

—
C

Ty-Rap® - Fastening solutions



—
C

Ty-Rap - Fastening solutions

Table of contents

Section C

Overview	C4
Ty-Rap high performance cable ties	C16
Special ties	C23
Cable ties for special environments	C30
Ty-Fast® Ag+® bacteria-resistant cable ties	C39
Tooling	C40
Stainless steel cable ties, accessories and tools	C44
DELTEC™ cable support system	C60
Hook and loop fasteners	C67
Catamount® cable ties	C70
Ty-Rap cable ties	C84
Cable tie mounting bases	C86
Cable clamps and clips	C109
Mounting bases for heavy-duty applications	C119
Wire protection products	C122
Material specifications	C132
Military certifications	C145

Ty-Rap

Fastening solutions, how it all started

When you choose a Ty-Rap cable tie, you can count on quality, performance and innovation to make your work easier.

First developed to solve the problem of bundling the hundreds of feet of wiring found inside commercial aircraft, Ty-Rap cable ties can now be found virtually everywhere - from Nascar racing engines to backyard tool sheds. Self-fastening and basically indestructible, the ground-breaking design of the Ty-Rap cable tie demonstrates how to solve a complex problem with a simple technology.

The corrosion-proof, non-magnetic stainless steel locking device inside the tie head guarantees the strongest and most durable locking you will ever find on the market. Ty-Rap can be used in the most adverse conditions: humidity, heat, cold, UV radiation, aggressive chemicals, radiation and other harsh conditions.

Engineered for labour savings and high performance, Ty-Rap cable ties are commonly used in a variety of applications

For the cable tie, the proverbial light bulb came on over Logan's head while touring a Boeing aircraft manufacturing facility in 1956. Aircraft wiring was a cumbersome and detailed undertaking, involving thousands of feet of wire organized on sheets of 50-foot long plywood and held in place with knotted, waxcoated, braided nylon cord. Each knot had to be pulled tight by wrapping the cord around one's finger which sometimes cut the operator's fingers until they developed thick calluses or 'hamburger hands'. Logan was convinced there had to be an easier, more forgiving, way to accomplish this critical task. For the next couple of years, Logan experimented with various tools and materials.

On June 24 1958, a patent for the longlasting, easy-to-use Ty-Rap cable tie was submitted. The rest, as they say, is history.



—
 “My dad didn't have a lot of formal education, but he was the most ingenious person I have ever met”, said Robert Logan, Maurus' son. “He never thought the customary way of doing things was good enough and when he looked at anything he thought about ways to improve it. The invention of the cable tie is an excellent example of how he worked.”

Maurus Logan Ty-Rap Inventor

Environmental considerations

Corrosive environments

Ty-Rap cable ties can endure corrosive marine environments, such as deep-ocean drilling rigs and weather-lashed wind generators.



Environmental considerations

Extreme temperatures

Ty-Rap cable ties can endure extreme temperatures and UV exposure of solar power farms.



Ty-Rap high performance cable ties

Introduction

First patented in 1958 as a way to bundle wiring in airplanes, the Ty-Rap cable tie brand remains a benchmark of excellence and innovation in wire management

ABB's broad offering of Ty-Rap cable ties makes the task of fastening, bundling, clamping and managing wires easier and quicker for industrial applications, construction, communications, utility and OEM professionals, as well as home improvement specialists and do-it-yourself enthusiasts. When strength, aesthetics, reliability and performance are required, knowledgeable professionals turn to Ty-Rap: the original source for cable ties and accessories.

What gives a Ty-Rap cable tie its exceptional strength? The corrosion-resistant, non-magnetic stainless steel locking barb in its head grips tightly and allows for a completely adjustable fit. Its raised tail makes it easy to pick up, even with gloved hands. And the easy-grip tail surface makes it easy to pull tight, even in wet or cold conditions.

Engineered for high-performance, Ty-Rap cable ties are available in standard nylon or in materials that are specially formulated to withstand the most adverse conditions, from UV exposure to extreme cold or heat. They have even been designed to withstand the rigors of space.

Ty-Rap cable ties: The right choice when performance really matters.

ABB is a leading power and automation technology group, active in more than 100 countries with about 150,000 employees worldwide.

ABB's portfolio includes the following product lines and flagship brands:

- Wire & Cable Management – Ty-Rap cable ties, Shrink-Kon® heat shrink, T&B Cabletray
- Cable Protection Systems – nylon & metalli incl. brands: PMA, Adaptaflex, Kopex, Harnessflex
- Low Power Connection & Control – Furse lightning & surge protection, Elastimold, Joslyn Hi-Voltage
- Emergency lighting – emergency lighting, battery systems incl. VanLien, Kaufel, Emergi-Lite brands
- Hazardous location products – DTS explosion proof light & boxes, Kopex-Ex conduits & fittings

Ty-Rap high performance cable ties

Features and benefits

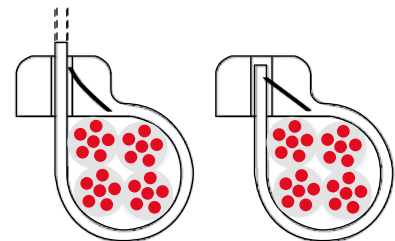
When strength, aesthetics, reliability and performance are required, knowledgeable professionals turn to the original and the best source for cable ties and accessories. Ty-Rap fastening systems include a full range of cable ties, identification ties, clamps, mounting bases, harnessing aids and installing tools.

Using Ty-Rap fastening systems for all wiring jobs, large and small, will speed and improve the reliability of harnessing and wire bundling while saving you money.

Protects cables. Rounded edges, on the head and the strap, provide a comfortable handling of the ties and prevent sharp edges from damaging the cables. This gradual transition from the strap to the head protects the material against breaking at this most critical point. The edges of the head are also rounded off to offer maximum protection from injury.

Up to 3X longer life: a smooth notch-less body increases overall breaking strength and deters the deterioration of the tie in high heat and UV applications. The locking design provides an infinite positioning for the right tension every time.

“The grip of steel”
Non-magnetic stainless steel locking barb – marine grade type 316 - that firmly anchors inside the tie head, ensures a strong, reliable and long lasting fastening



Higher grip, less damage
Ribbed and stippled surface, to prevent the tie from slipping around and along the bundle under vibration conditions and external shock.

Easy handling

Angled tail (turned up) for fast and easy insertion into the locking head and ideally suited to being picked up from a flat work area.

Easy installation

Non-slip tail, for an easy grip and pulling through the head during tensioning.

Extensive range of approvals and certifications:

Germanischer Lloyd, Lloyd's Register of Shipping, VG, Mil Specification, American Bureau of Shipping (ABS); CE declaration, compliant to the low voltage directive and EN/IEC 62275 and UL 62275



Wide range of size combinations: several lengths up to 1143mm (45in.), in 6 typical widths with a tensile strength up to 780N, to fasten cable bundles with a diameter up to 330mm (12.99in.).

Dedicated tooling, to ensure that the excess end of the Ty-Rap tie is automatically cut off and the slight over cut retracts into the head, eliminating the risk of injury from protruding sharp edges.

Most extensive choice of special materials:

in addition to Polyamide 6.6 (standard, UV-resistant, heat stabilised, flame retardant, heat stabilised / UV-resistant), Polyamide 4.6 (extra high temperature) and Polyamide 12, the Ty-Rap ties are available in Polypropylene, Fluoropolymer (ECTFE), Fluoropolymer (ETFE) and the recently introduced Detectable Polyamide 6.6 and Detectable Polypropylene. UL 94 V-0, UL 94 V-2 and UL 94 HB.

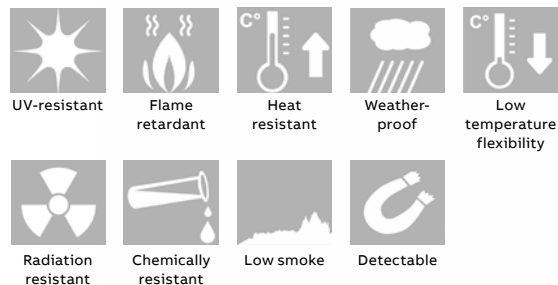
Wide choice of colours:

10 standard colours are available and pre-printed customized ties in any of the standard colours can be supplied on demand.



Outstanding range of special ties, all with the famous stainless steel locking device: ties with mounting hole or integrated peg/nail, panel mounting ties, identification ties with integrated label...

Broad range of mounting bases and accessories.



Ty-Rap high performance cable ties

Type classifications explained

The Ty-Rap Advantage

- Ty-Rap cable ties identified in this catalogue as TYPE 21S are certified to meet the requirements of TYPE 21S.
- TYPE 21S is a 2015 CEC requirement that stipulates that «cable ties is a type specifically approved for the purpose» can be used as a method of supporting for:
 - Cable (clauses 12-510, 12-706)
 - Flexible metal conduit (clause 12-1010)
 - Liquidtight flexible conduit (clause 12-1308)
 - Electrical nonmetallic tubing (clause 12-1504)

- Ty-Rap product line includes a wide range of AH-2 plenum-rated cable ties.
- AH-2 is a 2015 CEC rating for air-handling spaces (drop ceilings, raised floors, etc.)

Note: Please check with your local inspection authority if TYPE 21S has been approved for use in your jurisdiction as a support method. Adoption of the CEC 2015 differs by province.

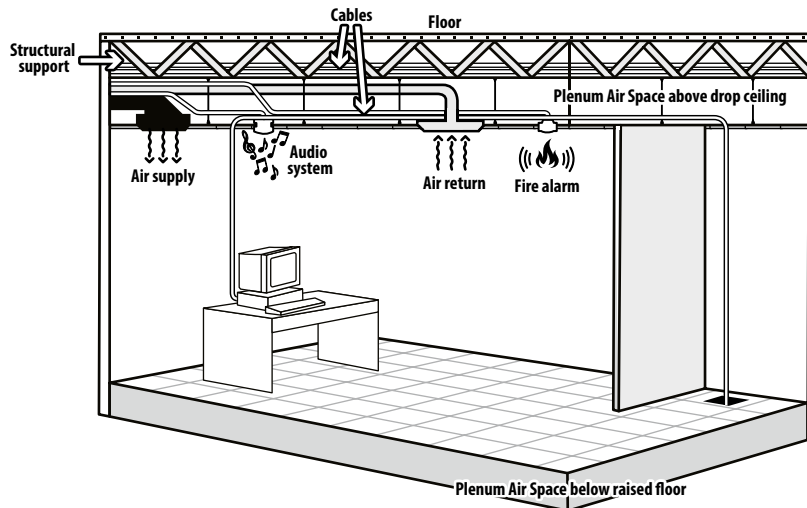
Plenum ratings:

- If a cable tie is identified as suitable for use in air-handling spaces, the following plenum rating is declared, AH-1 or AH-2.

Short code for air handling spaces.

New Short-Form Coding (proposed)

	Product Type	Standard Label Marking
AH-1	Metallic cable ties and fixing devices	“Suitable for use in Air-Handling Spaces (plenums)” in accordance with Section 300.22 (B), (C), and (D) of the National Electrical Code, and Rules 12-010 (3), (4), and (5), and 12-020 of the Canadian Electrical Code, Part I or an equivalent wording..
AH-2	Nonmetallic or composite cable ties and fixing devices	“Suitable for use in Air-Handling Spaces (plenums)” in accordance with Section 300.22 (C), and (D) of the National Electrical Code, and Rules 12-010 (3), (4), and (5), and 12-020 of the Canadian Electrical Code, Part I or an equivalent wording.



Ty-Rap high performance cable ties

Type classifications explained

The new Canadian CSA 62275 standard, cable ties for electrical installations replaces standard CSA C22.2 No.18.5 (Positioning Devices). The new standard was adopted on June 1, 2014.

It is based on the international standard IEC 62275 (Cable Management Systems-Cable Ties for Electrical Installations). It is harmonized with U.S standard UL 62275 and Mexican standard NMX-623-ANCE Products conforming to the new

standard will be identified by new “TYPE” classifications and “Standard performance ratings”.

The “Type” classification in the latest standard is based on the demonstrated ability of the product to retain its mechanical performance both before and after exposure to various application conditions.



21S

Nonmetallic, composite and all Cable tie fixing devices

Type 21S cable ties pass the same tests as Type 2 but must also have additional qualifications for suitability to support flexible conduit and cables for building construction in accordance to national installation codes.

● ● TY25M, TY25M-2, TY25XM, TY28M, TY28M-2, TY28MX



21

Nonmetallic, composite and all Cable tie fixing devices


Type 21 cable ties pass the same tests as Type 2 but are made from a UL recognized material. In addition, they pass pre-qualifications to long-term performance characteristics of nonmetallic molding materials.

● ●



1

Nonmetallic and composite Cable tie

Retains at least 50% of declared loop tensile strength after all test conditions. Equivalent to , the component recognition mark for UL.

●



11

Nonmetallic and composite Cable tie

Type 11 cable ties pass the same tests as Type 1 but are made from a UL recognized material. In addition, they pass pre-qualifications to long-term performance characteristics of nonmetallic molding materials.



2

Metallic, nonmetallic, composite and all cable tie fixing devices

Retains at least 100% of declared loop tensile strength after all test conditions.



2S

Metallic, nonmetallic, composite and all cable tie fixing devices

Type 2S cable ties pass the same tests as Type 2 but must also have additional qualifications for suitability to support flexible conduit and cables for building construction in accordance to national installation codes. The key here is that metallic can only be 2S, but composite can be 2S or 21S.



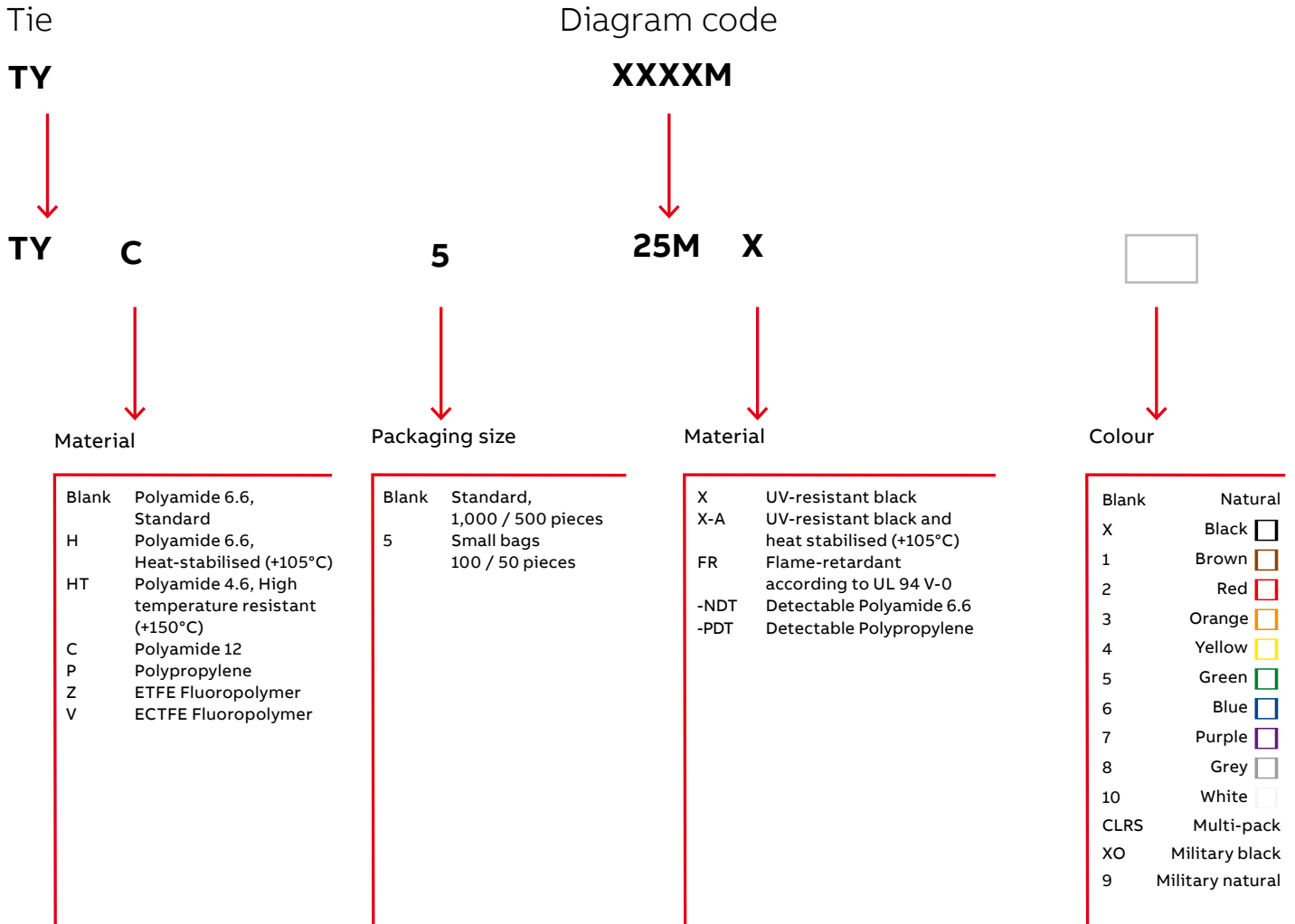
The new CSA 62275 standard for cable ties and accessories defines the terms and performance in each performance rating category:

Performance Rating Categories:

- Mechanical (Minimum loop tensile strength is a reference mechanical characteristic of a cable tie with its locking mechanism engaged.)
- Thermal - indicating minimum and maximum operating temperature for application and minimum temperature for installation

- Fire effects - reflecting degree of resistance to flammability
- Environmental - reflecting resistance of nonmetallic or composite materials to UV light and of metallic cable ties and accessories (or those containing metal) to corrosion

Ty-Rap numbering structure



Note: Nylon (Polyamide) is inherently susceptible to environmental conditions. Ty-Rap cable ties are moisturised to optimum performance levels at machine-side and should be stored in cool dry areas out of direct sunlight. Cable ties are packaged in plastic bags to contain moisture and should remain sealed until ready for use.



