35	170	5	PA66HS	Black (BK)
T50SOSSB6HE	160	4.6	35	170	6	PA66HS	Black (BK)
T50SOSSB5E	160	4.6	35	225	5	PA66HS	Black (BK)
T50SOSSB5-HIGH-E	160	4.6	35	225	5	PA66HS	Black (BK)
T50SOSWSP5E	163	4.6	35	200	5	PA66HS	Black (BK)

All dimensions in mm. Subject to technical changes.



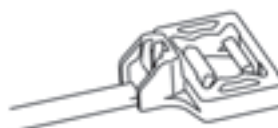
T50SOSSB5E

## T50SOSWSP5E

The unique shape of the head on this fixing tie provides a 5-6 mm lateral adjustment to cater for any misalignment of the stud or incorrect positioning of the tie on the cables. The low profile of the fixing allows for several ties to be installed one on top of the other on the same stud, to accommodate different cable routings. This is both space saving and versatile.



T50SOSWSP5E, parallel installation using two fixing ties.



T50SOSWSP5E

## One Piece Fixing Ties with Arrowhead

### Features and Benefits

The arrowhead design, in conjunction with the supporting 'legs', ensures a firm and secure fixing. The 'legs' take up any variation in panel thickness enabling one part to suit many applications.

Both the RT and FBS versions are releasable and reusable, with the FBS type having the added feature of a ladder type strap as opposed to the conventional serrated strap - this ladder type strap has the benefit of being very flexible.

### Application

For the bundling and fixing of cable harnesses, pipes and hoses in the automotive, aerospace, white goods industries and panel building.

Application Tool	Registration Numbers
MK3SP	1
MK3PNSP2, MK7P	2
MK7	3
MK7HT	4
MK20	5
MK6	6
MK9P, MK6PN	7
MK9	8
MK9HT	9
MK21	10

For more information on Application Tools please refer to Page 2/10.



A wide range of arrowhead fixing ties which are suitable for panel thicknesses of 0.5 mm to 4.5 mm and hole diameters of 4.4 mm to 8.0 mm.

#### Material Data

RoHS	Material	Polyamide 6.6 (PA66)	HF (halogenfree)
	Operating Temperature	-40°C to +85°C Continuous, (+105°C for 500 h)	
	Flammability	UL94 V2	

#### Material Data

RoHS	Material	Polyamide 6.6 Heat Stabilised (PA66HS)	HF (halogenfree)
	Operating Temperature	-40°C to +105°C Continuous, (+145°C for 500 h)	
	Flammability	UL94 V2	

#### Material Data

RoHS	Material	Polyamide 6.6 UV Resistant (PA66W)	HF (halogenfree)
	Operating Temperature	-40°C to +85°C Continuous, (+105°C for 500 h)	
	Flammability	UL94 V2	

#### Material Data

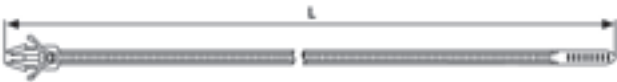
RoHS	Material	Polyamide 4.6 (PA46)	HF (halogenfree)
	Operating Temperature	-40°C to +150°C for 5000 h, (+195°C for 500 h)	
	Flammability	UL94 V2, Limited Fire Hazard, Halogen free, Low smoke generation, Low generation of toxic gases and corrosive acid	

Technical Table

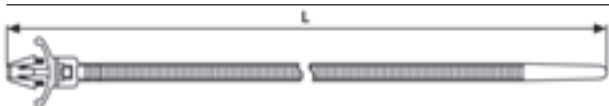
Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Hole Ø	Panel Thickness min.	Panel Thickness max.	Material	Colour	Application Tool
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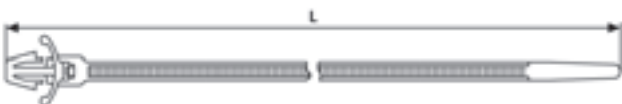
T18RSF	100	2.5	16	80	4.65-4.85	1.0	3.0	PA66	Natural (NT)	1-3, 5
T18RSF	100	2.5	16	80	4.65-4.85	1.0	3.0	PA66W	Black (BK)	1-3, 5



T50SSFM	145	4.7	25	225	6.0-6.4	1.0	3.0	PA66	Natural (NA)	1-3, 5
T50SSFM	145	4.7	25	225	6.0-6.4	1.0	3.0	PA66HS	Natural (NA)	1-3, 5
T50SSFM	145	4.7	25	225	6.0-6.4	1.0	3.0	PA66HS	Black (BK)	1-3, 5
T50RSFM	200	4.7	45	225	6.0-6.4	1.0	3.0	PA66	Natural (NA)	1-3, 5
T50RSFM	200	4.7	45	225	6.0-6.4	1.0	3.0	PA66W	Black (BK)	1-3, 5
T50RSFM	200	4.7	45	225	6.0-6.4	1.0	3.0	PA66HS	Black (BK)	1-3, 5



T50VSL5	100	4.6	16	225	6.1-6.3	1.0	2.6	PA66	Natural (NT)	1-3, 5
T50SSL5	135	4.6	27	225	6.1-6.5	0.8	2.7	PA66	Natural (NT)	1-3, 5
T50SSL5	135	4.6	27	225	6.1-6.5	0.8	2.7	PA66HS	Black (BK)	1-3, 5
T50SSL5	135	4.6	27	225	6.1-6.5	0.8	2.7	PA46	Grey (GY)	1-3, 5
T50SL5	165	4.6	34	225	6.1-6.3	0.8	2.7	PA66	Natural (NT)	1-3, 5
T50SL5	165	4.6	34	225	6.1-6.3	0.8	2.7	PA66HIRHS	Black (BK)	1-3, 5
T50SL6	165	4.6	34	225	6.1-6.5	0.8	2.5	PA66	Natural (NT)	1-3, 5
T50SL6	165	4.6	34	225	6.3-7.5	0.5	2.5	PA66	Black (BK)	1-3, 5
T50SL7	165	4.6	34	225	6.9-7.1	0.8	2.5	PA66	Natural (NT)	1-3, 5
T50SL7	165	4.6	34	225	6.9-7.1	0.8	2.5	PA66	Black (BK)	1-3, 5




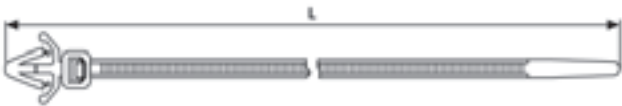
YQR10050	165	4.6	34	225	6.9-7.1	1.6	4.0	PA66	Brown (BN)	1-3, 5
T80RFT6X12*	228	4.6	45	225	6.3x12.3*	0.6	3.0	PA46	Grey (GY)	1-3, 5

All dimensions in mm. Subject to technical changes.

\* for slotted hole drilling

Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Hole Ø	Panel Thickness min.	Panel Thickness max.	Material	Colour	Application Tool
<b>Releasable</b>										
										
YQR10016	165	4.6	34	225	6.9-7.1	1.6	4.0	PA66	Black (BK)	-
YQR10016	165	4.6	34	225	6.9-7.1	1.6	4.0	PA66	Grey (GY)	-
RT50RSF	215	4.6	50	225	7.8-8.2	0.8	2.5	PA66	Black (BK)	-
RT50SL7	165	4.6	34	225	7.0	-	2.5	PA66	Black (BK)	-

**Releasable**

RT18RSF	132	3.0	27.0	80	3.8-4.2	-	2.4	PA66	Natural (NT)	-
RT50SFK	225	5.0	50	225	6.4-7.0	0.8	3.0	PA66	Black (BK)	-
RT50SFK	225	5.0	50	225	6.4-7.0	0.8	3.0	PA66HS	Black (BK)	-

**Releasable**

FBS100	115	10	27	-	6.3-6.7	0.7	3.9	PA66	Black (BK)	-
FBS140	160	10	42	-	6.3-6.7	0.7	3.9	PA66	Black (BK)	-
FBS185	200	10	53	-	6.3-6.7	0.7	3.9	PA66	Black (BK)	-

All dimensions in mm. Subject to technical changes.

## One Piece Fixing Ties with Arrowhead and Disc

### Features and Benefits

A simple one piece bundling and fixing tie with an arrowhead mount. When inserted into the hole the arrowhead locks into place and the 'disc', between the fixing and the head of the cable tie, covers the hole and minimises the ingress of dust, dirt and water, whilst adjusting for variations in panel thickness thereby ensuring a secure fixing at all times.

The RT versions are releasable and reusable, ideal for the removal or addition of cables after the initial installation is complete. The T50SST type has a small 'tab' placed below the head which gives additional protection against axial forces and is particularly useful to assist retention on convoluted tubing.

### Application

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



The flexible 'discs' adjust to take up variations in panel thickness - ensuring a firm fixing at all times.



One piece fixing tie with arrowhead and disc.

#### Material Data

RoHS	Material	Polyamide 6.6 Heat Stabilised (PA66HS)
	Operating Temperature	-40°C to +105°C Continuous, (+145°C for 500 h)
	Flammability	UL94 V2
		HF (halogenfree)

#### Material Data

RoHS	Material	Polyamide 6.6 (PA66)
	Operating Temperature	-40°C to +85°C Continuous, (+105°C for 500 h)
	Flammability	UL94 V2
		HF (halogenfree)

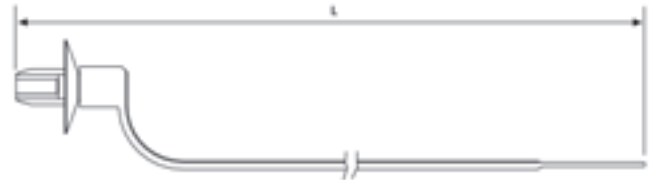
#### Material Data

RoHS	Material	Polyamide 4.6 (PA46)
	Operating Temperature	-40°C to +150°C for 5000 h, (+195°C for 500 h)
	Flammability	UL94 V2, Limited Fire Hazard, Halogen free, Low smoke generation, Low generation of toxic gases and corrosive acid
		HF (halogenfree)

Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Disc Ø	Min. Tensile Strength (N)	Hole Ø	Panel Thickness min.	Panel Thickness max.	Material	Colour	Application Tool
T50SD6	160	5.0	31	18.0	180	6.3-7.5	0.6	1.8	PA66	Natural (NT)	6-9
T50SD6	160	5.1	31	18.0	225	6.3-7.5	0.6	1.2	PA66HS	Black (BK)	6-9
T50SDOP*	160	5.0	30	22.0	225	6.2x12.2	0.7	2.0	PA66HS	Black (BK)	6-9
T50SDOR*	160.0	5.0	30.0	22.0	225	6.2x12.2	0.5	1.5	PA66HS	Black (BK)	6-9
T50SST5	170	4.6	31	16.2	225	6.1-6.5	0.7	1.5	PA66	Natural (NT)	1-3, 5
T50SST5	170	4.6	31	16.2	225	6.1-6.5	0.7	1.5	PA66	Natural (NT)	1-3, 5
T50SST5	170	4.6	31	16.2	225	6.1-6.5	0.7	1.5	PA66HS	Black (BK)	1-3, 5
T50SST5	170	4.6	31	16.2	225	6.1-6.5	0.7	1.5	PA46	Grey (GY)	1-3, 5
T50MD7	225	5.0	59	16.0	225	6.8-7.2	0.8	2.0	PA66HS	Black (BK)	6-9
T50MD7	225	5.0	59	16.0	225	6.8-7.2	0.8	2.0	PA66HS	Black (BK)	6-9
<b>Releasable</b>											
RT50SD6	160	5.0	31	18.0	180	6.3-7.5	0.6	1.8	PA66	Natural (NT)	-
RT50SD6	160	5.0	31	18.0	180	6.3-7.5	0.6	1.8	PA66HS	Black (BK)	-

Application Tool	Registration Numbers
MK3SP	1
MK3PNSP2, MK7P	2
MK7	3
MK7HT	4
MK20	5
MK6	6
MK9P, MK6PN	7
MK9	8
MK9HT	9
MK21	10



T50MD7

For more information on Application Tools please refer to Page 2/10.

## One Piece Fixing Ties with Arrowhead in the Strap

### Features and Benefits

The arrowhead fixing is located in the midsection of the strap of the cable tie which ensures that the cable bundle sits directly above the fixing point, minimising the space taken.

The head of the T80RSF tie is moulded in a raised position to ease assembly when the fixing is already in place in the panel.

The T50SSF type has specially moulded retainers to hold battery cables parallel and firmly in place

### Application

This range of fixing ties are ideal for use in many different industries e.g. automotive, aerospace, rail and panel building.