Ty-Rap
Polypropylene

Ty-Rap
ETFE

Ty-Rap
Detectable

Ty-Fast
Ag+

Deltec®

Ty-Met

Ty-Rap

Twist Tail

Catamount

Demanding applications					Simplicity & design			
Chemical resistance	Hygiene	Utilities & telecom	Extreme environments	Customization & performance	Convenience	Essential		
Chemical processing, Autoclave sterilizing	Food and beverage, Cosmetic	Medical, Pharmaceutical	Marine, Rail, Oil & gas, Industrial	Standard applications	MRO, Electrical, Residential	OEM, General bundling		
Polypro	Polypro, PA66	PA66	Pom	SS	PA66	PA66	PA66	PA66
60 lb (267 N)	120 lb (540 N)	120 lb (540 N)	120 lb (540 N)	1,100N	8,800N	50 lb (222 N)	130N	1,110N
-40 to +85°C	-45°C to +150°C	-40 to +85°C	-60 to +85°C	-40 to +300°C	-40 to +85°C	-60 to +85°C	-20 to +85°C	-40 to +85°C
-40 to +185°F	-49 to +302°F	-40 to +185°F	-76 to +185°F	-40 to +572°F	-40 to +185°F	-76 to +185°F	-4 to +185°F	-40 to +185°F
360mm	360mm	360mm	370mm	1,000m	1m	360mm	360mm	1,200mm
14.17in	14.17in	14.17in	14.6in	3 280.84ft	3.28ft	14.17in	14.17in	47.24in
102mm	102mm	102mm	102mm	4m	400mm	102mm	100mm	380mm
4.02in	4.02in	4.02in	4.02in	13.12ft	15.75in	4.02in	3.94in	14.96in
••••	•••••	••	•	•••••	•••••	•	••	••
•	•	•••	•	••	••	••	••••	••••
□	□	□	□	□	□	□	□	□
						□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	□	□
••••	•••••	•••••	••••	••••	•	•••••••••••••••••	-	••••
ERG50 ERG120	ERG50 ERG120	ERG50 ERG120	ERG50 ERG120	WT3D	DAS250 CT3	ERG50 ERG120	-	ERG50 ERG120

Ty-Rap high performance cable ties

Polyamide 6.6 cable ties – Natural



Characteristics

- Indoor use only
- CSA Certified file 002884. Natural Polyamide 6.6 Cable Ties are suitable for use in air handling plenum spaces in accordance with rules 12-010 (3), (4) and (5), and 12-020 of the CEC.

Technical information

- Material - Moulding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60 °C to 85 °C (-76 °F to 185 °F)
- Min. installation temp.: -20 °C (-4 °F).
- Colour: Natural
- Halogen free, silicone free

Polyamide 6.6 cable ties – Natural



Std. Cat. N°.	Bulk Cat. N°.	Type DSG	Plenum rating	ANSI UL94 Flame rating	Body width		Length		Wire bundle dia. from ... to		Military Standard*	Tensile strength		Std. pkg. [pcs]	Bulk pkg. [pcs]
					[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		[lb]	[N]		
TY523M	TY23M	2/21	AH-2	V-2	2.3	0.09	92	3.6	1.5 - 16	0.06 - 0.63	•	18	80	100	1,000
TY5B2315M	TYB2315M	2/21	AH-2	V-2	2.3	0.09	178	7.0	1.5 - 32	0.06 - 1.26	-	18	80	100	1,000
TY5232M	TY232M	2/21	AH-2	V-2	2.3	0.09	203	8.0	1.5 - 51	0.06 - 2.01	-	18	80	100	1,000
TY5234M	TY234M	2/21	AH-2	V-2	2.3	0.09	356	14.0	1.5 - 102	0.06 - 4.02	-	18	80	100	1,000
TY524M	TY24M	2/21	AH-2	V-2	3.6	0.14	140	5.5	2 - 35	0.08 - 1.38	•	40	180	100	1,000
TY5242M	TY242M	2/21	AH-2	V-2	3.6	0.14	208	8.2	2 - 51	0.08 - 2.01	-	40	180	100	1,000
TY526M	TY26M	2/21	AH-2	V-2	3.6	0.14	284	11.2	2 - 76	0.08 - 2.99	-	40	130	100	1,000
TY5244M	TY244M	2/21	AH-2	V-2	3.6	0.14	368	14.5	2 - 102	0.08 - 4.02	-	30	130	100	1,000
TY525M	TY25M	2S/21S	AH-2	V-2	4.8	0.19	186	7.3	3 - 48	0.12 - 1.89	•	50	220	100	1,000
TY5253M	TY253M	2S/21S	AH-2	V-2	4.8	0.19	290	11.4	3 - 78	0.12 - 3.07	•	50	220	100	1,000
TY528M	TY28M	2S/21S	AH-2	V-2	4.8	0.19	361	14.2	3 - 102	0.12 - 4.02	•	50	220	100	1,000
TY5272M	TY272M	2S/21S	AH-2	V-2	6.9	0.27	223	8.8	6 - 51	0.24 - 2.01	-	120	540	50	500
TY527M	TY27M	2S/21S	AH-2	V-2	7.0	0.28	340	13.4	6 - 102	0.24 - 4.02	•	120	540	50	500
TY5275M	TY275M	2S/21S	AH-2	V-2	7.0	0.28	457	18.0	6 - 127	0.24 - 5	-	120	540	50	500
TY5277M	TY277M	2S/21S	AH-2	V-2	7.0	0.28	617	24.3	6 - 177	0.24 - 6.97	-	120	540	50	500
TY529M	TY29M	2S/21S	AH-2	V-2	6.9	0.27	771	30.4	6 - 229	0.24 - 9.02	•	120	540	50	500
TY53510M**	-	N/A	N/A	N/A	8.2	0.32	889	35.0	to 254	to 10	-	175	780	50	-
TY54513M**	-	N/A	N/A	N/A	8.2	0.32	1143	45.0	to 330	to 12.99	-	175	780	50	-

* Add "-9" for MS3367 certified items. See page 145 for details

** 

Description of Cat. n°, structure: see page C13

Description of materials and properties: see pages C132 to C144

Some approvals may not be applicable to all Cat. n°.s.

Contact your Sales Office for approvals limitations.

Tooling



ERG50

For use with 2.3mm to 4.8mm (80N to 220N) Cable ties. See page C40.



ERG120

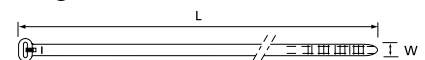
For use with 4.8mm to 7.0mm (220N to 540N) Cable ties. See page C40.



WT3D

For use with 4.8mm to 8.2mm (220N to 780N) Cable ties. See page C42.

Diagram



Ty-Rap high performance cable ties

Polyamide 6.6 cable ties – Weather-resistant black



UV-resistant

Characteristics

- Outdoor or indoor use
- CSA Certified file 002884. Natural Polyamide 6.6 Cable Ties are suitable for use in air handling plenum spaces in accordance with rules 12-010 (3), (4) and (5), and 12-020 of the CEC.

Technical information

- Material - Moulding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60 °C to 85 °C (-76 °F to 185 °F)
- Min. installation temp.: -30 °C (-22 °F)
- Colour: Black
- Halogen free, silicone free

Polyamide 6.6 cable ties – Weather-Resistant black



Std. Cat. N°.	Bulk Cat. N°.	Type DSG	Plenum rating	ANSI UL94 Flame rating	Body width		Length		Wire bundle dia. from ... to		Military standard*	Tensile strength		Std. pkg. [pcs]	Bulk pkg. [pcs]
					[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		[lb]	[N]		
TY523MX	TY23MX	2/21	AH-2	V-2	2.3	0.09	92	3.6	1.5 - 16	0.06 - 0.63	●	18	80	100	1,000
TY52315MX	TYB2315MX	2/21	AH-2	V-2	2.3	0.09	178	7.0	1.5 - 32	0.06 - 1.26	–	18	80	100	1,000
TY5232MX	TY232MX	2/21	AH-2	V-2	2.3	0.09	203	8.0	1.5 - 51	0.06 - 2.01	–	18	80	100	1,000
TY5234MX	TY234MX	2/21	AH-2	V-2	2.3	0.09	356	14.0	1.5 - 102	0.06 - 4.02	–	18	80	100	1,000
TY524MX	TY24MX	2/21	AH-2	V-2	3.6	0.14	140	5.5	2 - 35	0.08 - 1.38	●	40	180	100	1,000
TY5242MX	TY242MX	2/21	AH-2	V-2	3.6	0.14	208	8.2	2 - 51	0.08 - 2.01	–	40	180	100	1,000
TY526MX	TY26MX	2/21	AH-2	V-2	3.6	0.14	284	11.2	2 - 76	0.08 - 2.99	–	40	130	100	1,000
TY5244MX	TY244MX	2/21	AH-2	V-2	3.6	0.14	368	14.5	2 - 102	0.08 - 4.02	–	30	130	100	1,000
TY525MX	TY25MX	2S/21S	AH-2	V-2	4.8	0.19	186	7.3	3 - 48	0.12 - 1.89	●	50	220	100	1,000
TY5253MX	TY253MX	2S/21S	AH-2	V-2	4.8	0.19	290	11.4	3 - 78	0.12 - 3.07	●	50	220	100	1,000
TY528MX	TY28MX	2S/21S	AH-2	V-2	4.8	0.19	361	14.2	3 - 102	0.12 - 4.02	●	50	220	100	1,000
TY5272MX	TY272MX	2S/21S	N/A	HB	6.9	0.27	223	8.8	6 - 51	0.24 - 2.01	–	120	540	50	500
TY527MX	TY27MX	2S/21S	N/A	HB	7.0	0.28	340	13.4	6 - 102	0.24 - 4.02	●	120	540	50	500
TY5275MX	TY275MX	2S/21S	N/A	HB	7.0	0.28	457	18.0	6 - 127	0.24 - 5	–	120	540	50	500
TY5277MX	TY277MX	2S/21S	N/A	HB	7.0	0.28	617	24.3	6 - 177	0.24 - 6.97	–	120	540	50	500
TY529MX	TY29MX*	2S/21S	N/A	HB	6.9	0.27	771	30.4	6 - 229	0.24 - 9.02	●	120	540	50	500
TY53510MX**	–	N/A	N/A	N/A	8.2	0.32	889	35.0	to 254	to 10	–	175	780	50	–
TY54513MX**	–	N/A	N/A	N/A	8.2	0.32	1,143	45.0	to 330	to 12.99	–	175	780	50	–

* For military compliance of weather-resistant black 120 lb. ties, replace suffix X with 0 (i.e. TY27M-0).

Add "-9" for MS3367 certified items. See page 145 for details



Description of Cat. n°, structure: see page C13

Description of materials and properties: see pages C132 to C144

Some approvals may not be applicable to all Cat. n°.s.

Contact your Sales Office for approvals limitations.

Tooling



ERG50

For use with 2.3mm to 4.8mm (80N to 220N) Cable ties. See page C40.



ERG120

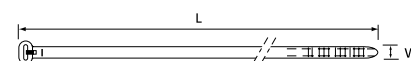
For use with 4.8mm to 7.0mm (220N to 540N) Cable ties. See page C40.



WT3D

For use with 4.8mm to 8.2mm (220N to 780N) Cable ties. See page C42.

Diagram



Ty-Rap high performance cable ties

Polyamide 6.6 cable ties – Coloured



Characteristics

- The colours you need in convenient packs !
- Indoor use only
- CSA Certified file 002884. Natural Polyamide 6.6 Cable Ties are suitable for use in air handling plenum spaces in accordance with rules 12-010 (3), (4) and (5), and 12-020 of the CEC.

Technical information

- Material - Moulding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60 °C to 85 °C (-76 °F to 185 °F)
- Min. installation temp.: -20°C (-4°F)
- Halogen free, silicone free



Polyamide 6.6 cable ties – Coloured

Cat. n°.	Colour	Type DSG	Cote d'usage en Plénum	ANSI UL94 Flame rating	Body width		Length		Wire bundle dia. from ... to		Tensile strength		Std. pkg. [pcs]
					[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
TY25M-0	Black	2S/21S	AH2	V2	4.8	0.19	186	7.3	3 - 48	0.12 - 1.89	50	222	1,000
TY25M-1	Brown	2S/21S	AH2	V2	4.8	0.19	186	7.3	3 - 48	0.12 - 1.89	50	222	1,000
TY25M-2	Red	2S/21S	AH2	V2	4.8	0.19	186	7.3	3 - 48	0.12 - 1.89	50	222	1,000
TY25M-3	Orange	2S/21S	AH2	V2	4.8	0.19	186	7.3	3 - 48	0.12 - 1.89	50	222	1,000
TY25M-4	Yellow	2S/21S	AH2	V2	4.8	0.19	186	7.3	3 - 48	0.12 - 1.89	50	222	1,000
TY25M-5	Green	2S/21S	AH2	V2	4.8	0.19	186	7.3	3 - 48	0.12 - 1.89	50	222	1,000
TY25M-6	Blue	2S/21S	AH2	V2	4.8	0.19	186	7.3	3 - 48	0.12 - 1.89	50	222	1,000
TY25M-7	Purple	2S/21S	AH2	V2	4.8	0.19	186	7.3	3 - 48	0.12 - 1.89	50	222	1,000
TY25M-8	Grey	2S/21S	AH2	V2	4.8	0.19	186	7.3	3 - 48	0.12 - 1.89	50	222	1,000
TY25M-10	White	2S/21S	AH2	V2	4.8	0.19	186	7.3	3 - 48	0.12 - 1.89	50	222	1,000

Some approvals may not be applicable to all Cat. n°s.
Contact your Sales Office for approvals limitations.

Tooling



ERG50

For use with 2.3mm to 4.8mm (80N to 220N) Cable ties.
See page C40.



ERG120

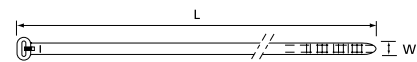
For use with 4.8mm to 7.0mm (220N to 540N) Cable ties.
See page C40.