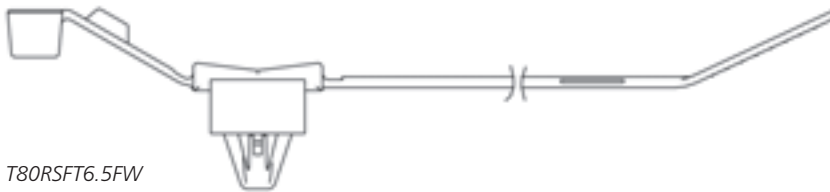
*Designed to secure battery cables the T50SSF6.5 offers a simple and secure fixing.*

#### Material Data

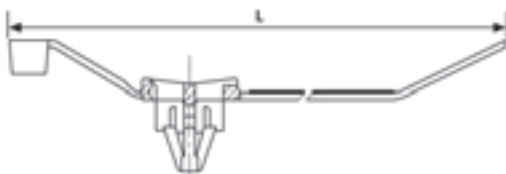
RoHS	Material	Polyamide 6.6 Heat Stabilised (PA66HS)
	Operating Temperature	-40°C to +105°C Continuous, (+145°C for 500 h)
	Flammability	UL94 V2
		HF (halogenfree)

#### Material Data

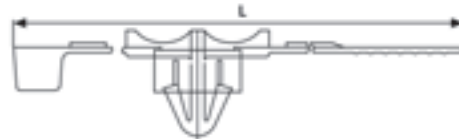
RoHS	Material	Polyamide 4.6 (PA46)
	Operating Temperature	-40°C to +150°C for 5000 h, (+195°C for 500 h)
	Flammability	UL94 V2
		HF (halogenfree)



T80RSF6.5FW



T80RSF6.5F



T50SSF6.5

#### Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Hole Ø	Panel Thickness min.	Panel Thickness max.	Material	Colour	Application Tool
T50SSF6.5	110	4.6	16	225	6.3-6.7	0.5	2.7	PA66HS	Black (BK)	1-3, 5
T80SSF6.5F	179	4.6	43	300	6.3-6.5	0.6	3.0	PA66HS	Black (BK)	1-3, 5
T80RSF65F	209	4.6	45	300	6.3-6.5	0.6	3.0	PA66HS	Black (BK)	1-3, 5
T80RSF6.5FW	209	4.6	45	300	6.3-6.5	0.6	3.0	PA66HS	Black (BK)	1-3, 5
T80RSF6.5F	209	4.6	45	300	6.3-6.5	0.6	3.0	PA46	Grey (GY)	1-3, 5

All dimensions in mm. Subject to technical changes.

## One Piece Fixing Ties with Arrowhead and Disc in the strap

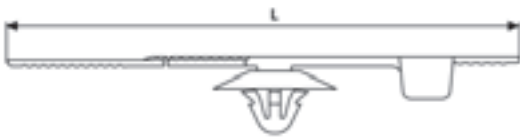
### Features and Benefits

The arrowhead fixing is located in the midsection of the strap of the cable tie which ensures that the cable bundle sits directly above the fixing point, minimising the space taken.

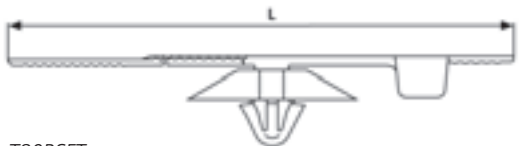
The 'disc' on types T50SSP and T50RSP completely covers the hole in the panel minimising the ingress of dust, dirt and water. The 'discs' on all three types flex to suit variations in panel thickness, ensuring a firm but secure fixing. A particular design feature of these ties is the 'tab' on the end of the head - this is to facilitate easy location and orientation of the head for assembly.

### Application

With a diverse range of fixing possibilities (from 5.7 mm to 6.5 mm hole diameters and 0.7 mm to 3.5 mm panel thickness) this range of fixing ties are ideal for use in many different industries e.g. automotive, aerospace, rail and panel building.



T50SSP/T50RSP



T80RSFT



The 'tab' on the head of the tie makes it easy to locate and lift the head for assembly.

#### Material Data

RoHS	Material	Polyamide 6.6 (PA66)
	Operating Temperature	-40°C to +85°C Continuous, (+105°C for 500 h)
	Flammability	UL94 V2
		HF (halogenfree)

#### Material Data

RoHS	Material	Polyamide 4.6 (PA46)
	Operating Temperature	-40°C to +150°C for 5000 h, (+195°C for 500 h)
	Flammability	UL94 V2, Limited Fire Hazard, Halogen free, Low smoke generation, Low generation of toxic gases and corrosive acid
		LFH (Limited Fire Hazard)

#### Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Disc Ø	Min. Tensile Strength (N)	Hole Ø	Panel Thickness min.	Panel Thickness max.	Material	Colour	Application Tool
T50SSP	120	4.6	24	18.0	225	6.0-6.5	0.7	1.3	PA66	Black (BK)	1-3, 5
T50RSP	190	4.6	45	18.0	222	6.0-6.5	0.75	1.3	PA66	Black (BK)	1-3, 5
T80RSFT	190	4.6	45	24.4	356	5.7-6.3	1.0	3.5	PA66HS	Natural (NT)	1-3, 5
T80RSFT	190	4.6	45	24.4	356	5.7-6.3	1.0	3.5	PA66HS	Black (BK)	1-3, 5
T80RSFT	190	4.6	45	24.4	356	5.7-6.3	1.0	3.5	PA46	Grey (GY)	1-3, 5

All dimensions in mm. Subject to technical changes.

## One Piece Fixing Tie with Arrowhead

### Features and Benefits

The arrowhead is simply pushed through the panel and locks into place, the design of the arrowhead (without 'legs') ensures that the minimum amount of space is used, and yet offers a firm, secure fixing.

### Application

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



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

#### Material Data

RoHS	Material	Polyamide 6.6 Heat Stabilised (PA66HS)
	Colour	Black (BK)
	Operating Temperature	-40°C to +105°C Continuous, (+145°C for 500 h)
	Flammability	UL94 V2

#### Material Data

RoHS	Material	Polyamide 6.6 (PA66)
	Colour	Natural (NA)
	Operating Temperature	-40°C to +85°C Continuous, (+105°C for 500 h)
	Flammability	UL94 V2

Application Tool	Registration Numbers
MK3SP	1
MK3PNSP2MK7P	2
MK7	3
MK7HT	4
MK20	5
MK6	6
MK9P, MK6PN	7
MK9	8
MK9HT	9
MK21	10

For more information on Application Tools please refer to Page 2/10.



T30RSF



T50RSF



T50RSF(U)

#### Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Hole Ø	Panel Thickness min.	Panel Thickness max.	Material	Colour	Application Tool
T30RSF(U)	161	3.6	31.8	135	4.76-5.59	0.9	2.36	PA66	Natural (NT)	1-3, 5
T30RSF(U)	161	3.6	31	135	4.8-5.6	0.9	2.3	PA66HS	Black (BK)	1-3, 5
T50RSF(E)	210	4.6	50	225	6.2-6.4	2.9	3.1	PA66	Natural (NT)	1-3, 5
T50RSF(E)	210	4.6	50	225	6.2-6.4	2.9	3.1	PA66	Black (BK)	1-3, 5

All dimensions in mm. Subject to technical changes.



Please Note for Product Specific Approvals please refer to Appendix.

## Cable Tie and Arrowhead Mount Assemblies

### Features and Benefits

These two piece fixing ties are supplied ready assembled and offer a simple and versatile method of bundling and fixing cables, pipes and hoses.

The arrowhead base will easily push into pre-punched holes in panels and offers a very secure fixing. The two piece design enables the head of the tie to be orientated to the required position to ease assembly, whilst the 'disc' on the top of the arrowhead takes up variation in panel thickness ensuring a stable fixing at all times.

Available as either inside serrated or outside serrated 'standard' cable ties or 'double headed' ties.

### Application

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

Application Tool	Registration Numbers
MK35P	1
MK3PNSP2, MK7P	2
MK7	3
MK7HT	4
MK20	5
MK6	6
MK9P, MK6PN	7
MK9	8
MK9HT	9
MK21	10

For more information on Application Tools please refer to Page 2/10.

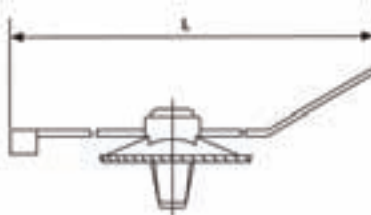
### Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Disc Ø	Min. Tensile Strength (N)	Hole Ø	Panel Thickness min.	Panel Thickness max.	Material		Application Tool
									Cable Tie	Foot Part	
T50SSFT6.5	150	4.6	31	22.4	225	6.3-6.7	0.7	2.0	PA66HS	PA66HS	1-3, 5
T50RSFT65	200	4.6	45	22.4	225	6.3-6.7	0.7	2.0	PA66HS	PA66HS	1-3, 5
T50RSFT6.5D18	200	4.6	45	18.0	225	6.5-6.8	0.4	1.6	PA66HS	PA66HIRHS	1-3, 5
T50RDHSFT6.5	210	4.7	45	22.4	225	6.5-7.0	0.7	2.0	PA66HS	PA66HS	1-3, 5
T80ISFT6.5	300	4.6	81	22.4	355	6.3-6.7	0.7	2.0	PA66HS	PA66HS	1-5

All dimensions in mm. Subject to technical changes.



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



Two piece fixing tie with moveable arrowhead.

### Material Data

RoHS	Material	Polyamide 6.6 High Impact Modified,
	Colour	Heat Stabilised (PA66HIRHS)
	Operating Temperature	Black (BK) -40°C to +105°C
	Flammability	UL94 HB

### Material Data

RoHS	Material	Polyamide 6.6 Heat Stabilised (PA66HS)
	Colour	Black (BK)
	Operating Temperature	-40°C to +105°C Continuous, (+145°C for 500 h)
	Flammability	UL94 V2



(halogenfree)

## One Piece Fixing Ties with Fir Tree Mount

### Features and Benefits

This one piece cable tie with fir tree fixing offers a simple and easy to use method of bundling and fixing cables, pipes and hoses.

The design of the fir tree ensures a positive and secure fixing into panels from 0.8 mm to 7.0 mm deep or threaded blind holes.

The 'disc' on the top of the fir tree covers the hole and minimises the ingress of dust, dirt and water.

Type REL are releasable and reusable and are ideal for the removal or addition of cables after the initial installation is completed.

### Application

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



Ideal for use in 'thick' panels and threaded, blind holes.

#### Material Data

RoHS	Material	Polyamide 6.6 (PA66)	HF (halogenfree)
	Operating Temperature	-40°C to +85°C Continuous, (+105°C for 500 h)	
	Flammability	UL94 V2	



One piece fixing tie with fir tree mount

#### Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Disc Ø	Min. Tensile Strength (N)	Hole Ø	Panel Thickness min.	Panel Thickness max.	Material	Colour	Application Tool
T18RDP5	110	2.5	20	13.0	80	4.9-5.1	3.0	4.0	PA66	Black (BK)	1-3, 5
T50SDP6	170	5.0	31	22.0	180	6.3-7.1	0.8	7.0	PA66	Natural (NT)	1-3, 5
FT220DP7	230	4.7	40	16.0	225	6.8-7.2	0.8	5.0	PA66	Black (BK)	1-3, 5
<b>Releasable</b>											
REL30SDP6	170	5.0	31	22.0	135	6.3-7.0	3.0	7.0	PA66	Black (BK)	-

All dimensions in mm. Subject to technical changes.

## Cable Tie and Fir Tree Mount Assemblies

### Features and Benefits

These two piece fixings are supplied ready assembled and offer a simple and versatile method of bundling and fixing cables. The fir tree base will easily push into prepunched holes in panels or threaded, blind holes, and offers a very secure fixing.

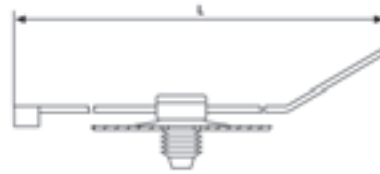
The two piece design enables the head of the tie to be orientated to the required position to ease assembly, whilst the 'disc' on the top of the fir tree covers the hole and minimises the ingress of dust, dirt and water.