WT3D

For use with 4.8mm to 8.2mm (220N to 780N) Cable ties.
See page C42.

Diagram



Cable tie colour code

Colour code	Colour	Colour code	Colour
X	UV Black	5	Green
0	Black	6	Blue
1	Brown	7	Purple
2	Red	8	Grey
3	Orange	10	White
4	Yellow		

Natural nylon is standard. For coloured Ty-Rap® ties, add the following suffix numbers to catalogue numbers.
Example: TY25M-2 would be red TY25M.
(Consult Regional Sales Office for ordering information.)

Ty-Rap high performance cable ties

Polyamide 6.6 cable ties – Coloured – Colour assortment



Characteristics

- 10 ties in each colour (black, brown, red, orange, yellow, green, blue, purple, grey & white) are packaged
- Indoor use only
- Now offered in 4 different models
- CSA Certified file 002884. Polyamide 6.6 Nylon Cable Ties are suitable for use in air handling plenum spaces in accordance with rules 12-010 (3), (4) and (5), and 12-020 of the CEC.

Technical information

- Material - Moulding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60 °C to 85 °C (-76 °F to 185 °F)
- Min. installation temp.: -20°C (-4°F)
- Halogen free, silicone free



Polyamide 6.6 cable ties – Coloured – Colour assortment

Cat. n°.	Colour	Type DSG	Plenum rating	ANSI UL94 Flame rating	Body width		Length		Wire bundle dia. from ... to		Tensile strength		Std. pkg. [pcs]
					[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
TY523M-CLRS	Multi-Coloured (10 each of standard ten colours)	2S/21S	AH2	V-2	2.3	0.09	92	3.6	1.5 - 16	0.06 - 0.63	18	80	100
TY524M-CLRS	Multi-Coloured (10 each of standard ten colours)	2S/21S	AH2	V-2	3.6	0.14	140	5.5	2 - 35	0.08 - 1.38	40	180	100
TY525M-CLRS	Multi-Coloured (10 each of standard ten colours)	2S/21S	AH2	V-2	4.8	0.19	186	7.3	3 - 48	0.12 - 1.89	50	222	100
TY528M-CLRS	Multi-Coloured (10 each of standard ten colours)	2S/21S	AH2	V-2	4.8	0.19	361	14.2	3 - 102	0.12 - 4.01	50	222	100

Tooling



ERG50
For use with 2.3mm to 4.8mm (80N to 220N) Cable ties. See page C40.

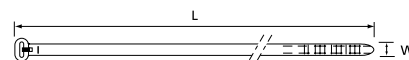


ERG120
For use with 4.8mm to 7.0mm (220N to 540N) Cable ties. See page C40.



WT3D
For use with 4.8mm to 8.2mm (220N to 780N) Cable ties. See page C42.

Diagram



Cable tie colour code

Colour code	Colour	Colour code	Colour
X	UV Black	5	Vert
0	Black	6	Bleu
1	Brun	7	Purple
2	Rouge	8	Gris
3	Orange	10	Blanc
4	Jaune	CLRS	Multicolour

Ty-Rap high performance cable ties

Stripped-Coloured cable ties



Characteristics

- Designed primarily for P.I.C. and station cable binder marking
- Install in less than 10 seconds
- No tools needed
- High-contrast colour stripes extend to end of tail for instant, permanent identification of binder

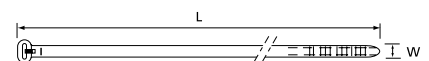
Technical information

- Material - Moulding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40 °C to 85 °C (-40 °F to 185 °F)
- Order per bag. 1 bag = 50 cable ties. Sold in Multiple of 20
- Halogen free, silicone free

Stripped-Coloured cable ties

Std. Cat. N°.	Bulk Cat. N°.	Tie colour	Colour stripe	Wire bundle dia.		Body width		Length		Tensile strength		Bulk pkg.
				[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
696-40527-0C	696-40527-0C	Black	–	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-1-0C	696-40527-1-0	Brown	Black	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-1-2C	696-40527-1-2	Brown	Red	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-1-4C	696-40527-1-4	Brown	Yellow	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-1-7C	696-40527-1-7	Brown	Purple	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-1-9C	696-40527-1-9	Brown	White	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-2C	696-40527-2	Red	–	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-3-0C	696-40527-3-0	Orange	Black	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-3-2C	696-40527-3-2	Orange	Red	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-3-4C	696-40527-3-4	Orange	Yellow	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-3-7C	696-40527-3-7	Orange	Purple	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-3-9C	696-40527-3-9	Orange	White	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-4C	696-40527-4	Yellow	–	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-5-0C	696-40527-5-0	Green	Black	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-5-2C	696-40527-5-2	Green	Red	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-5-4C	696-40527-5-4	Green	Yellow	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-5-7C	696-40527-5-7	Green	Purple	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-5-9C	696-40527-5-9	Green	White	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-6-0C	696-40527-6-0	Blue	Black	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-6-2C	696-40527-6-2	Blue	Red	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-6-4C	696-40527-6-4	Blue	Yellow	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-6-7C	696-40527-6-7	Blue	Purple	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-6-9C	696-40527-6-9	Blue	White	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-8-0C	696-40527-8-0	Slate	Black	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-8-2C	696-40527-8-2	Slate	Red	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-8-4C	696-40527-8-4	Slate	Yellow	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000
696-40527-8-9C	696-40527-8-9	Slate	White	1.5 - 16	0.06 - 0.63	2.3	0.09	92	3.6	18	80	1,000

Diagram



Ty-Rap high performance cable ties

Pouches for stripped coloured cable ties



Characteristics

- Plastic pouch (Part n° 650-40587) and canvas pouch (Part n° 650-40587-C).
- 25 pockets to store the bi-coloured ties
- Mini-pouch (Part n° 650-40587-M) designed to fit into shirt pocket or over belt.
- Holds a maximum of 5 plastic bags of 50 each of the bi-coloured ties.

Stripped-Coloured cable ties

Cat. n°.	Description	Std. pkg. [pcs]
650-40587	Plastic pouch only	1
650-40587-1	Plastic pouch with Ty-Rap cable tie assortment 1 bag each of 50 each (1,250 total)	1
650-40587C	Cloth pouch only	1
650-40587CF	Cloth pouch with 1 bag of 50 each Ty-Rap cable ties (1,250 total)	1
650-40587M	Mini pouch only	1
650-40587MF	Mini pouch filled with assortment of Ty-Rap cable ties (50 each)	1

Plastic and canvas pouch loading diagram



Blue tie white stripe N° 696-40527-6-9-C	Orange tie white stripe N° 696-40527-3-9-C	Green tie white stripe N° 696-40527-5-9-C	Brown tie white stripe N° 696-40527-1-9-C	Slate tie white stripe N° 696-40527-8-9-C
Blue tie red stripe N° 696-40527-6-2-C	Orange tie red stripe N° 696-40527-3-2-C	Green tie red stripe N° 696-40527-5-2-C	Brown tie red stripe N° 696-40527-1-2-C	Slate tie red stripe N° 696-40527-8-2-C
Blue tie black stripe N° 696-40527-6-0-C	Orange tie black stripe N° 696-40527-3-0-C	Green tie black stripe N° 696-40527-5-0-C	Brown tie black stripe N° 696-40527-1-0-C	Slate tie black stripe N° 696-40527-8-0-C
Blue tie yellow stripe N° 696-40527-6-4-C	Orange tie yellow stripe N° 696-40527-3-4-C	Green tie yellow stripe N° 696-40527-5-4-C	Brown tie yellow stripe N° 696-40527-1-4-C	Slate tie yellow stripe N° 696-40527-8-4-C
Blue tie purple stripe N° 696-40527-6-7-C	Orange tie purple stripe N° 696-40527-3-7-C	Green tie purple stripe N° 696-40527-5-7-C	Brown tie purple stripe N° 696-40527-1-7-C	Red tie purple stripe N° 696-40527-2-C

Ty-Rap high performance cable ties

Cable ties dispenser



Characteristics

- Durable, lightweight polyester exterior and tough vinyl interior construction
- Rugged diamond-shaped cutout for easy access to cable ties (up to 8 in., 11 in. -14 in. lengths) and rectangular-shaped (for 4 in. length)
- Handy belt clip and chrome steel loop for easy attachment
- Resealable hook-and-loop flap for easy refill
- Includes 100 genuine Ty-Rap cable ties

Cable ties dispenser Ty-Rap tote

Cat. n°.	Description	Pkg. [pcs]
TY-TOTE-25	Ty-Rap Tote 8 in. cable tie dispenser (includes 1 pkg. TY525M)	1
TY-TOTE-25X	Ty-Rap Tote 8 in. cable tie dispenser (includ 1 pkg. TY525MX)	1
TY-TOTE-23	Ty-Rap Tote 4 in. cable tie dispenser (includes 1 pkg. TY523M)	1
TY-TOTE-28	Ty-Rap Tote 11 in.-14 in. cable tie dispenser (includes 1 pkg. TY528M)	1

Special ties with steel locking barb

Integrated mounting hole Ty-Rap cable ties



Characteristics

- Great for use with screws, nuts and bolts for secure fastening to surfaces
- Applications: pre-wiring of cable harnesses before assembly on all types of machines or installations - indoor or outdoor
- The MX series cable ties are UV resistant and recommended for outdoor use.

Technical information

- Material - Moulding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Halogen free, silicone free

Integrated mounting hole cable ties

Std. Cat. N°.	Bulk Cat. N°.	Colour	ANSI UL94 Flame rating	Width W		Length L		Wire bundle dia. from ... to		Mounting hole	Min. tensile strength		Std. pkg. [pcs]	Bulk pkg. [pcs]
				[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		[lb]	[N]		
TY533M	TY33M	Natural	V-2	2.3	0.09	102	4.0	2 - 16	0.08 - 0.63	#4	18	80	100	1,000
TY533MX	TY33MX	UV-resistant black	V-2	2.3	0.09	102	4.0	2 - 16	0.08 - 0.63	#4	18	80	100	1,000
TY534M	TY34M	Natural	V-2	3.5	0.14	152	6.0	2 - 29	0.08 - 1.13	#8	40	180	100	1,000
TY534MX	TY34MX	UV-resistant black	V-2	3.5	0.14	152	6.0	2 - 29	0.08 - 1.13	#8	40	180	100	1,000
TY535M	TY35M	Natural	V-2	4.7	0.18	199	7.8	3.5 - 45	0.14 - 1.75	#10	50	222	100	1,000
TY535MX	TY35MX	UV-resistant black	V-2	4.7	0.18	199	7.8	3.5 - 45	0.14 - 1.75	#10	50	222	100	1,000
TY5354M	TY354M	Natural	V-2	4.7	0.18	371	14.6	3.5 - 102	0.14 - 4.00	#10	50	222	100	1,000
TY5354MX	TY354MX	UV-resistant black	V-2	4.7	0.18	371	14.6	3.5 - 102	0.14 - 4.00	#10	50	222	100	1,000
TY1435M	-	Natural	V-2	4.7	0.19	198	7.8	1.5 - 44	0.06 - 1.75	¼	50	222	-	1,000
TY635M	-	Natural	V-2	4.7	0.19	198	7.8	1.5 - 44	0.06 - 1.75	#6	50	222	-	1,000
TY537M	TY37M	Natural	V-2	7.7	0.30	356	14.0	6 - 89	0.24 - 3.50	¼	120	540	50	500
TY537MX	TY37MX	UV-resistant black	V-2	7.7	0.30	356	14.0	6 - 89	0.24 - 3.50	¼	120	540	50	500
TYF535M	TYF35M	Natural	V-2	4.7	0.19	186	7.3	3.5 - 44	0.14 - 1.75	#6	50	222	100	1,000

Description of Cat. n°. structure: see page C13

Description of materials and properties: see pages C132 to C144

Some approvals may not be applicable to all Cat. n°.s.

Contact your Sales Office for approvals limitations.

Tooling



ERG50

For use with 2.3mm to 4.8mm (80N to 220N) Cable ties. See page C40.

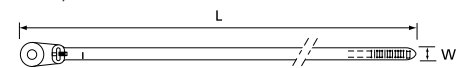


ERG120

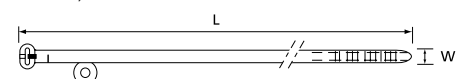
For use with 4.8mm to 7.0mm (220N to 540N) Cable ties. See page C40.

Diagrams

TY...M, TY...MX



TYF35M, TYF535M



Special ties with steel locking barb

Panel mounting cable ties



Characteristics

- Fast pre- or on-site-assembly for a range of panel thickness up to 4.0mm (0.157 po)
- Fastening and clip-mounting in one
- Fast and reliable clip mounting
- Natural colour for interior use and black colour for exterior or interior use
- The MX series cable ties are UV resistant and recommended for outdoor use.

Technical information

- Material - Moulding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Halogen free, silicone free

Panel mounting cable ties

Std. Cat. N°.	Bulk Cat. N°.	Colour	ANSI UL94 Flame rating	Width W		Length L		Wire bundle dia. from ... to		Mounting hole	Min. tensile strength		Std. pkg. [pcs]	Bulk pkg. [pcs]
				[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		[lb]	[N]		
Type à ancre														
TY554M	TY54M	Natural	V-2	3.5	0.14	150	5.91	2 - 29	0.08 - 1.13	3/16	40	180	100	1,000
TY538M	TY38M	Natural	V-2	4.7	0.19	200	7.87	3.5 - 44	0.14 - 1.75	1/4	50	220	100	1,000
TY38MX	-	UV resistant black	V-2	4.7	0.19	200	7.87	3.5 - 44	0.14 - 1.75	1/4	50	220	100	1,000
Type standard														
696-41836	-	Natural	V-2	4.7	0.19	197	7.76	3.5 - 44	0.14 - 1.75	1/4	50	220	100	1,000

Description of Cat. n°. structure: see page C13

Description of materials and properties: see pages C132 to C144

Tooling



ERG50

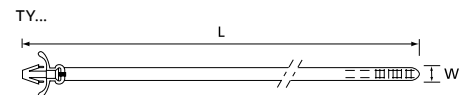
For use with 2.3mm to 4.8mm (80N to 220N) Cable ties. See page C40.



ERG120

For use with 4.8mm to 7.0mm (220N to 540N) Cable ties. See page C40.

Diagrams



Special ties with steel locking barb

Cable ties with identification tag



Characteristics

- Identification ties with incorporated label for durable marking and tying
- Available in both single and multiple configurations
- Identification ties can be installed with standard Ty-Rap tools used for regular ties
- Natural colour for interior use and black colour for exterior or interior use
- All edges are rounded to make installation easier

Technical information

- Material - Moulding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Température d'utilisation -40°C to +85°C (-40°F to +185°F)
- Halogen free, silicone free

Cable ties with identification tag

Std. Cat. N°.	Bulk Cat. N°.	Colour	ANSI UL94 Flame rating	Width (W)		Length (L)		Wire bundle dia. from ... to		Military Standard*	Marking Pad Size L x H		Min. tensile strength		Std. pkg. [pcs]	Bulk pkg. [pcs]
				[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		[mm]	[in.]	[lb]	[N]		
TY551M	TY51M	Natural	V-2	2.3	0.09	91	3.60	10 - 16	0.40 - 0.63	•	25.4 x 7.9	1 x 0.31	18	80	100	500
TY551MX	-	UV-resistant black	V-2	2.3	0.09	91	3.60	10 - 16	0.40 - 0.63	•	25.4 x 7.9	1 x 0.31	18	80	100	-
TY5512M	TY512M	Natural	V-2	2.3	0.09	211	8.30	10 - 51	0.40 - 2.01	-	25.4 x 7.9	1 x 0.31	18	80	100	1,000
TY553M	TY53M	Natural	V-2	2.3	0.09	102	4.00	2 - 16	0.08 - 0.63	-	20.6 x 9.3	0.81 x 0.36	18	80	100	500
-	TY53MX	UV-resistant black	V-2	2.3	0.09	102	4.00	2 - 16	0.08 - 0.63	-	20.6 x 9.3	0.81 x 0.36	18	80	-	500
TY5532M	TY532M	Natural	V-2	2.3	0.09	213	8.40	2 - 51	0.08 - 2.01	-	20.6 x 9.3	0.81 x 0.36	18	80	100	1,000
-	TY532MX	UV-resistant black	V-2	2.3	0.09	213	8.40	2 - 51	0.08 - 2.01	-	20.6 x 9.3	0.81 x 0.36	18	80	-	1,000
-	TY153M	Natural	V-2	2.5	0.10	111	4.35	10 - 16	0.40 - 0.63	-	20.1 x 25.4	0.79 x 1	18	80	-	500

* Add "-9" for MS3367 certified items. See page 145 for details
 For other materials and colours contact your Sales Office
 Description of Cat. n°. structure: see page C13
 Description of materials and properties: see pages C132 to C144

Tooling



ERG50

For use with 2.3mm to 4.8mm (80N to 220N) Cable ties. See page C40.