### Application

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



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



One piece fixing tie with Fir Tree mount

Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Disc Ø	Min. Tensile Strength (N)	Hole Ø	Panel Thickness min.	Panel Thickness max.	Colour	Application Tool	Material	
											Cable Tie	Foot Part
T30RFT5	150	3.6	31	16.0	135	4.5-5.0	0.7	3.0	Black (BK), Grey (GY)	1-3, 5	PA66HS	PA66
T30RFT5	150	3.6	31	16.0	135	4.5-5.0	0.7	3.0	Black (BK)	1-3, 5	PA66HS	PA66HIRHS
T30RFT5	150	3.6	31	16.0	135	4.5-5.0	0.7	3.0	Natural (NT), Grey (GY)	1-3, 5	PA46	PA46
T50RFT5	200	4.6	45	16.0	225	4.5-5.0	0.7	3.0	Black (BK), Grey (GY)	1-5	PA66HS	PA66
T50RFT5	200	4.6	45	16.0	225	4.5-5.0	0.7	3.0	Black (BK)	1-5	PA66HS	PA66HIRHS
T50SFT5	150	4.6	31	16.0	225	4.5-5.0	0.7	3.0	Black (BK), Grey (GY)	1-5	PA66HS	PA66
T18RFT6	100	2.5	20	16.0	80	6.4-7.1	0.75	3.0	Black (BK)	1-3, 5	PA66	PA66
T30LFT6LG	190	3.6	45	16.0	135	6.4-7.1	0.75	6.0	Black (BK)	1-3, 5	PA66	PA66HIRHS
T30LRF6	260	3.3	65	16.0	180	6.4-7.1	0.75	3.0	Black (BK)	1-5	PA66HS	PA66HIRHS
T30RFT6	150	3.6	31	16.0	135	6.4-7.1	0.75	3.0	Black (BK)	1-3, 5	PA66HS	PA66HIRHS
T30RFT6LG	150	3.6	31	16.0	135	6.4-7.1	0.75	6.0	Black (BK)	1-3, 5	PA66HS	PA66HIRHS
T50RDHFT6	210	4.7	19	16.0	225	6.4-7.1	0.75	3.0	Black (BK)	1-5	PA66HS	PA66HIRHS
T50RFT6	200	4.6	45	16.0	225	6.4-7.1	0.75	3.0	Grey (GY)	1-5	PA46	PA46
T50RFT6	200	4.6	45	16.0	225	6.4-7.1	0.75	3.0	Black (BK)	1-5	PA66	PA66
T50RFT6	200	4.6	45	16.0	225	6.4-7.1	0.75	3.0	Black (BK)	1-5	PA66HS	PA66HS
T50RFT6LG	200	4.6	45	16.0	225	6.4-7.1	0.75	6.0	Black (BK)	1-5	PA66HS	PA66HIRHS
T50ROSFT6	200	4.6	45	16.0	225	6.4-7.1	0.75	3.0	Black (BK)	1-5	PA66HS	PA66HIRHS
T50SFT6	150	4.6	31	16.0	225	6.4-7.1	0.75	3.0	Black (BK)	1-5	PA66	PA66
T50SFT6LG	150	4.6	31	16.0	225	6.4-7.1	0.75	6.0	Black (BK)	1-5	PA66HS	PA66HIRHS
T80IFT6	300	4.6	81	16.0	355	6.4-7.1	0.75	3.0	Black (BK)	1-5	PA66HS	PA66HIRHS
T80IFT6LG	300	4.6	81	16.0	355	6.4-7.1	0.75	6.0	Black (BK)	1-5	PA66HS	PA66HIRHS
T80LFT6	390	4.6	108	16.0	355	6.4-7.0	0.75	3.0	Black (BK)	1-5	PA66HS	PA66HIRHS
T50IFT7	300	4.6	81	16.0	225	6.5-7.0	0.8	7.0	Black (BK)	1-5	PA66	PA66
T50IFT7	300	4.6	81	16.0	225	6.5-7.0	0.8	7.0	Black (BK)	1-5	PA66	PA66
T50RFT7	200	4.6	45	16.0	225	6.5-7.0	0.8	7.0	Black (BK)	1-5	PA66	PA66
T50RFT7	200	4.6	45	16.0	225	6.5-7.0	0.8	7.0	Black (BK)	1-5	PA66HS	PA66HS
T50SFT7	160	4.6	31	16	225	6.5-7.0	0.8	7.0	Black (BK)	1-5	PA66	PA66
T50RFT8	200	4.6	45	16.0	225	7.7-8.0	0.8	6.0	Black (BK)	1-5	PA66	PA66
T50RFT8	200	4.6	45	16.0	225	7.7-8.0	0.8	6.0	Black (BK)	1-5	PA66HS	PA66HS
T120IFT9	300	7.6	75	20.0	535	8.8-9.4	4.0	8.0	Black (BK)	6-10	PA66HIR(S)	PA66HIR(S)
T50RFT10	200	4.6	45	18.0	225	9.7-10.0	0.8	5.0	Black (BK)	1-5	PA66HS	PA66HS
T50RFT10	200	4.6	45	18.0	225	9.7-10.0	0.8	5.0	Black (BK)	1-5	PA66	PA66

All dimensions in mm. Subject to technical changes.

## Rivet Fixing Ties

### Features and Benefits

These ties are simply installed by pushing the rivet part of the tie into a hole and firmly tapping the rivet pin until flush to the surface.

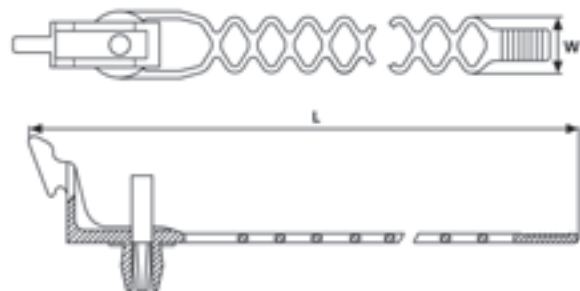
The pin expands the wings of the rivet and the tie is firmly locked in place.

All three versions listed are releasable and reusable allowing for the removal or addition of cables after installation.

The RELF and RI ranges are conventional 'serrated' cable ties, whilst the FBR range have a 'ladder-type' design which is locked by stretching the strap over the head of the tie. The design of the FBR gives a very flexible strap.



FBR cable ties have a flexible 'ladder' design of strap - ideal for secure fixing into thin panels (up to 2.5 mm thick).



Fixing ties type FBR



Fixing ties type RELF



Fixing ties type RI

#### Material Data

RoHS	Material	Polyamide 6.6 (PA66)	HF (halogenfree)
	Operating Temperature	-40°C to +85°C Continuous, (+105°C for 500 h)	
	Flammability	UL94 V2	

#### Material Data

RoHS	Material	Polyamide 12 (PA12)	HF (halogenfree)
	Operating Temperature	-40°C to +85°C Continuous, (+105°C for 500 h)	
	Flammability	UL94 HB	

#### Material Data

Material	Polyamide 6.6 High Impact Modified (PA66HIR)
Colour	Black (BK)
Operating Temperature	-40°C to +80°C Continuous, (+105°C for 500 h)
Flammability	UL94 HB

#### Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Hole Ø	Panel Thickness min.	Panel Thickness max.	Material	Colour
FBR6/100	115	10.0	27	-	6.2-6.5	0.8	2.4	PA66	Black (BK)
FBR6/140	160	10.0	42	-	6.2-6.5	0.8	2.4	PA66	Black (BK)
FBR6/185	200	10.0	53	-	6.2-6.5	0.8	2.4	PA66	Black (BK)
FBR7/100	115	10.0	27	-	7.2-7.5	0.8	2.4	PA66	Black (BK)
FBR7/140	160	10.0	42	-	7.2-7.5	0.8	2.4	PA66	Black (BK)
FBR7/185	200	10.0	53	-	7.2-7.5	0.8	2.4	PA66	Black (BK)
RELF170	180	8.0	44.0	180	6.3	2.5	2.5	PA66HIR	Black (BK)
RI 80	80	7.0	16	265	6.9-7.1	0.8	2.2	PA12	Black (BK)
RI 120	120	9.0	28	265	6.9-7.1	0.8	2.2	PA12	Black (BK)
RI 160	160	9.0	41	265	6.9-7.1	0.8	2.2	PA12	Black (BK)

All dimensions in mm. Subject to technical changes.

## Cable Ties for Weld Studs

### Features and Benefits

This one piece cable tie and fixing offers a simple and easy to use method of bundling and fixing cables, pipes and hoses. The design of the stud fixing ensures simple mounting while giving a positive and secure fixing.

A variety of designs gives the choice of a soft 'push fit' or 'hammer fit'. Both designs give excellent 'pull off' forces in relation to the application forces.



FBB one-piece fixing ties for weld studs, can be easily removed by unscrewing in an anti-clockwise direction.

#### Material Data

RoHS	Material	Polyamide 6.6 Heat Stabilised (PA66HS)	HF (halogenfree)
	Operating Temperature	-40°C to +105°C Continuous, (+145°C for 500 h)	
	Flammability	UL94 V2	




#### Material Data

RoHS	Material	Polyamide 4.6 (PA46)	LFH (Limited Fire Hazard)
	Operating Temperature	-40°C to +150°C for 5000 h, (+195°C for 500 h)	
	Flammability	UL94 V2, Limited Fire Hazard, Halogen free, Low smoke generation, Low generation of toxic gases and corrosive acid	

#### Material Data

RoHS	Material	Polyamide 6.6 (PA66)	HF (halogenfree)
	Operating Temperature	-40°C to +85°C Continuous, (+105°C for 500 h)	
	Flammability	UL94 V2	

#### Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Material	Colour
						
FBB100	110	10.0	23	–	PA66	Black (BK)
FBB140	142	10.0	38	–	PA66	Black (BK)
FBB185	200	10.0	50	–	PA66	Black (BK)
						
FBB100M	110	10.0	23	–	PA66	Black (BK)
FBB185M	200	10.0	50	–	PA66	Black (BK)
						
SBR5	220	6.0	40	300	PA66HS	Black (BK)
SBR5	220	6.0	40	300	PA66	Black (BK)
SBR85	215	6.0	40	300	PA46	Grey (GY)

All dimensions in mm. Subject to technical changes.

## Cable Ties for Weld Studs

### Features and Benefits

These weld stud fixing ties are designed to be fitted onto 5mm studs or 5mm ISO threaded studs. The types T50RS5, RT50RS5 and SBS9/230 are designed to be applied by hand (Soft Push). Types SB14 and SB9 are designed to be hammered onto the stud (Hard Push).

Both types give excellent 'pull-off' forces in relation to the application forces.

Application Tool	Registration Numbers
MK3SP	1
MK3PNSP2, MK7P	2
MK7	3
MK7HT	4
MK20	5
MK6	6
MK9P, MK6PN	7
MK9	8
MK9HT	9
MK21	10

For more information on Application Tools please refer to Page 2/10.





With the RT50RS5 and the SB14/172 you can mount pipes or cables to a weld stud.


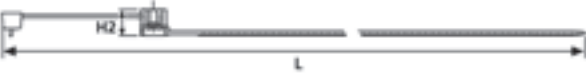
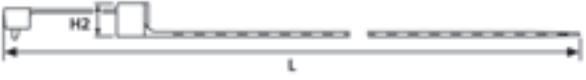


Simple fixing to a weld stud or 5mm ISO bolt.

### Material Data

	Material	Polyamide 6.6 (PA66)
	Colour	Black (BK)
	Operating Temperature	-40°C to +85°C Continuous, (+105°C for 500 h)
	Flammability	UL94 V2
		

### Technical Table

Code	Length (L)	Width (W)	Height (H2)	Bundle Ø max.	Min. Tensile Strength (N)	Material	Colour	Application Tool
								
T50RS5	190	4.6	14.5	40	225	PA66	Black (BK)	1-4
RT50RS5	190	4.6	14.5	40	225	PA66	Black (BK)	-
								
SBS9/230	230	5.0	10.0	60	245	PA66	Black (BK)	-
								
SB9/172	172	5.0	10.0	40	245	PA66	Black (BK)	-
SB9/230	230	5.0	10.0	60	245	PA66	Black (BK)	-
SB14/172	172	5.0	15.5	40	245	PA66	Black (BK)	-
SB14/230	230	5.0	15.5	60	245	PA66	Black (BK)	-

All Dimensions in mm. Subject to technical changes.

## Cable Tie and Weld Stud Fixing Assemblies

### Features and Benefits

These two piece fixing ties consist of the cable tie from the 'inside' or 'outside serrated' series with the foot part for fixing to weld studs already mounted on the strap. They are easy to press onto a 5 mm type weld stud (also suitable for M5 screws) without the need for separate application tools. Because the foot part slides along the cable tie, the head can be rotated into the best position both during fitting and also for installation.

Series SBH5 and SBH5SD features a flat plate on the foot part which can simultaneously fix an insulation mat. Series SB5 and SBS5 have a cable guide on the weld stud. Series SB5 has an oval weld stud for equalisation of the cable loom if out of line with the main loom.

### Application

Series SBH5 and SBH5SD are used mainly in the automotive industry. The SD variant is for the smallest bundle diameters, from 1.0 mm.

Suitable for bundling and fastening cables, pipes and hoses in a multitude of industries, for example: switch gear manufacture, automotive and machine manufacture.



Cable ties illustrating the variety of application methods for weld stud fixing.

Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Disc Ø	Min. Tensile Strength (N)	Material		Application Tool
						Cable Tie	Foot Part	
T30RSBH5	150	3.5	31	30.0	135	PA66HS	PA66HS	1-3, 5
T50RSBH5	200	4.6	45	30.0	225	PA66HS	PA66HS	1-5
T50ROSSBH5SD	200	4.6	45	30.0	225	PA66HS	PA66HS	1-5
T80ISBH5	300	4.6	81	30.0	355	PA66HS	PA66HS	1-5
T30RSBS5	150	3.5	31	-	135	PA66HS	PA66HS	1-3, 5
T50ROSSBS5	200	4.6	45	-	225	PA66HS	PA66HS	1-5
T50RSBS5	200	4.6	45	-	225	PA66HS	PA66HS	1-5
T50SSBS5	150	4.6	31	-	225	PA66HS	PA66HS	1-5
T80ISBS5	300	4.6	81	-	355	PA66HS	PA66HS	1-5
T30RSB5	150	3.5	31	-	135	PA66HS	POM	1-3, 5
T40RSB5	175	4.0	38	-	180	PA66HS	POM	1-3, 5
T50SSB5	150	4.6	31	-	225	PA66HS	POM	1-5
T50RSB5	200	4.6	45	-	225	PA66HS	POM	1-5
T50ROSSB5	200	4.6	45	-	225	PA66HS	POM	1-5

All dimensions in mm. Subject to technical changes.

## Double Mounting Base For Weld Studs

### Features and Benefits

These are three part fixing ties, with a stud fix mounting base and two cable ties. The mounting base can be fitted to the weld stud prior to installing the cables, the cables are simply laid alongside the base and the cable ties then pulled tight. Having two separate 'cradles' allows for the installation of the two cable runs at different times.

The design of the stud retainer means excessive force is not required for installation - it is simply a 'soft push' action by hand.