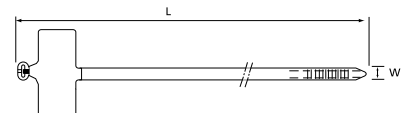


ERG120

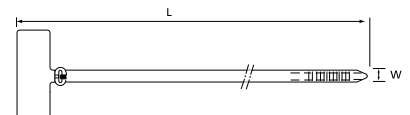
For use with 4.8mm to 7.0mm (220N to 540N) Cable ties. See page C40.

Diagrams

TY551M / TY5512M



TY553M / TY5532M / TY153M



Special ties with steel locking barb

Identification cable ties



Characteristics

- Identification ties with incorporated label for durable marking and tying
- Available in both single and multiple configurations
- Identification ties can be installed with standard Ty-Rap tools used for regular ties
- Natural colour for interior use and black colour for exterior or interior use
- All edges are rounded to make installation easier

Technical information

- Material - Moulding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Température d'utilisation -40°C to +85°C (-40°F to +185°F)
- Halogen free, silicone free

Identification cable ties

Std. Cat. N°.	Bulk Cat. N°.	Colour	ANSI UL94 Flame rating	Width (W)		Length (L)		Wire bundle dia. from ... to		Military Standard*	Marking Pad Size L x H		Min. tensile strength		Std. pkg. [pcs]	Bulk pkg. [pcs]
				[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		[mm]	[in.]	[lb]	[N]		
TY546M	TY46M	Natural	V-2	4.8	0.19	184	7.25	9.5 - 44	0.37 - 1.75	•	13.1 x 27.0	0.52 x 1.06	50	222	100	1,000
TY546MX	TY46MX	UV-resistant black	V-2	4.8	0.19	184	7.25	9.5 - 44	0.37 - 1.75	•	13.1 x 27.0	0.52 x 1.06	50	222	100	1,000
TY548M	TY48M	Natural	V-2	4.8	0.19	360	14.2	19 - 102	0.75 - 4.02	•	13.1 x 57.2	0.52 x 2.25	50	222	100	1,000
-	TY48MX	UV-resistant black	V-2	4.8	0.19	360	14.2	19 - 102	0.75 - 4.02	•	13.1 x 57.2	0.52 x 2.25	50	222	-	1,000
TY546MD	TY46MD	Natural	V-2	4.8	0.19	184	7.25	9.5 - 44	0.37 - 1.75	•	29.7 x 27.0	1.17 x 1.06	50	222	50	500
-	TY46MDX	UV-resistant black	V-2	4.8	0.19	184	7.25	9.5 - 44	0.37 - 1.75	•	29.7 x 27.0	1.17 x 1.06	50	222	-	500
TY546MT	TY46MT	Natural	V-2	4.8	0.19	184	7.25	9.5 - 44	0.37 - 1.75	•	46.0 x 27.0	1.81 x 1.06	50	222	100	500
-	TY46MTX	UV-resistant black	V-2	4.8	0.19	184	7.25	9.5 - 44	0.37 - 1.75	•	46.0 x 27.0	1.81 x 1.06	50	222	-	500
TY546MF	TY46MF	Natural	V-2	4.8	0.19	184	7.25	9.5 - 44	0.37 - 1.75	-	63.1 x 27.0	2.48 x 1.06	50	222	50	250

* Add "-9" for MS3367 certified items. See page 145 for details
 For other materials and colours contact your Sales Office
 Description of Cat. n°. structure: see page C13
 Description of materials and properties: see pages C132 to C144

Tooling



ERG50

For use with 2.3mm to 4.8mm (80N to 220N) Cable ties. See page C40.

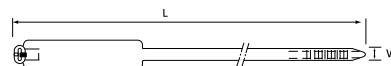


ERG120

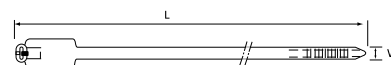
For use with 4.8mm to 7.0mm (220N to 540N) Cable ties. See page C40.

Diagrams

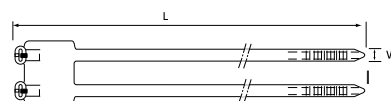
TY548M



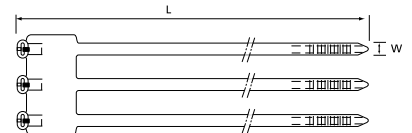
TY546M



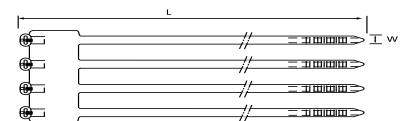
TY546MD



TY546MT



TY546MF



Special ties

Releasable cable ties



Characteristics

- Indoor use only
- For temporary but strong bundling, especially during control box wiring
- May be re-used many times
- Very simple application
- No tooling necessary

Technical information

- Material - Moulding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Natural
- Plenum rating: AH-2
- Halogen free, silicone free

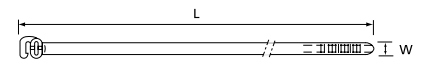
Releasable cable ties

Cat. n°.	Type	ANSI UL94 Flame rating	Wire bundle dia. from ... to		Length L		Width W		Min. tensile strength		Std. pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
TYR505	2S/21S	V-2	10 - 44	0.39 - 1.73	190	7.48	4.7	0.19	50	222	100
TYR508	2S/21S	V-2	10 - 102	0.39 - 4.02	364	14.33	4.7	0.19	50	222	100

Description of Cat. n°. structure: see page C13

Description of materials and properties: see pages C132 to C144

Diagram



Special ties with steel locking barb

Integrated peg / nail cable ties



Characteristics

- Outdoor or indoor use
- TY545MX, with integrated nail for mounting onto wood or similar materials
- TY544MX, with integrated peg for mounting onto porous concrete or similar materials (masonry)
- Very simple application

Technical information

- Material - Moulding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Black
- Plenum rating: AH-2
- Halogen free, silicone free



UV-resistant

Integrated peg / nail cable ties

Cat. n°.	Type	ANSI UL94 Flame rating	Max. Wire Bundle Dia.		Dia. of mounting hole		Length L		Width W		Pullout force	Min. tensile strength			Mounting hole depth (min)		Std. pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		[lb]	[lb]	[N]	[mm]	[in.]	
TY544MX	2S/21S	V-2	3.5 - 45	0.14 - 1.77	6.4	0.25	200	7.87	4.6	0.18	25	50	220	25	0.98	50	
TY545MX	2S/21S	V-2	4.7 - 38.1	0.19 - 1.5	-	-	200	7.87	4.7	0.19	25	50	220	-	-	50	

Description of Cat. n°. structure: see page C13

Description of materials and properties: see pages C132 to C144

Tooling



ERG50

For use with 2.3mm to 4.8mm (80N to 220N) Cable ties. See page C40.

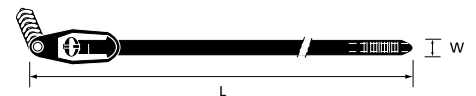


ERG120

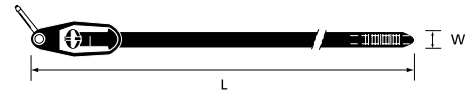
For use with 4.8mm to 7.0mm (220N to 540N) Cable ties. See page C40.

Diagrams

TY544MX



TY545MX



Special ties

Blind mounting cable ties



Characteristics

- Indoor use only
- Suitable for hard-to-reach areas
- Fast hidden mounting on walls and vehicle chassis
- Ideal for mounting on vehicle chassis. Can still be released before final tensioning
- In the locked state, the locking head neatly covers the mounting hole

Technical information

- Material - Moulding: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Black
- Halogen free, silicone free

Blind mounting cable ties

Std. Cat. N°.	Bulk Cat. N°.	ANSI UL94 Flame rating	Wire bundle dia. from ... to		Diameter of mounting hole		Length L		Width W		Min. tensile strength		Std. pkg. [pcs]	Bulk pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]		
TY541M	TY41M	V-2	5 - 60	0.20 - 2.36	8.1 - 17.3	0.32 - 0.68	244	9.61	5.7	0.22	65	289	50	500
650-41600	-	V-2	5 - 64	0.20 - 2.50	8.1 - 17.3	0.32 - 0.68	260	10.25	5.7	0.22	65	289	500	-
696-41848	-	V-2	5 - 76	0.20 - 3.00	8.1 - 17.3	0.32 - 0.68	318	12.00	5.7	0.22	65	289	500	-

Description of Cat. n°. structure: see page C13

Description of materials and properties: see pages C132 to C144

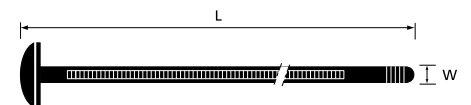
Tooling



ERG120

For use with 4.8mm to 7.0mm (220N to 540N) Cable ties.
See page C40.

Diagram



Cable ties for special environments

Polyamide 6.6 cable ties – Heat stabilised + UV-resistant



Characteristics

- Outdoor or indoor use
- For OEM and MRO applications like: transportation, lawn (garden/farm), construction equipment, recreational vehicles
- Provides a smooth, low-profile look and offers unlimited tensioning range for a perfect fit



UV-resistant



Heat resistant

Technical information

- Material - Moulding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60°C to +105°C (-76°F to +221°F)
- Min. installation temp.: -40°C (-40°F)
- Colour: Black
- Halogen free, silicone free

Polyamide 6.6 cable ties – Heat stabilised + UV-resistant



E49405

Cat. n°	Type DSG	ANSI UL94 Flame rating	Wire bundle dia. from ... to		Length L		Width W		Min. tensile strength		Bulk pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
TY23MX-A	2/21	V-2	4.8 - 16	0.19 - 0.63	92	3.62	2.3	0.09	18	80	1,000
TY24MX-A	2/21	V-2	5.2 - 35	0.20 - 1.38	140	5.51	3.6	0.14	30	133	1,000
TY25MX-A	2S/21S	V-2	6.2 - 48	0.24 - 1.89	186	7.32	4.8	0.19	50	220	1,000
TY27MX-A	2S/21S	V-2	8 - 95	0.31 - 3.74	340	13.39	6.9	0.27	120	540	500
TY28MX-A	2S/21S	V-2	3-102	0.24 - 4.00	361	14.21	4.8	0.19	50	220	1,000

Description of Cat. n°. structure: see page C13

Description of materials and properties: see pages C132 to C144

Tooling



ERG50

For use with 2.3mm (80N) Cable ties.
See page C40.

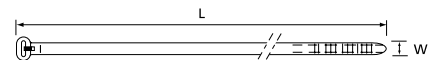


ERG120

For use with 2.3mm to 6.9mm (80N to 540N) Cable ties.
See page C40.

* ERG120 cannot be used for TY23MX-A and TY24MX-A ties

Diagram



Cable ties for special environments

Polyamide 4.6 cable ties – Extra high temperature



Characteristics

- Ideal for Industrial OEM and MRO (includes, but not limited to metal processing, paper mills, lighting and commercial construction markets with high temperature environments up to 150°C (302°F)
- For high temperature environments in commercial construction applications such as: metal processing, paper mills, lighting, automotive.



Heat
resistant

Technical information

- Material - Moulding: Polyamide 4.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +150°C (-40°F to +302°F)
- Min. installation temp.: -18°C (0F)
- Colour: Light green
- Flammability rating: UL 94 V-2
- Halogen free, silicone free



Polyamide 4.6 cable ties – Extra high temperature

Cat. n°.	Type DSG	ANSI UL94 Flame rating	Wire bundle dia. from ... to		Length L		Width W		Min. tensile strength		Bulk pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
TYHT23M	1/11	V-2	2 - 20	0.08 - 0.79	95	3.74	2.3	0.09	18	80	1,000
TYHT24M	1/11	V-2	2 - 29	0.08 - 1.14	143	5.63	3.6	0.14	40	178	1,000
TYHT25M	1/11	V-2	5 - 45	0.20 - 1.77	192	7.56	4.8	0.19	50	222	1,000
TYHT28M	1/11	V-2	5 - 102	0.20 - 4.02	367	14.45	4.8	0.19	50	222	1,000
TYHT27M	1/11	V-2	5 - 89	0.20 - 3.50	349	13.74	6.9	0.27	120	534	500
TYHT277M	1/11	V-2	6 - 177	0.24 - 6.97	617	0.24	7.0	0.28	120	540	500

Description of Cat. n°. structure: see page C13

Description of materials and properties: see pages C132 to C144

Tooling



ERG50

For use with 2.3mm to 4.8mm (80N to 220N) Cable ties.
See page C40.



ERG120

For use with 2.3mm to 6.9mm (80N to 540N) Cable ties.
See page C40.

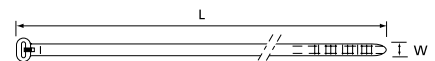


WT199

For use with 2.3mm to 4.8mm (80N to 220N) Cable ties.
See page C41.

* ERG120 cannot be used for TYHT23M and TYHT24M ties

Diagram



Cable ties for special environments

Detectable cable ties



Characteristics

- The Ty-Rap detectable cable ties from ABB incorporate a unique compound (patent pending) that can be detected by X-Ray equipment, metal detectors and visual inspection equipment.
- Particularly recommended for applications in food, pharmaceutical and other contaminationsensitive industries
- Designed to have the best detectability by metal detectors
- Detectable by X-Ray equipment
- Bright blue colour for an easy visual detection
- Available in standard Polyamide 6.6 or in Polypropylene version for liquid-processing applications.



Detectable

Technical information

- Material - Moulding: Polyamide 6.6 or Polypropylene
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Blue
- Halogen free, silicone free

Detectable cable ties

Cat. n°.	ANSI UL94 Flame rating	Wire bundle dia. from ... to		Length L		Width W		Min. tensile strength		Std. pkg. [pcs]
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
Detectable Polyamide 6.6										
TY523M-NDT	HB	9 - 16	0.35 - 0.63	92	3.6	2.3	0.09	18	80	100
TY524M-NDT	HB	10 - 35	0.39 - 1.38	137	5.4	3.6	0.14	40	180	100
TY525M-NDT	HB	10 - 44	0.41 - 1.75	186	7.3	4.7	0.18	50	222	100
TY25M-NDT	HB	10 - 44	0.41 - 1.75	186	7.3	4.7	0.18	50	222	1,000
TY527M-NDT	HB	13 - 89	0.50 - 3.50	343	13.5	6.9	0.27	120	540	50
TY27M-NDT	HB	13 - 89	0.50 - 3.50	343	13.5	6.9	0.27	120	540	500
TY528M-NDT	HB	13 - 101	0.51 - 4.00	361	14.20	4.7	0.18	50	222	100
Detectable Polypropylene										
TY523M-PDT	HB	9 - 16	0.35 - 0.63	92	3.6	2.3	0.09	11	49	100
TY525M-PDT	HB	10 - 44	0.41 - 1.75	186	7.3	4.7	0.18	30	135	100
TY527M-PDT	HB	13 - 101	0.50 - 4.00	340	13.4	7.0	0.27	60	267	50
TY528M-TDT	HB	13 - 101	0.50 - 4.00	361	14.2	4.7	0.18	30	135	100

Description of Cat. n°. structure: see page C13

Description of materials and properties: see pages C132 to C144

For mounting bases available in these same materials, see page C96 and C97

Tooling



ERG50

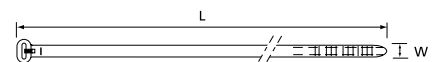
For use with 2.3mm to 4.8mm (80N to 220N) Cable ties. See page C40.