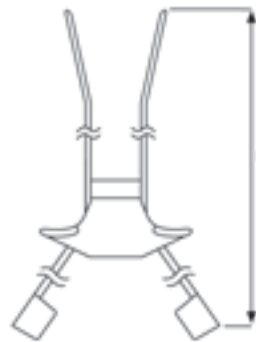
Having separate ties to the fixing means that the head of the tie can be easily rotated to ensure the easiest possible assembly.

### Application

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



Parallel fixation of two cables.



T50SDSBS5, T50ROSDSBS5

Application Tool	Registration Numbers
MK35P	1
MK3PNSP2, MK7P	2
MK7	3
MK7HT	4
MK20	5
MK6	6
MK9P, MK6PN	7
MK9	8
MK9HT	9
MK21	10

For more information on Application Tools please refer to Page 2/10.

### Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Stud Ø	Material		Application Tool
						Cable Tie	Foot Part	
T50SDSBS5	150	4.6	31	225	5.0	PA66HS	PA66HIRHS	1-5
T50ROSDSBS5	200	4.6	45	225	5.0	PA66HS	PA66HIRHS	1-5

All dimensions in mm. Subject to technical changes.

### Material Data

RoHS	Cable Tie	Polyamide 6.6 Heat Stabilised (PA66HS)
	Colour	Black (BK)
	Operating Temperature	-40°C to +105°C Continuous, (+145°C for 500 h)
	Flammability	UL94 V2
	HF (halogenfree)	

### Material Data

RoHS	Foot Part	Polyamide 6.6 High Impact Modified, Heat Stabilised (PA66HIRHS)
	Colour	Black (BK)
	Operating Temperature	-40°C to +105°C
	Flammability	UL94 HB

## Cable Ties and Edge Clips

### Features and Benefits

Available with either 'inside' or 'outside' serrated ties these two piece assemblies simply push onto metal or plastic 'edges' with thicknesses from 1.0 to 3.0 mm and from 3.0 to 6.0 mm. The high 'pull off' forces are due to the integrated metal clamp.

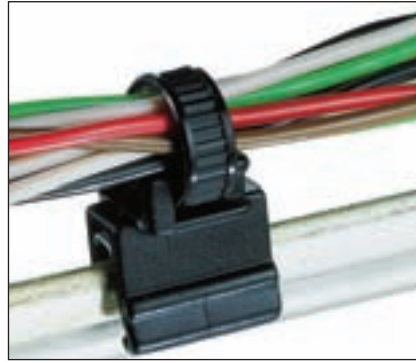
Different Edge Clip variations are available. One version allows for cables to run parallel to the metal/plastic edge, whilst another allows for installation at 90°C to the metal edge.

The clip is simply pushed on by hand and held firmly in place by the integrated metal clamp. No fixing hole is necessary.

Combined with the outside serrated (OS) ties, specially designed to protect cables from chafing (see section 1.1) and wear, the Edge Clip family provides an excellent fastening solution.

### Application

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



*T50ROSEC4A - the cable bundle runs parallel with the edge.*



*T50ROSEC5B - the cable runs 90°C to the edge.*

#### Material Data

RoHS	Material	Polyamide 6.6 Heat Stabilised (PA66HS)
	Colour	Black (BK)
	Operating Temperature	-40°C to +105°C Continuous, (+145°C for 500 h)
	Flammability	UL94 V2







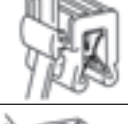

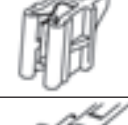

#### Material Data

RoHS	Material	Polyamide 6.6 High Impact Modified, Heat Stabilised (PA66HIRHS)
	Colour	Black (BK)
	Operating Temperature	-40°C to +105°C
	Flammability	UL94 HB

## Cable Ties and Edge Clips for Panel Thickness 1.0 to 3.0 mm

With the Edge Clip family the bundled cables can be located either above or to the side of a fixing. In all two-piece mounting ties, the edge clip moves freely along the tie. This allows the head of the tie to be rotated during mounting for installation in the ideal position.

Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Material		Application Tool	Drawing
					Cable Tie	Foot Part		
<b>Two piece, panel thickness 1.0 - 3.0 mm</b>								
T50ROSEC4A	200	4.6	45	225	PA66HS	PA66HIRHS	1-5	
T50ROSEC4B	200	4.6	45	225	PA66HS	PA66HIRHS	1-5	
T50ROSEC5A	200	4.6	45	225	PA66HS	PA66HIRHS	1-5	
T50ROSEC5B	200	4.6	45	225	PA66HS	PA66HIRHS	1-5	
T50ROSEC9	200	4.6	45	225	PA66HS	PA66HIRHS	1-5	
T50ROSEC10	200	4.6	45	225	PA66HS	PA66HIRHS	1-5	
T50ROSEC21	200	4.6	45	225	PA66HS	PA66HIRHS	1-5	
T50ROSEC22	200	4.6	45	225	PA66HS	PA66HIRHS	1-5	
<b>One piece, panel thickness 1.0 - 3.0 mm</b>								
T50SOSEC12E	160	4.6	35	225	PA66HS	PA66HS	1-5	
T50SOSEC13E	160	4.6	35	225	PA66HS	PA66HS	1-5	





All dimensions in mm. Subject to technical changes.

For more information on Application Tools please refer to Page 2/10.

## Cable Ties and Edge Clips for Panel Thickness 3.0 to 6.0 mm

The Edge Clips are produced as two part mounting clips for metal or plastic edge mounting of 3.0 to 6.0 mm. The 'loose' tie means the head can be rotated during fitting for installation in the best position with respect to the tie closure. Combined with our outside-serrated (OS) ties, they reduce the risk of chafe and cable damage by offering a smooth surface to the cable insulation and are suitable for minimum bundle diameters of 1.0mm.

Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Material		Application Tool	Drawing
					Cable Tie	Foot Part		
Two piece, panel thickness 3.0 - 6.0 mm								
T50ROSEC19	200	4.6	45	225	PA66HS	PA66HIRHS	1-5	
T50ROSEC20	200	4.6	45	225	PA66HS	PA66HIRHS	1-5	
T50ROSEC23	200	4.6	45	225	PA66HS	PA66HIRHS	1-5	
T50ROSEC24	200	4.6	45	225	PA66HS	PA66HIRHS	1-5	

All dimensions in mm. Subject to technical changes.

For more information on Application Tools please refer to Page 2/10.

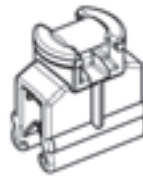
Application Tool	Registration Numbers
MK3SP	1
MK3PNSP2, MK7P	2
MK7	3
MK7HT	4
MK20	5
MK6	6
MK9P, MK6PN	7
MK9	8
MK9HT	9
MK21	10

## Automation of fixing applications

It is now possible to fit fixings (sometimes known as foot parts) in conjunction with automatic cable tying. This is best suited to applications where either high volume manufacture or flexible production methods are needed.