ERG120

For use with 4.8mm to 7.0mm (220N to 540N) Cable ties. See page C40.

Diagram



Cable ties for special environments

Polyamide 6.6 cable ties – Flame retardant



Characteristics

- Outdoor or indoor use
- The flame retardant version is suitable for applications where human life is at stake. Ideal for use where low flammability and low smoke emission are required, eg in public transport, buildings accessible to the public, tunnels, etc.



Flame
retardant

Technical information

- Material - Moulding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -20°C to +65°C (-4°F to +149°F)
- Min. installation temp.: 0°C (32°F)
- Colour: White
- Halogen free, silicone free



E49405

Polyamide 6.6 cable ties – Flame retardant

Cat. n°.	Type DSG	ANSI UL94 Flame rating	Wire bundle dia. from ... to		Length L		Width W		Marking Pad Size L x H		Min. tensile strength		Std. pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
TY23MFR	2/21	V-0	1.5 - 16	0.06 - 0.63	92	3.62	2.4	0.09	N/A	N/A	18	80	1,000
TY232MFR	2/21	V-0	1.5 - 51	0.06 - 2.01	203	7.99	2.4	0.09	N/A	N/A	18	80	1,000
TY24MFR	2/21	V-0	2 - 35	0.08 - 1.38	140	5.51	3.6	0.14	N/A	N/A	40	180	1,000
TY25MFR	2S/21S	V-0	3 - 48	0.12 - 1.89	186	7.62	4.6	0.18	N/A	N/A	50	222	1,000
TY28MFR	2/21	V-0	3 - 102	0.12 - 4.02	360	14.17	4.6	0.18	N/A	N/A	50	222	1,000
TY27MFR	2S/21S	V-0	6 - 95	0.24 - 3.74	335	13.19	7.6	0.30	N/A	N/A	120	540	500
TY272MFR	2S/21S	V-0	4.8 - 51	0.19 - 2.01	223	8.78	7.0	0.28	N/A	N/A	120	540	500
TY53MFR	N/A	V-0	1.5 - 22	0.06 - 0.87	102	4.00	2.4	0.09	20.6 x 9.1	0.81 x 0.36	18	80	500
TY153MFR	N/A	V-0	1.5 - 22	0.06 - 0.87	110	4.35	2.5	0.10	19.8 x 14.0	0.78 x 1	18	80	500

Description of Cat. n°. structure: see page C13

Description of materials and properties: see pages C132 to C144

Tooling

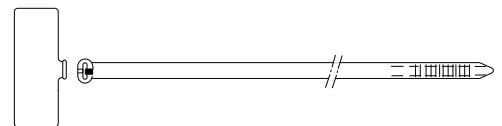
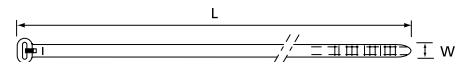


ERG50
For use with 4.8mm
(220N) Cable ties.
See page C40.



ERG120
For use with 4.8mm
(220N) Cable ties.
See page C40.

Diagrams



Cable ties for special environments

Polyamide 12 cable ties – UV-resistant



Characteristics

- The polyamide 12 provides very good resistance to ultraviolet light and chemical exposure
- Polyamide 12 absorbs less moisture than polyamide 6.6 and the effect of water on its properties is less important. This makes the product flexible even at low temperatures.

Technical information

- Material - Moulding: Polyamide 12
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Black
- Halogen free, silicone free



UV-resistant



Weather-proof

Polyamide 12 cable ties – UV-resistant

Std. Cat. N°.	Bulk Cat. N°.	ANSI UL94 Flame rating	Wire bundle dia. from ... to		Length L		Width W		Min. tensile strength		Std. pkg. [pcs]	Bulk pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]		
TYC525MX	TYC25MX	V-2	3.5 - 45	0.14 - 1.77	186	7.32	4.70	0.19	35	155	100	1,000
-	TYC28MX	V-2	3.5 - 102	0.14 - 4.02	360	14.17	4.70	0.19	35	155	-	1,000
-	TYC272MX	V-2	6 - 51	0.24 - 2.01	222	8.74	7.60	0.30	85	380	-	500
TYC527MX	TTYC27MX	V-2	6 - 89	0.24 - 3.50	343	0.14	7.62	0.30	85	380	50	500
-	TYC29MX	V-2	6 - 229	0.24 - 9.02	771	30.35	7.60	0.30	85	380	-	500

Description of Cat. n°. structure: see page C13

Description of materials and properties: see pages C132 to C144

Tooling



ERG50

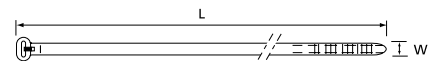
For use with 4.7mm to 7.6mm (155N to 380N) Cable ties. See page C40.



ERG120

For use with 4.7mm to 7.6mm (155N to 380N) Cable ties. See page C40.

Diagram



Cable ties for special environments

Polyamide 6.6 cable ties – Heat stabilised



Characteristics

- Indoor use only
- Heat stabilised version, for applications up to 105°C (221°F)



Heat
resistant

Technical information

- Material - Moulding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60°C to +105°C (-76°F to +221°F)
- Min. installation temp.: -30°C (-22°F)
- Colour: Natural (may have a greenish tint)
- Halogen free, silicone free



E49405

Polyamide 6.6 cable ties – Heat stabilised

Cat. n°.	Type DSG	Plenum rating	ANSI UL94 Flame rating	Wire bundle dia. from ... to		Length L		Width W		Tensile strength		Std. pkg. [pcs]
				[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
TYH23M	2/21	AH-2	V-2	1.5 - 16	0.06 - 0.63	92	3.62	2.4	0.09	18	80	1,000
TYH232M	2/21	AH-2	V-2	1.5 - 51	0.06 - 2.01	203	7.99	2.4	0.09	18	80	1,000
TYH24M	2/21	AH-2	V-2	2 - 35	0.08 - 1.38	140	5.51	3.6	0.14	40	180	1,000
TYH242M*	2/21	AH-2	V-2	2 - 51	0.08 - 2.01	208	8.19	3.6	0.14	40	180	1,000
TYH26M	2/21	AH-2	V-2	2 - 76	0.08 - 2.99	284	11.18	3.6	0.14	30	133	1,000
TYH25M	2S/21S	AH-2	V-2	3 - 48	0.12 - 1.89	186	7.32	4.7	0.19	50	222	1,000
TYH253M*	2S/21S	AH-2	V-2	3 - 76	0.12 - 2.99	290	11.42	4.8	0.19	50	222	1,000
TYH28M	2S/21S	AH-2	V-2	3 - 102	0.24 - 4.02	360	14.17	4.8	0.19	50	222	1,000
TYH272M*	2S/21S	AH-2	V-2	4.8 - 51	0.19 - 2.01	222	8.74	7.6	0.30	120	540	500
TYH27M	2S/21S	AH-2	V-2	4.8 - 102	0.19 - 4.02	340	13.39	7.0	0.28	120	540	500
TYH29M	2S/21S	AH-2	V-2	4.8 - 229	0.19 - 9.02	771	30.35	6.9	0.27	120	540	500

* Not UL recognised

Description of Cat. n° structure: see page C13

Description of materials and properties: see pages C132 to C144

Tooling



ERG50

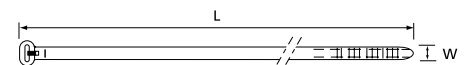
For use with 2.4mm to 4.8mm (80N to 220N) Cable ties.
See page C40.



ERG120

For use with 4.7mm to 7.0mm (220N to 540N) Cable ties.
See page C40.

Diagram



Cable ties for special environments

Polypropylene cable ties – Weatherable



Characteristics

- Outdoor or indoor use
- Polypropylene weatherable version, for increased resistance to chemicals
- Resistant against inorganic acids, polyhydric alcohols, neutral and basic salts



UV-resistant



Chemically resistant

Technical information

- Material - Moulding: Polypropylene
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Black
- Halogen free, silicone free

Polypropylene cable ties – Weatherable

Cat. n°.	ANSI UL94 Flame rating	Wire bundle dia. from ... to		Length L		Width W		Min. tensile strength		Std. pkg. [pcs]
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
TYP23MX	HB	2 - 16	0.08 - 0.63	92	3.62	2.4	0.09	18	80	1,000
TYP25MX	HB	3.5 - 45	0.14 - 1.77	186	7.32	4.8	0.19	30	133	1,000
TYP28MX	HB	3.5 - 102	0.14 - 4.02	360	14.18	4.8	0.19	30	133	1,000
TYP27MX	HB	6 - 90	0.24 - 3.54	340	13.39	7.0	0.28	60	270	500

Description of Cat. n°. structure: see page C13

Description of materials and properties: see pages C132 to C144

Tooling



ERG50

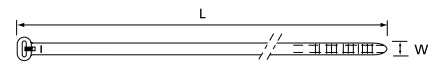
For use with 2.4mm to 4.8mm (50N to 130N) Cable ties. See page C40.



ERG120

For use with 7mm (270N) Cable ties. See page C40.

Diagram



Cable ties for special environments

Fluoropolymer cable ties – ECTFE



Characteristics

- Indoor use only
- Outstanding characteristic: lower smoke density when burnt
- Recommended for applications where smoke generation is a concern, such as plenum areas



UV-resistant



Flame retardant



Low smoke

Technical information

- Material - Moulding: Fluoropolymer ECTFE
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60°C to +160°C (-76°F to +320°F)
- Min. installation temp.: -60°C (-76°F)
- Colour: Maroon
- Flammability rating: UL 94 V-0

Fluoropolymer cable ties – ECTFE

Std. Cat. N°.	Bulk Cat. N°.	Type DSG	ANSI UL94 Flame rating	Wire bundle dia. from ... to		Length L		Width W		Tensile strength		Std. pkg. [pcs]	Bulk pkg. [pcs]
				[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]		
TYV523M	TYV23M	2/21	V-0	1.5 - 16	0.06 - 0.63	92	0.36	2.3	0.09	18	80	100	1,000
TYV525M	TYV25M	2/21	V-0	3.0 - 48	0.12 - 1.89	186	7.32	4.7	0.19	50	222	100	1,000

Description of Cat. n°. structure: see page C13

Description of materials and properties: see pages C132 to C144

Tooling



ERG50

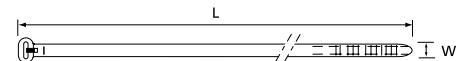
For use with 2.3mm to 4.7mm (80N to 220N) Cable ties. See page C40.



ERG120

For use with 4.7mm (220N) Cable ties. See page C40.

Diagram



Cable ties for special environments

Fluoropolymer cable ties – ETFE



Characteristics

- Indoor use only
- ETFE Fluoropolymer version, resistant to chemicals and to radiation
- Non-outgassing properties for zero gravity applications
- Typical applications include: nuclear, power plants, space industry, etc.

Technical information

- Material - Moulding: Fluoropolymer ETFE
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -45°C to +150°C (-49°F to 302°F)
- Min. installation temp.: -20°C (-4°F)
- Colour: Aquamarine
- Silicone free



UV-resistant



Radiation resistant



Chemically resistant

Fluoropolymer cable ties – ETFE



Std. Cat. N°.	Bulk Cat. N°.	Type DSG	ANSI UL94 Flame rating	Wire bundle dia. from ... to		Length L		Width W		Min. tensile strength		Std. pkg. [pcs]	Bulk pkg. [pcs]
				[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]		
TYZ523M*	TYZ23M*	1/11	V-0	1.5 - 16	0.06 - 0.63	92	3.62	2.3	0.09	18	80	100	1,000
TYZ525M	TYZ25M	1/11	V-0	3 - 48	0.12 - 1.89	186	7.32	4.3	0.17	50	222	100	1,000
TYZ528M	TYZ28M	1/11	V-0	3 - 102	0.12 - 4.02	360	14.17	4.4	0.17	50	222	100	500
TYZ527M	TYZ27M	1/11	V-0	6 - 95	0.24 - 3.74	340	13.39	6.8	0.27	120	540	50	100

* Cat. no. TYZ23M and TYZ523M are UL listed (E49405), all other items are UL recognized

Description of Cat. n°. structure: see page C13

Description of materials and properties: see pages C132 to C144

Tooling



ERG50

For use with 2.3mm to 4.3mm (80N to 220N) Cable ties. See page C40.

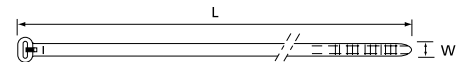


ERG120*

For use with 2.3mm to 6.8mm (80N to 540N) Cable ties. See page C40.

*ERG120 not to be used on TYZ23M

Diagram



Ty-Fast

Ag+™ bacteria-resistant cable ties



Characteristics

A breakthrough safety solution for fastening in bacteria-prone areas. A standard nylon cable tie is a harmless enough object—you install it to bundle and fasten cables, and then you forget about it. By its very design, full of notches and grooves, though, a cable tie makes an attractive home for micro-organisms to collect and reproduce. In most applications, this isn't a concern. However, in hospitals and food processing facilities, where reducing the growth of unhealthy micro-organisms is critical, the presence of heat, moisture and organic material common in these environments can encourage the growth of bacteria, fungus and mold.



Ty-Fast Ag+ after 24 hours of exposure to bacteria



Standard cable tie after 24 hours of exposure to bacteria

In response to the needs of customers in healthcare, food processing and preparation, pharmaceuticals, medical device manufacturing and other contamination-sensitive industries, ABB introduces the industry's first bacteria resistant cable tie. Ty-Fast Ag+ bacteria-resistant cable ties are molded from an FDA-compliant nylon resin blended with an antimicrobial silver ion additive to prevent the growth of bacteria, fungus and mold on their surface.

A proven antimicrobial agent, ionized silver has been used in consumer products for years and is effective against a broad spectrum of micro-organisms, preventing their reproduction and spread.

- The industry's first cable tie that inhibits microbial growth
- Protects itself against bacteria, mold and fungus
- Helps to reduce infection rate and spread of bacteria by not hosting microbial growth
- Promotes a clean environment— 99.9% effective for bacterial reduction
- Offers reliable Ty-Fast cable tie design for easy cable management
- UL recognized, RoHS and FDA compliant

Applications

- Hospitals and other healthcare facilities
- Pharmaceutical production
- Food and beverage processing (off-line production)
- Medical equipment manufacturing

Technical information

- Material: FDA-compliant fungal-inert nylon 6.6 resin custom-blended with EPA-registered antimicrobial silver ion additive
- Operating temperature: -40°F to 185°F (-40°C to 85°C)
- Colour: Ivory
- Flammability rating: UL94V-2
- Certifications/ compliances:
 - Recognized to UL62275 Type 1
 - UL/EN/CSA62275 Type 2/2S rated for AH-2 plenum
 - Independent laboratory tested to ISO22196 (Measurement of Antibacterial Activity on Plastic Surfaces), equivalent to JISZ2802 (Japanese Test for Antimicrobial Activity and Efficacy)
 - Fungal inert to MIL-T-152B standard
 - RoHS compliant

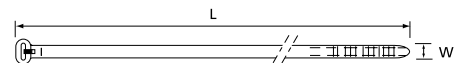


Ag+ bacteria-resistant cable ties

Cat. n°.	Wire bundle dia. from ... to		Length L		Width W		Min. tensile strength		Std. pkg. [pcs]
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
TY100-18-ANTI	1.5 - 22	0.06 - 0.87	104	4.1	2.4	0.10	18	80	100
TY175-50-ANTI	1.5 - 44	0.06 - 1.73	195	7.7	4.7	0.19	50	222	100
TY400-50-ANTI	1.5 - 102	0.06 - 4.02	363	14.3	4.7	0.19	50	222	100
TY400-120-ANTI	1.5 - 102	0.06 - 4.02	370	14.6	7.6	0.30	120	540	100

Note: Ty-Fast Ag+ bacteria-resistant cable ties provide no antimicrobial inhibitory activity beyond protection of the cable ties themselves. They do not provide protection against specific pathogenic organisms, nor do they prevent growth of bacteria on adjacent or nearby surfaces. The antimicrobial efficacy of the material lasts a minimum of two years from manufacture under normal use conditions.

Diagram



Tooling



ERG50
For use with 22mm to 102mm (80N to 540N) Cable ties. See page Voir page C40.

Tooling

Tools for plastic cable ties: ERG50 and ERG120

ERG50



ERG120



Cat. n°.: ERG50 and ERG120

Characteristics

The ergonomic tools from ABB provide a superior level of reliability and performance, combined with enhanced ergonomics and comfort of use. With their adjustable tension and automatic cutting, they are ideally suited for efficiently installing all kinds of plastic cable ties in industrial (Original Equipment Manufacturers, Maintenance and Repair Organisations, etc) and construction applications. They are available in hand tool version (ERG50 and ERG120)

Developed to meet the market needs for a more rugged and longer lasting tool, and to integrate the greatest number of features in the market:

- 360° rotating nose (patented), allows the tool to be used in any position
- Tension adjustment lock, for constant tension setting
- Quick tension-adjustment wheel located towards the front for easy access and fast changes
- Adjustable handle span (for hand tools only) fits large and small hands
- Anti-recoil mechanism (patented) reduces vibration shock
- First class design and materials: ergonomic shape with rounded edges, soft rubber handles, well balanced center of gravity
- Longest stroke length on the market (25.4mm/1"), meaning less tensioning cycles, for time and cost saving
- High / low force setting (patent pending), for a selection between "high force & long stroke" or "low force & short stroke" (for hand tools only)
- The cable tie is cut flush to the head, with no remaining protrusion, and the cut tail remains captive in the tool for a cleaner installation
- Easy access to spare blade nest, always a spare blade at hand (each tool is supplied with a spare blade)

As a result, the operator is subject to less stress, less fatigue and less risk of trauma due to long term use (such as Carpal Tunnel Syndrome)

Technical information

ERG50

- Tool type: Ergonomic hand tool
- Nose colour: Black
- For type of cable tie: Plastic ties
- For tie width: 2.4mm - 4.8mm (0.09" - 0.19")
- Features: Adjustable tension setting, automatic cutting, retraction of the strap end after application of Ty-Rap cable ties
- Weight: 260g
- Diagrams [L x W x H]: 178 x 127 x 38mm (7.01 x 5 x 1.50")
- Replacement blades: Cat. no. ERG50B

ERG120

- Tool type: Ergonomic hand tool
- Nose colour: Orange
- For type of cable tie: Plastic ties
- For tie width: 4.8mm - 7.6mm (0.19" - 0.30")
- Features: Adjustable tension setting, automatic cutting, retraction of the strap end after application of Ty-Rap cable ties
- Weight: 278g
- Diagrams [L x W x H]: 178 x 127 x 38mm (7.01 x 5 x 1.50")
- Replacement blades: Cat. no. ERG120B

Tooling

Tools for plastic cable ties



Cat. n°.: WT1-TB

Characteristics

- Twist-and-cut tensiometer tool in plastic, intended for maintenance and small batch use

Technical information

- Tool type: Low-cost hand tool
- For type of cable tie: Plastic ties
- Colour: Orange
- For tie width: 2.4mm - 4.8mm (0.09" x 0.19")
- Features: Basic tensiometer, twist cut
- Weight: 28.4g
- Diagrams [L x W x H]: 134 x 55 x 27mm (5.28" x 2.17" x 1.06")



Cat. n°.: WT2-TB

Characteristics

- Twist-and-cut tensiometer tool in plastic, intended for maintenance and small batch use

Technical information

- Tool type: Low-cost hand tool
- For type of cable tie: Plastic ties
- Colour: Black
- For tie width: 4.8mm - 7.6mm (0.19" x 0.30")
- Features: Basic tensiometer, twist cut
- Weight: 28.4g
- Diagrams [L x W x H]: 134 x 55 x 27mm (5.28" x 2.17" x 1.06")



Cat. n°.: WT199

Characteristics

- Semi-automatic hand tool
- MIL. Nr. MS-90387-1
- Tension setting to ensure product consistency
- Robust metal construction
- Ideal for industrial mass finishing applications like cable tree assemblies, for example in the military industry

Technical information

- Tool type: Semi-automatic hand tool
- For type of cable tie: Plastic ties
- For tie width: 2.4mm - 4.8mm (0.09" - 0.19")
- Features: Adjustable tension setting, automatic cutting, MIL specified (MS-90387-1)
- Weight: 410g
- Diagrams [L x W x H]: 163 x 134 x 24mm (6.42" x 5.28" x 0.94")



Cat. n°.: WT197

Characteristics

- Semi-automatic hand tool
- MIL. Nr. MS-90387-2
- Tension setting to ensure product consistency
- Robust metal construction
- Ideal for industrial mass finishing applications like cable tree assemblies, for example in the military industry

Technical information

- Tool type: Semi-automatic hand tool
- For type of cable tie: Plastic ties
- For tie width: 4.8mm - 7.6mm (0.19" - 0.30")
- Features: Adjustable tension setting, automatic cutting, MIL specified (MS-90387-2)
- Weight: 420g
- Diagrams [L x W x H]: 165 x 135 x 29mm (6.50" x 5.31" x 1.14")

Tooling

Tools for plastic cable ties



Cat. n°.: WT3D

Characteristics

- Designed for tensioning and cutting heavy-duty cable ties
- Robust metal body with plastic hand-grips

Technical information

- Tool type: Hand tool for Deltec ties, Col-Ty installation ties and other wide cable ties
- For type of cable tie: Plastic ties
- For tie width: 7.6mm - 12.7mm (0.30" - 0.5")
- Features: Tensioning, manual cutting (by twisting the tool)
- Weight: 225g
- Diagrams [L x W x H]: 178 x 112 x 20mm (7.01" x 4.41" x 0.79")



Cat. n°.: L-200

Characteristics

- Rugged construction makes this tool ideal for use with our 120 - 175 pound ties
- Automatic cut-off removes excess strap flush against cable tie head
- Tool is equipped with adjustable tensioning



Cat. n°.: L300-FR

Characteristics

- Cinch tie to desired bundle and pull trigger to cut excess flush at cable tie head.
- Field proven durability

Technical information

- Tool type: Hand tool
- For type of cable tie: Plastic ties
- For tie width: 120-175 lb
- Features: Tensioning, manual cutting
- Weight: 330 g
- Diagrams [L x W x H]: 195 x 100 x 25 mm



Cat. n°.: L-400-C

Characteristics

- Heavy-Duty tool for use with 18 - 50 pound ties
- Automatic cut-off and adjustable tensioning for dependable use in assembly applications.



Stainless steel cable ties and accessories

Ties, accessories and tools

ABB has a complete package of stainless steel cable ties and accessories that are easy to apply and superior in quality.

Stainless steel cable ties and accessories

These products have been designed for tying, lashing and identification applications in demanding environments such as boiler rooms, chemical plants, refineries, pulp/paper mills, shipyards and offshore oil platforms. They are made of a variety of high-quality stainless steel materials which offer excellent corrosion resistance, high temperature and durability characteristics. There is also a variety of high-quality installation and identification tools to complete your cable tie accessory needs.

For cable bundling, I.D. tags and other general bundling applications – especially in hazardous environments – ABB Stainless steel cable ties provide a strong, safe, permanent installation with a unique, dual lock.

The Type 304 stainless steel ties are completely fireproof – no toxic fumes, no sagging cables. They are extremely resistant to corrosion and UV light, with the ability to withstand the harshest temperature extremes. Yet they are surprisingly economical.

The low-profile ties are fast and easy to apply.

A quick squeeze of the installation tool forms two strong locks – a dimple lock and a fold lock.

Their two-piece configuration adds to its versatility. Available in standard lengths to wrap bundle diameters from 1 to 10 inches, ABB Stainless steel cable ties can be supplied in other lengths on special order.

Low-profile ABB stainless steel ties are fireproof and resist corrosion, UV light and extreme weather conditions for safe, permanent cable bundling.

Installation hand tool

The installation hand tool is a lightweight, pocket size hand tool which quickly and easily applies the stainless steel cable ties.

To use, simply separate the pull-up handle from the body, push the release lever down and insert the clamp tail as far as possible. Squeeze the pull-up handle until the band is tight. Finally, move the pull-up handle to the locking/cut-off position by moving it away from the body as far as it will go. Then squeeze to form the dual lock and cut off the excess tail.

Cable tie type

SS = Two-piece solid stainless steel cable tie, Type 304

TYS = Multi-lock stainless steel cable tie, Type 316

SSH = Heavy-duty stainless steel clamp, Type 201

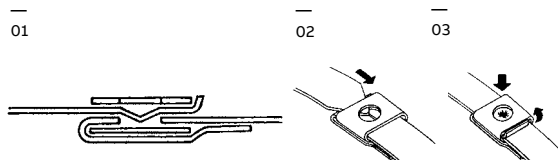
TS = Roller bar locking stainless steel cable tie, Type 302/304

LS = Ball locking stainless steel cable tie, Type 302/304/316

—
01 Dual Lock
The tail is formed into a fold lock behind the buckle. The tool forces a dimple in the band into a hole in the buckle.

—
02 After wrapping the object to be tied, insert the free end of the tie through the buckle and into the tool.

—
03 Squeeze the handle of the tool to create the dual lock and cut off the tail. The cable tie forms a low-profile dual lock.



Stainless steel cable ties and accessories

Two-Piece solid – Type SS



Characteristics

- Strong, slip-free ties with a unique dual lock
- Low-profile, single wrap ties
- Dual locking mechanism
- No slipping
- Perfect for bundling cables and wires and identification labeling

Technical information

- Material - Moulding: 304 Stainless Steel
Add suffix -316 for 316 Stainless Steel.
- Temperature range: -80°C to +538°C
(-112°F to +1000°F)

Two-Piece solid – Type SS



E49405

Cat. n°.	Wire bundle dia.		Length L		Width W		Tensile Strength		Std. pkg. [pcs]
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
Mini stainless steel cable ties									
SS7-180	25	1.00	165	6.5	4.5	0.18	100	445	100
SS10-180	51	2.00	254	10.0	4.5	0.18	100	445	100
SS16-180	102	4.00	406	16.0	4.5	0.18	100	445	100
SS23-180	152	6.00	572	22.5	4.5	0.18	100	445	100
SS29-180	203	8.00	737	29.0	4.5	0.18	100	445	100
Standard stainless steel cable ties									
SS10-250	51	2.00	254	10.0	6.35	0.25	250	1,112	100
SS17-250	102	4.00	419	16.5	6.35	0.25	250	1,112	100
SS23-250	152	6.00	572	22.5	6.35	0.25	250	1,112	100
SS29-250	203	8.00	737	29.0	6.35	0.25	250	1,112	100
SS35-250	254	10.00	889	35.0	6.35	0.25	250	1,112	100

Description of materials and properties: see pages C132 to C144

Tooling

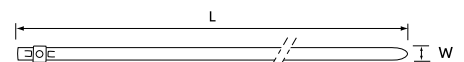


WTA290
Hand tool to apply mini stainless steel cable ties;
See page C51.



WTA250
Hand tool to apply standard stainless steel cable ties;
See page C51.

Diagram



Stainless steel cable ties and accessories

Multi-Lok™ self-locking – Type TYS



Characteristics

- Corrosion-resistant, providing a safe, strong, worry-free hold
- Unique, self-locking, multiple-locking system holds in excess of 250 lb
- Without slip
- Perfect for bundling cables in corrosive and hazardous environments

Technical information

- Material - Moulding: Type 316 stainless steel
- Version without and with coating
- Polyamide 11 weather-resistant coating is unaffected by UV sunlight, resistant to corrosion, chemicals, weathering and protects cable insulation
- Coating is halogen-free and non-toxic
- Temperature range:
Uncoated: -40°C to 300°C (-40°F to 572°F)
Coated: -60°C to 165°C (-76°F to 329°F)



Multi-Lok self-locking – Type TYS

Cat. n°	Wire bundle dia.		Length L		Width w		Tensile Strength		Std. pkg. [pcs]
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
Acier inoxydable 316 – Uncoated									
TYS6-280	25 - 33	0.98 - 1.30	150	6.0	7.0	0.28	250	1,112	100
TYS9-280	25 - 57	0.98 - 2.24	225	9.0	7.0	0.28	250	1,112	100
TYS12-280	25 - 81	0.98 - 3.19	300	12.0	7.0	0.28	250	1,112	100
TYS18-280	25 - 129	0.98 - 5.08	450	18.0	7.0	0.28	250	1,112	100
TYS24-280	25 - 180	0.98 - 7.09	610	24.0	7.0	0.28	250	1,112	100
TYS6-470	25 - 33	0.98 - 1.30	150	6.0	12.0	0.47	250	1,112	100
TYS9-470	25 - 57	0.98 - 2.24	225	9.0	12.0	0.47	250	1,112	100
TYS12-470	25 - 81	0.98 - 3.19	300	12.0	12.0	0.47	250	1,112	100
TYS18-470	25 - 129	0.98 - 5.08	450	18.0	12.0	0.47	250	1,112	100
TYS24-470	25 - 180	0.98 - 7.09	610	24.0	12.0	0.47	250	1,112	100
Acier inoxydable 316 – Polyamide 11 coated									
TYS6-280C	25 - 33	0.98 - 1.30	150	6.0	7.0	0.28	250	1,112	100
TYS9-280C	25 - 57	0.98 - 2.24	225	9.0	7.0	0.28	250	1,112	100
TYS12-280C	25 - 81	0.98 - 3.19	300	12.0	7.0	0.28	250	1,112	100
TYS18-280C	25 - 129	0.98 - 5.08	450	18.0	7.0	0.28	250	1,112	100
TYS24-280C	25 - 180	0.98 - 7.09	610	24.0	7.0	0.28	250	1,112	100
TYS6-470C	25 - 33	0.98 - 1.30	150	6.0	12.0	0.47	250	1,112	100
TYS9-470C	25 - 57	0.98 - 2.24	225	9.0	12.0	0.47	250	1,112	100
TYS12-470C	25 - 81	0.98 - 3.19	300	12.0	12.0	0.47	250	1,112	100
TYS18-470C	25 - 129	0.98 - 5.08	450	18.0	12.0	0.47	250	1,112	100
TYS24-470C	25 - 180	0.98 - 7.09	610	24.0	12.0	0.47	250	1,112	100

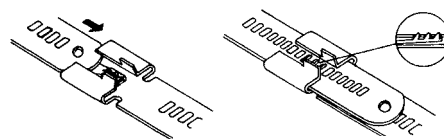
Description of materials and properties: see pages C132 to C144

Tooling



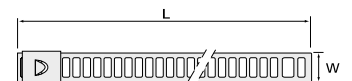
WTAE200
Cable Tie Tensioner
See page C51.