Autotool System 3080.



Fixing Clip  
ATS EC10



Fixing Clip  
ATS EC9



Fir Tree  
ATS FT6



The footpart is placed, ...



... the strap is tied automatically through the head of the footpart, ...



... and the harness is completely bundled including the footpart.

## MR Range of Mounting Head Ties

### Features and Benefits

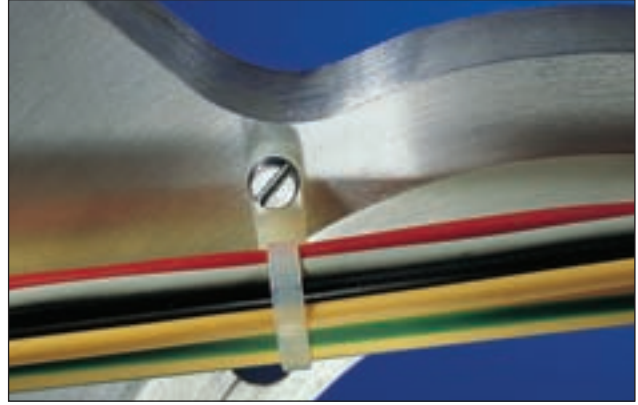
A one piece bundling and fixing tie offering quick and easy installation.

### Application

This range of one piece cable ties has a mounting hole fixing method. Once fastened around the cables the bundle can be simply secured to the panel with a screw or bolt.

Ideal for fixing cables, pipes and hoses onto solid surfaces with pre-drilled holes or holes in metal plates.

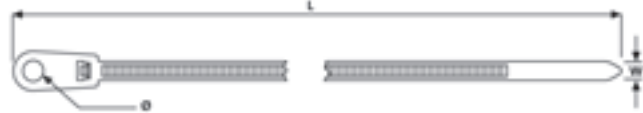
These ties are used in many industries e.g. building construction, panel builders and white goods manufacturers.



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

#### Material Data

RoHS	Material	Polyamide 6.6 UV Resistant (PA66W)
	Operating Temperature	-40°C to +85°C Continuous, (+105°C for 500 h)
	Flammability	UL94 V2
	HF (halogenfree)	



#### Material Data

RoHS	Material	Polyamide 6.6 (PA66)
	Operating Temperature	-40°C to +85°C Continuous, (+105°C for 500 h)
	Flammability	UL94 V2
	HF (halogenfree)	

#### Material Data

RoHS	Material	Polyamide 6.6 Heat Stabilised (PA66HS)
	Colour	Natural (NT), Black (BK)
	Operating Temperature	-40°C to +105°C Continuous, (+145°C for 500 h)
	Flammability	UL94 V2
HF (halogenfree)		

#### Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Hole Ø	Material	Colour	Application Tool
T18MR	110	2.5	20	80	3.1	PA66	Black (BK)	1-3, 5
T18MR	110	2.5	20	80	3.1	PA66	Natural (NT)	1-3, 5
T18MR	110	2.5	20	80	3.1	PA66HS	Natural (NT)	1-3, 5
T30MR	160	3.5	32	135	4.3	PA66	Black (BK)	1-3, 5
T30MR	160	3.5	32	135	4.3	PA66	Natural (NT)	1-3, 5
T30MR	160	3.5	32	135	4.3	PA66W	Black (BK)	1-3, 5
T50MR	215	4.6	45	225	5.4	PA66	Natural (NT)	1-10
T50MR	215	4.6	45	225	5.4	PA66W	Black (BK)	1-10
T50MR	215	4.6	45	225	5.4	PA66	Black (BK)	1-10
T50MS	165	4.6	32	225	5.3	PA66	Natural (NT)	1-10
T50MS	165	4.6	32	225	5.3	PA66	Black (BK)	1-10
T50ML	390	4.6	100	225	5.5	PA66	Natural (NT)	1-10
T50ML	390	4.6	100	225	5.5	PA66	Black (BK)	1-10
T120MR(E)	395	7.6	102	535	6.5	PA66	Black (BK)	6-10
T120MR(E)	395	7.6	102	535	6.5	PA6W	Black (BK)	6-10
T120MR(E)	395	7.6	102	535	6.5	PA66W	Natural (NT)	6-10

All dimensions in mm. Subject to technical changes.

For more information on Application Tools please refer to Page 2/10.



Please Note for Product Specific Approvals please refer to Appendix.

## WPT Ties

### Features and Benefits

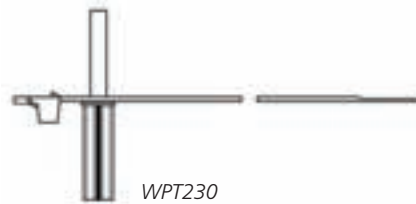
One piece fixing and cable tie can be fixed to brick, cement or wood. This product is often used in the construction industry and is both time saving and versatile.

### Application

Simply drill an 8mm hole and knock in the peg. Used to fasten cables, pipes or hoses in place.



Wall plug tie in application.



WPT230

Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Hole Ø	Material	Colour	Application Tool
WPT230	230	8	59	–	8.0	PA66HIR	Black (BK)	–

All Dimensions in mm. Subject to technical changes.

Material Data

RoHS	Material	Polyamide 6.6 High Impact Modified (PA66HIR)
	Operating Temperature	-40°C to +80°C Continuous, (+105°C for 500 h)
	Flammability	UL94 HB

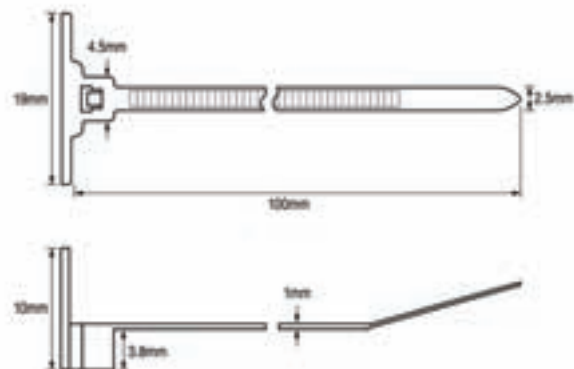
## T18RSA Self Adhesive Cable Tie

### Features and Benefits

This cable tie and integral self adhesive base ensures a firm securement of wiring bundles to a variety of materials. The T18RSA is both quick and easy to install.

### Application

Ideal for use in a variety of clean applications.



Technical Table

Code	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Material	Colour
WPT230	230	8	59	8.0	PA66HIR	Black (BK)

All dimensions in mm. Subject to technical changes.

Material Data

RoHS	Material	Polyamide 6.6 (PA66)
	Operating Temperature	-40°C to +85°C Continuous, (+105°C for 500 h)
	Flammability	UL94 V2