How it works



As the free end of the Multi-Lok tie passes through the buckle, three separate teeth (four teeth in the 12 mm Multi-Lok) mesh with corresponding slots in the band, automatically locking the tie as it is being tensioned

Diagram



Stainless steel cable ties and accessories

Heavy-duty clamp – Type SSH



Characteristics

- Double-wrapped clamps provide extra strength
- This unique clip design makes application quick and easy
- Perfect for industrial piping and bundling of cables with high tensile strength

Technical information

- Material - Moulding: 201 Stainless Steel

Heavy-duty clamp – Type SSH

Cat. n°.	Max. wire bundle dia.								Tensile strength				Std. pkg. [pcs]
	Once around		Twice around		Length		Width		Once around		Twice around		
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	[lb]	[N]	
SSH10-250	50	2.0	-	-	254	10.1	6.3	0.25	450	2,002	1,200	5,337	100
SSH16-250	88	3.5	38	1.5	406	16.0	6.3	0.25	450	2,002	1,200	5,337	100
SSH18-500	101	4.0	50	2.0	457	18.0	12.7	0.50	1,400	6,227	3,300	14,679	100
SSH21-625	127	5.0	63	2.5	533	21.0	15.9	0.63	1,700	7,562	4,000	17,793	100
SSH31-500	203	8.0	101	4.0	787	31.0	12.7	0.50	1,400	6,227	3,300	14,679	25
SSH34-250	228	9.0	114	4.5	864	34.0	6.3	0.25	450	2,002	1,200	5,337	100
SSH37-750	254	10.0	127	5.0	940	37.0	19.1	0.75	2,000	8,896	5,000	22,241	25
SSH44-375	304	12.0	152	6.0	1 118	11.8	9.5	0.38	900	4,003	2,400	10,676	25
SSH50-750	355	14.0	177	7.0	1 270	50.0	19.1	0.75	2,000	8,896	5,000	22,241	25
SSH56-625	406	16.0	203	8.0	1 422	56.0	15.9	0.63	1,700	7,562	4,000	17,793	25
SSH62-750	457	18.0	228	9.0	1 575	62.0	19.1	0.75	2,000	8,896	5,000	22,241	25
SSH69-625	508	20.0	254	10.0	1 753	69.0	15.9	0.63	1,700	7,562	4,000	17,793	25

Description of materials and properties: see pages C132 to C144

Tooling



WTJ020

Compact free end stainless steel cable tie installation tool. See page C51.



WTC075

Pistol grip free end stainless steel cable tie installation tool. See page C52.



WTC001

Free end stainless steel cable tie installation tool for all sizes. See page C52.

Stainless steel cable ties

Heavy-Duty Ball-Lock mechanism – Type LS



Characteristics

- Self-locking – no time-consuming crimping or folding required
- Stainless steel ball in low-profile, wedge-shaped head locks tie securely in place
- Angled tail enables fast, easy insertion
- Rounded edges and smooth surfaces protect installer's hands
- Typical Applications: offshore drilling, petrochemical processing, shipbuilding, food and beverage processing and pharmaceutical processing

Technical information

- Material - Moulding: 304 grade stainless steel for standard applications
- Material - Moulding: 316 grade (marine-grade) stainless steel for extra corrosion resistance
- Material - Moulding: 316 grade (marine-grade) stainless steel, fully coated with low-smoke, halogen-free polyester to withstand continuous exposure to salt spray, sunlight, petroleum and chemicals
- Operating Temp. Range:
Uncoated : -60 °C to 300 °C (-76 °F to 572 °F)
Coated : -60 °C to 150 °C (-76 °F to 302 °F)
- Min. installation temp.: -60°C (-76°F)
- Plenum rating: AH-1

Heavy-Duty Ball-Lock mechanism



Cat. n°.

304 Grade Stainless Steel	316 Grade Stainless Steel	316 Grade Stainless Steel	Type DSG	Max. wire bundle dia.		Length		Width		Tensile Strength		Std. pkg.
Uncoated	Uncoated	Fully Polyester Coated		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	[pcs]
LS-4.6-200A	LS-4.6-200B	YLS-4.6-200BC	2S	6 - 51	0.25 - 2.0	200	7.9	4.6	0.19	200	890	50
LS-4.6-260A	LS-4.6-260B	-	2S	6 - 70	0.25 - 2.7	260	10.2	4.6	0.19	200	890	50
LS-4.6-360A	LS-4.6-360B	YLS-4.6-360BC	2S	6 - 102	0.25 - 4.0	360	14.2	4.6	0.19	200	890	50
LS-4.6-520A	LS-4.6-520B	YLS-4.6-520BC	2S	6 - 152	0.25 - 6.0	520	20.5	4.6	0.19	200	890	50
LS-4.6-680A	LS-4.6-680B	YLS-4.6-680BC	2S	6 - 203	0.25 - 8.0	680	26.8	4.6	0.19	200	890	50
LS-4.6-840A	LS-4.6-840B	-	2S	6 - 254	0.25 - 10.0	840	33.1	4.6	0.19	200	890	50
LS-7.9-200A	LS-7.9-200B	YLS-7.9-200BC	2S	10 - 51	0.38 - 2.0	200	7.9	7.9	0.31	450	2,002	50
LS-7.9-360A	LS-7.9-360B	YLS-7.9-360BC	2S	10 - 102	0.38 - 4.0	360	14.2	7.9	0.31	450	2,002	50
LS-7.9-520A	LS-7.9-520B	YLS-7.9-520BC	2S	10 - 152	0.38 - 6.0	520	20.5	7.9	0.31	450	2,002	50
LS-7.9-680A	LS-7.9-680B	YLS-7.9-680BC	2S	10 - 203	0.38 - 8.0	680	26.8	7.9	0.31	450	2,002	50
LS-7.9-840A	LS-7.9-840B	-	2S	10 - 254	0.38 - 10.0	840	33.1	7.9	0.31	450	2,002	50
LS-7.9-1010A	LS-7.9-1010B	-	2S	10 - 304	0.38 - 12.0	1,010	39.8	7.9	0.31	450	2,002	50

Description of materials and properties: see pages C132 to C144

Tooling



DAS-250
Hand Tool
Adjustable tension,
automatic cut off
See page C53.



CT3
Economical hand tool.
See page C53.



CT6
Hand Tool
Adjustable tension,
automatic cut off
See page C53.

Stainless steel cable ties

Ty-Met stainless steel retained-tension ball-lock cable ties



Characteristics

- Specially formed spring crimp creates consistent tension on the tie for firm positioning
- High wave-form crimp provides positive clamping in high-vibration applications
- Crimp channel offers a path for a trace wire with protection from crushing and shorts
- Ball-lock mechanism is easy to assemble and adjust for tension

Technical information

- Material: Type 304 or Type 316 stainless steel
- Operating temperature: -80°C to +300°C (-112°F to +572°F)
- Certifications/ compliances : UL/EN/CSA62275 Type 2S rated for AH-1 plenum
- Applications: shipbuilding, industrial, oil and gas, heavy equipment and trucking, wind power and solar energy

Ty-Met stainless steel retained-tension ball-lock cable ties

Cat. n°.	Type DSG	Max. wire bundle dia.		Length		Width		Tensile strength	Std. pkg.	
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]			
Type 304 stainless steel – uncoated										
RS-4.6-200A	2S	51	2	200	7.9	4.6	0.18	200	890	50
RS-4.6-260A	2S	70	2.7	260	10.2	4.6	0.18	200	890	50
RS-4.6-360A	2S	102	4	360	14.2	4.6	0.18	200	890	50
RS-4.6-520A	2S	152	6	520	20.5	4.6	0.18	200	890	50
RS-4.6-680A	2S	203	8	680	26.8	4.6	0.18	200	890	50
RS-7.9-200A	2S	51	2	200	7.9	7.9	0.31	450	2,002	50
RS-7.9-360A	2S	102	4	360	14.2	7.9	0.31	450	2,002	50
RS-7.9-520A	2S	152	6	520	20.5	7.9	0.31	450	2,002	50
RS-7.9-680A	2S	203	8	680	26.8	7.9	0.31	450	2,002	50
Type 316 marine-grade										
RS-4.6-200B	2S	51	2	200	7.9	4.6	0.18	200	890	50
RS-4.6-260B	2S	70	2.7	260	10.2	4.6	0.18	200	890	50
RS-4.6-360B	2S	102	4	360	14.2	4.6	0.18	200	890	50
RS-4.6-520B	2S	152	6	520	20.5	4.6	0.18	200	890	50
RS-4.6-680B	2S	203	8	680	26.8	4.6	0.18	200	890	50
RS-7.9-200B	2S	51	2	200	7.9	7.9	0.31	450	2,002	50
RS-7.9-360B	2S	102	4	360	14.2	7.9	0.31	450	2,002	50
RS-7.9-520B	2S	152	6	520	20.5	7.9	0.31	450	2,002	50
RS-7.9-680B	2S	203	8	680	26.8	7.9	0.31	450	2,002	50

Minimum bundle diameter for all cable ties listed above is 1in. (25.4mm)
Description of materials and properties: see pages C132 to C144

Tooling



DAS-250
Hand Tool
Adjustable tension,
automatic cut off
See page C53.

Stainless steel cable ties

Accessories



Identify cable bundles with permanent, stainless steel imprintable tags

Characteristics

- Apply stainless steel tags with stainless steel cable ties
- Easy-to-use – slip a tie through the slots in the tag and fasten with the installaton tool
- Works with ¼ in. wide ties
- Thickness: 0,.015 in.

Ty-Rap stainless steel mounting base

Cat. n°.	Grade stainless steel	Width		Length		Std. pkg. [pcs]
		[mm]	[in.]	[mm]	[in.]	
SSID100	304	19.1	0.75	50.8	2	100
SSID102	304	19.1	0.75	88.9	3.5	100
SSID102-316	316	19.1	0.75	88.9	3.5	100

Stainless steel cable ties

Tooling



Cat. n°.: WTA290, Mini tie installation tool

Characteristics

- Hand tool to apply mini stainless steel cable ties
- Easy-to-use
- Applies tension, locks tie with the dual lock
- Cuts off band flush with top surface of buckle.

Technical information

- Type: Hand tool to apply mini stainless steel cable ties
- Tie: Stainless steel type SS
- Weight: 530 g (1.17 lb)
- Quantity: 1



Cat. n°.: WTA250, Standard tie installation tool

Characteristics

- Hand tool to apply mini stainless steel cable ties
- Easy-to-use
- Applies tension, locks tie with the dual lock
- Cuts off band flush with top surface of buckle.

Technical information

- Type: Standard tie installation tool
- Tie: Stainless steel type SS
- Weight: 530 g (1.17 lb)
- Quantity: 1



Cat. n°.: WTAE200, Cable tie tensioner

Characteristics

- Cable tie tensioner: for tensioning reusable ties and Multi-Lok ties

Technical information

- Type: Cable tie tensioner
- Tie: Stainless steel type Multi-Lok
- Weight: 270 g (0.6 lb)
- Quantity: 1



Cat. n°.: WTJ020, Compact free end stainless steel cable tie installation tool

Characteristics

- Lightweight, small-size tool for installing free-end clamps
- This tool also applies tension and has a built-in cutter.

Technical information

- Type: Cable tie tensioner
- Tie: Stainless steel type SSH
- Tie width: 6.4 - 9.5 mm (¼ in. - ⅜ in.)
- Weight: 500 g (1.1 lb)
- Quantity: 1

Stainless steel cable ties

Tooling



Cat. n°.: WTC075, Cable tie installation tool

Characteristics

- The lightweight, ratchet-action tool tension cuts and secures the buckle tab
- This tool also applies tension and has a built-in cutter.

Technical information

- Type: Standard tie installation tool
- Tie: Stainless steel type SSH
- Tie width: 6.4 - 15.88 mm ($\frac{1}{4}$ in. - $\frac{5}{8}$ in.)
- Weight: 1,180 g (2.6 lb)
- Quantity: 1



Cat. n°.: WTC001, Cable tie installation tool

Characteristics

- A drop-forged tool with tensioning capability to do all free-end clamp sizes.

Technical information

- Type: Cable tie tensioner:
- Tie: Stainless steel type SSH
- Tie width: 6.4 - 19.5 mm ($\frac{1}{4}$ in. - $\frac{3}{4}$ in.)
- Weight: 2,000 g (4.4 lb)
- Quantity: 1



Cat. n°.: WT3S

Characteristics

- Installs strapping ties

Technical information

- Type: Cable tie installation tool
- Tie: Stainless steel
- Tie width: 4.8 - 12.7 mm ($\frac{3}{16}$ in. - $\frac{1}{2}$ in.)
- Weight: 270 g (0.6 lb)
- Quantity: 1

Stainless steel cable ties

Tooling



Cat. n°.: DAS250

Characteristics

- Installs Ty-Rap stainless steel cable ties
- Rugged stainless steel construction
- Pistol-type installation tool
- Adjustable tension settings

Technical information

- Type: Hand tool
- For type of cable tie: Plastic ties, stainless steel multi-lok, ball lok and roller back lok ties
- Tie with: 7.87 mm (0.31 in.)
- Features: Adjustable tension setting, automatic cutting, rugged stainless steel construction, pistol type installation tool
- Weight: 630g (1.4 lb)



Cat. n°.: CT3

Characteristics

- Cost-effective tensioning tool
- Cut-off by hand-activated lever

Technical information

- Type: Hand tool
- For type of cable tie: Ladder type, strap type & ball lock type stainless steel ties, coated and uncoated
- Tie with: up to 12 mm
- Features: Tensioning, manual cutting
- Weight: 550 g (1.2 lb)



Cat. n°.: CT6

Characteristics

- Suitable for coated and uncoated ball-Lock type stainless steel ties
- Adjustable tension settings
- Automatic cutting once desired tension has been reached

Technical information

- Tool type: Tension setting hand tool
- For type of cable tie: Ball-lock type stainless steel ties, coated and uncoated
- Tie with: 4.6 - 7.9 mm
- Features: Adjustable tension setting, automatic cutting
- Weight: 430 g (0.9 lb)

Stainless steel cable ties

BAND-FAST™ system



Characteristics

- A ready-to-use tie, already cut and assembled with an Ear-Lok buckle
- Savings of up to 30% on project labor

Technical information

- Material - Moulding: 201 stainless steel

Cut and assembled with an Ear-Lok buckle

Cat. n°.	Material*	Width		Thickness		Length L		Dia. max. simple winding		Dia. max. double winding		Std. pkg. [pcs/box]
		[mm]	[in.]	[mm]	[in.]	[cm]	[in.]	[mm]	[in.]	[mm]	[in.]	
BFBK-500-020	201 SS	12.7	0.50	0.76	0.030	51	20	102	4	51	2	25
BFBK-500-024	201 SS	12.7	0.50	0.76	0.030	61	24	127	5	64	2.5	25
BFBK-500-027	201 SS	12.7	0.50	0.76	0.030	69	27	152	6	76	3	25
BFBK-500-034	201 SS	12.7	0.50	0.76	0.030	86	34	203	8	102	4	25
BFBK-500-041	201 SS	12.7	0.50	0.76	0.030	104	41	254	10	127	5	25
BFBK-500-048	201 SS	12.7	0.50	0.76	0.030	122	48	305	12	152	6	25
BFBK-500-055	201 SS	12.7	0.50	0.76	0.030	140	55	356	14	178	7	25
BFBK-500-069	201 SS	12.7	0.50	0.76	0.030	175	69	457	18	229	9	25
BFBK-500-076	201 SS	12.7	0.50	0.76	0.030	193	76	508	20	254	10	15
BFBK-500-090	201 SS	12.7	0.50	0.76	0.030	229	90	610	24	305	12	15
BFBK-750-020	201 SS	19.1	0.75	0.76	0.030	51	20	102	4	51	2	25
BFBK-750-024	201 SS	19.1	0.75	0.76	0.030	61	24	127	5	64	2.5	25
BFBK-750-027	201 SS	19.1	0.75	0.76	0.030	69	27	152	6	76	3	25
BFBK-750-034	201 SS	19.1	0.75	0.76	0.030	86	34	203	8	102	4	25
BFBK-750-041	201 SS	19.1	0.75	0.76	0.030	104	41	254	10	127	5	25
BFBK-750-048	201 SS	19.1	0.75	0.76	0.030	122	48	305	12	152	6	25
BFBK-750-055	201 SS	19.1	0.75	0.76	0.030	140	55	356	14	178	7	25
BFBK-750-069	201 SS	19.1	0.75	0.76	0.030	175	69	457	18	229	9	25
BFBK-750-076	201 SS	19.1	0.75	0.76	0.030	193	76	508	20	254	10	15
BFBK-750-090	201 SS	19.1	0.75	0.76	0.030	229	90	610	24	305	12	15

* ABB reserves the right to substitute for the material a product whose specifications corrosion or mechanical resistance are equal or better.

Description of materials and properties: see pages C132 to C144

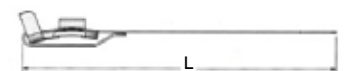
Tooling



POWER-TOOL

Power too.
Rechargeable 18V
Ultra-Lok Hand Tool
6.7 kg (17.75 lb)
See page C58.

Diagram



Stainless steel cable ties

BAND-FAST™ COLOR-IT™ system



Characteristics

- Luxury polyester powder coating 0.002 in. to 0.005 in. (0.05mm to 0.13mm) thick
- For exterior or interior use
- Provides excellent abrasion and UV resistance for increased durability

Technical information

- Material - Moulding: 201 stainless steel

BAND-FAST™ with Ear-Lokt buckle and COLOR-IT™- black polyester

Cat. n°.	Material*	Width		Thickness		Length L		Dia. max. simple winding		Dia. max. double winding		Std. pkg. [pcs/box]
		[mm]	[in.]	[mm]	[in.]	[cm]	[in.]	[mm]	[in.]	[mm]	[in.]	
BFBK-500-020-BK	201 SS	12.7	0.50	0.76	0.030	51	20	102	4	51	2	25
BFBK-500-024-BK	201 SS	12.7	0.50	0.76	0.030	61	24	127	5	64	2.5	25
BFBK-500-027-BK	201 SS	12.7	0.50	0.76	0.030	69	27	152	6	76	3	25
BFBK-500-034-BK	201 SS	12.7	0.50	0.76	0.030	86	34	203	8	102	4	25
BFBK-500-041-BK	201 SS	12.7	0.50	0.76	0.030	104	41	254	10	127	5	25
BFBK-500-048-BK	201 SS	12.7	0.50	0.76	0.030	122	48	305	12	152	6	25
BFBK-500-055-BK	201 SS	12.7	0.50	0.76	0.030	140	55	356	14	178	7	25
BFBK-500-069-BK	201 SS	12.7	0.50	0.76	0.030	175	69	457	18	229	9	25
BFBK-500-076-BK	201 SS	12.7	0.50	0.76	0.030	193	76	508	20	254	10	15
BFBK-500-090-BK	201 SS	12.7	0.50	0.76	0.030	229	90	610	24	305	12	15
BFBK-750-020-BK	201 SS	19.1	0.75	0.76	0.030	51	20	102	4	51	2	25
BFBK-750-024-BK	201 SS	19.1	0.75	0.76	0.030	61	24	127	5	64	2.5	25
BFBK-750-034-BK	201 SS	19.1	0.75	0.76	0.030	86	34	203	8	102	4	25
BFBK-750-041-BK	201 SS	19.1	0.75	0.76	0.030	104	41	254	10	127	5	25
BFBK-750-048-BK	201 SS	19.1	0.75	0.76	0.030	122	48	305	12	152	6	25
BFBK-750-055-BK	201 SS	19.1	0.75	0.76	0.030	140	55	356	14	178	7	25
BFBK-750-069-BK	201 SS	19.1	0.75	0.76	0.030	175	69	457	18	229	9	25
BFBK-750-076-BK	201 SS	19.1	0.75	0.76	0.030	193	76	508	20	254	10	15
BFBK-750-090-BK	201 SS	19.1	0.75	0.76	0.030	229	90	610	24	305	12	15

* ABB reserves the right to substitute for the material a product whose specifications corrosion or mechanical resistance are equal or better.

Description of materials and properties: see pages C132 to C144

Tooling



POWER-TOOL

Power too.
Rechargeable 18V
Ultra-Lok Hand Tool
6.7 kg (17.75 lb)
See page C58.

Assortment

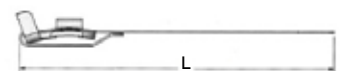


BK-201-500-BK
BK-201-625-BK
BK-201-750-BK
Polyester Ear-Lokt Buckle
COLOR-IT™ deluxe
black-IT™



B-201-500-BK
B-201-625-BK
B-201-750-BK
Black polyester roll strap
luxury COLOR-IT™

Diagram



Stainless steel cable ties

ULTRA-LOK® system



Characteristics

- Installs four times faster than straps and buckles installed using hand tools
- Locking at full tension, so less slippage
- Intuitive assembly guided by corresponding arrows on the strap and buckle
- Offers good resistance to oxidation and several other moderate corrosives
- 201 ¼ hard stainless steel strap provides material strength and stronger clamping, lends itself to double winding for more resistance
- ¾ in. strap available in plastic container with housing

Cat. n°.	Material*	Width		Length		Dia. max. simple winding		Dia. max. double winding		Std. pkg. [pcs/cont.]
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	
ULS-750-20	Stainless steel 201, ¼ hard	19.1	0.75	508	20	102	4	N/A	N/A	30
ULS-750-24	Stainless steel 201, ¼ hard	19.1	0.75	610	24	127	5	N/A	N/A	27
ULS-750-28	Stainless steel 201, ¼ hard	19.1	0.75	711	28	152	6	N/A	N/A	21
ULS-750-32	Stainless steel 201, ¼ hard	19.1	0.75	813	32	178	7	89	3.5	18
ULS-750-36	Stainless steel 201, ¼ hard	19.1	0.75	914	36	252	8	102	4.0	33
ULS-750-40	Stainless steel 201, ¼ hard	19.1	0.75	1,016	40	254	10	127	4.5	30
ULS-750-44	Stainless steel 201, ¼ hard	19.1	0.75	1,118	44	267	11	140	5.5	27
ULS-750-48	Stainless steel 201, ¼ hard	19.1	0.75	1,219	48	305	12	153	6.0	25
ULS-750-52	Stainless steel 201, ¼ hard	19.1	0.75	1,321	52	330	13	165	6.5	23
ULS-750-60	Stainless steel 201, ¼ hard	19.1	0.75	1,524	60	381	15	191	7.5	20
ULS-750-68	Stainless steel 201, ¼ hard	19.1	0.75	1,727	68	445	17	216	8.5	17
ULS-750-76	Stainless steel 201, ¼ hard	19.1	0.75	1,930	76	508	20	254	10.0	15
ULS-750-84	Stainless steel 201, ¼ hard	19.1	0.75	2,134	84	559	22	280	11.0	14
ULS-750-92	Stainless steel 201, ¼ hard	19.1	0.75	2,337	92	622	24	305	12.0	13
ULS-750-120	Stainless steel 201, ¼ hard	19.1	0.75	3,048	120	508	32	407	16.0	10
ULS-750-150	Stainless steel 201, ¼ hard	19.1	0.75	3,810	150	559	41	508	20.5	8
ULS-750-175	Stainless steel 201, ¼ hard	19.1	0.75	4,445	175	622	48	610	24.0	7

* ABB reserves the right to substitute for the material a product whose specifications corrosion or mechanical resistance are equal or better.

Description of materials and properties: see pages C132 to C144

Tooling



POWER-TOOL

Power too.

Rechargeable 18V

Ultra-Lok Hand Tool

6.7 kg (17.75 lb)

See page C58.

Stainless steel cable ties

Roll straps and buckles



Roll strap BAND-IT®

Cat. n°.	Material	Width		Épaisseur		Force de rupture moyenne		Std. pkg. [pcs/box]
		[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
Stainless steel 201 - Uncoated								
B201-500-100	Stainless steel 201	12.7	0.50	0.76	0.03	6,672	1,500	100
B201-625-100	Stainless steel 201	15.9	0.63	0.76	0.03	8,340	1,875	100
B201-750-100	Stainless steel 201	19.1	0.75	0.76	0.03	10,008	2,250	100
Stainless steel 201 - Black polyester coating								
B201-500-BK	Stainless steel 201	12.7	0.50	0.76	0.03	6,672	1,500	100
B201-625-BK	Stainless steel 201	15.9	0.63	0.76	0.03	8,340	1,875	100
B201-750-BK	Stainless steel 201	19.1	0.75	0.76	0.03	10,008	2,250	100
Stainless steel 304 - Uncoated								
B-304-625-200	Stainless steel 304	15.9	0.63	0.51	0.02	4,448	1,000	200
B-304-750-200	Stainless steel 304	19.1	0.75	0.51	0.02	5,671	1,275	200
Stainless steel 316 - Uncoated								
B-316-250-100	Stainless steel 316	6.4	0.25	0.51	0.02	1,779	400	100
B-316-375-100	Stainless steel 316	9.6	0.38	0.64	0.025	3,336	750	100
B-316-500-100	Stainless steel 316	12.7	0.5	0.76	0.03	5,338	1,200	100
B-316-625-100	Stainless steel 316	15.8	0.63	0.76	0.03	6,672	1,500	100
B-316-750-100	Stainless steel 316	19.1	0.75	0.76	0.03	8,007	1,800	100

* ABB reserves the right to substitute for the material a product whose specifications corrosion or mechanical resistance are equal or better.

Buckle Ear-Lokt BAND-IT®



Cat. n°.	Material	Width		Std. pkg. [pcs/box]
		[mm]	[in.]	
Stainless steel 201 - Uncoated				
BK-201-500-100	Stainless steel 201	12.7	0.50	100
BK-201-625-100	Stainless steel 201	15.9	0.63	100
BK-201-750-100	Stainless steel 201	19.1	0.75	100
Stainless steel 201 - Black polyester coating				
BK-201-500-BK	Stainless steel 201	12.7	0.50	100
BK-201-625-BK	Stainless steel 201	15.9	0.63	100
BK-201-750-BK	Stainless steel 201	19.1	0.75	100
Stainless steel 316 - Uncoated				
BK-316-250-100	Stainless steel 316	6.4	0.25	100
BK-316-375-100	Stainless steel 316	9.6	0.38	100
BK-316-500-100	Stainless steel 316	12.7	0.5	100
BK-316-625-100	Stainless steel 316	15.8	0.63	100
BK-316-750-100	Stainless steel 316	19.1	0.75	100

* ABB reserves the right to substitute for the material a product whose specifications corrosion or mechanical resistance are equal or better.

Stainless steel cable ties

Tooling



Cat. n°.: POWER-TOOL

Characteristics

- Designed with portability requirements in mind
- To tighten in a repetitive and uniform way
- Hangs at full voltage
- The Ultra-Lok® hitch can be installed four times faster than a conventional hitch

Technical information

- Type: Rechargeable 18V Ultra-Lok Hand Tool
- Type: ties in stainless steel 201
- For use with ½ in. and ¾ in. Ultra-Lok® straps and buckles
- Supplied complete with battery, charger and autofocus feature
- Weight: 6.7 kg (17.75 lb)



Cat. n°.: BAND-TOOL

Characteristics

- BAND-IT® tool

Technical information

- Type: Hand tools for strap and buckle
- For ⅜ in. to ¾ in. wide straps
- Weight: 1.8 kg (4.3 lb)



Cat. n°.: BAND-TOOL-HD

Characteristics

- BAND-IT® Heavy Duty tool

Technical information

- Type: Hand tools for strap and buckle
- For ⅜ in. to ¾ in. wide straps
- Weight: 1.8 kg (4.3 lb)



Deltec cable support system

Lashing straps and accessories

The Deltec cable support system is a user-friendly product designed to provide ease and flexibility in fastening communications cables to messenger strand. It is equally well suited for copper conductor cable, coaxial cable, fiber optic cable and innerduct in aerial applications.



Strong, long-life and cost-saving method of securing communication cables

The Deltec system answers your aerial cable needs with innovative design and state-of-the-art materials. This system includes weather-resistant acetal cable straps, marine grade locking devices, and base hanger accessories for specific applications where mounting is required.

Pre-assembled Deltec cable straps are available in standard lengths of 10 in. (254 mm), 13.5 in. (342.9 mm), and 27 in. (685.8 mm). Convenient 50 ft. (15.24 m) to 3500 ft. (1066.8 m) reels where specific lengths need to be established by the installer in the field are available. Additional "standard" lengths can be established for applications where higher volumes prevail.

Extra security !

The recommended maximum continuous static loading for the Deltec straps is 20 lb. per strap. For best results, suggested spacing is 15 in. It's the responsibility of the user to determine whether or not their application meets our recommendation.

Advantages of the Deltec System Include:

- Proven years of service
- No sharp edges – craft friendly Cable friendly!
- Ease of installation – one wrap, no re-treading or re-strap
- Lowers installation costs
- High tensile strength after fastening
- Total flexibility in lengths when using reel
- Stackable spacers accommodate all cable sizes – no need to stock multiple sizes of individual height spacers
- Spacer designed to retain strap on each side and cradle the cable, providing restricted movement of spacer and preventing damage to cable
- In situations where multiple cables are supported, the ABB TCP360 stackable spacer may be rotated 90° and installed similarly to a single cable, yet provide the same restricting features (unlike those commonly used today)
- Month and year of manufacture stamped into strap material
- Squirrels and vermin won't eat it!



Deltec cable support system

Pre-assembled Deltec cable ties



Characteristics

- Provides a strong, long-life and cost saving method of securing communication and overhead cables
- Double locking head with corrosion resistant locking barbs in copper alloy
- Proven years of service: designed to last a minimum of 20 years outdoor
- No sharp edges: operator friendly, cable friendly!
- Easy to install, low installation costs
- Extremely robust ties, with high tensile strength (1110N) after fastening
- Choice of specific spacers and accessories
- Superior resistance to moisture and salt environments

Technical information

- Material - Strap & head: Toughened weatherable acetal
- Material - Locking barb: Marine grade, corrosionresistant copper alloy
- Temperature range: -65°C to +105°C (-85°F to 221°F)
- Flammability rating: UL 94 HB
- Colour: Black
- Halogen free

Pre-assembled Deltec cable ties

Cat. n°.	ANSI UL94 Flame rating	Max. wire bundle dia.		Length L		Width W		Tensile strength		Std. pkg. [pcs]
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
CSS-100	HB	76.2	3	254.0	10	12.7	0.5	250	1,110	50
CSS-135	HB	88.9	3.5	342.9	13.5	12.7	0.5	250	1,110	50
CSS-160	HB	101.6	4	406.4	16	12.7	0.5	250	1,110	50
CSS-270	HB	200	7.87	685.8	27	12.7	0.5	250	1,110	10

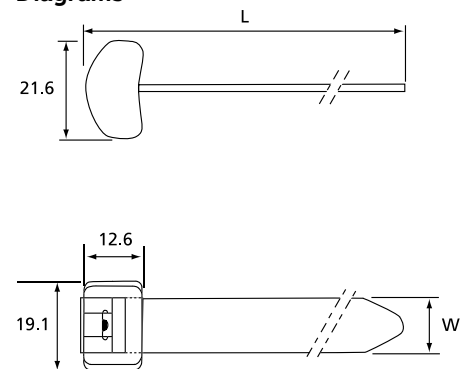
Note: the recommended maximum continuous static loading for the Deltec straps is 90 N per strap.
For best results suggested spacing is 35 to 40cm.
It is the responsibility of the user to determine whether or not their application meets our recommendation.

Tooling



WT3D
For use with 12.7mm (1110N) Cable ties.
See page C42.

Diagrams



Deltec cable support system

Strap on reel & double locking heads



Characteristics

- Strap on reel, with separate head
- Total flexibility & no waste: cut at the desired length
- Easy to store: reduced inventory
- Convenient kits containing several reels of strap and separate locking heads, to provide all you need to be efficient on the field
- 2 configurations to match your need
- Superior resistance to UV rays, to moisture and salt environments

Technical information

- Material - Strap & head: Toughened weatherable acetal
- Material - Locking barb: Marine grade, corrosionresistant copper alloy
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Flammability rating: UL 94 HB
- Colour: Black
- Halogen free

Strap on reel

Cat. n°.	ANSI UL94 Flame rating	Length per reel			Width		Min. tensile strength		Std. pkg. reel [pcs]	Std. pkg. heads [pcs]
		[m]	[pi]	[mm]	[in.]	[lb]	[N]			
CSS-5K	HB	15	50	12.7	0.5	250	1,110	5	150	
CSS-10K	HB	15	50	12.7	0.5	250	1,110	5	300	
TYD-50R	HB	15	50	12.7	0.5	250	1,110	1	-	
696-41794	HB	305	1,000	12.7	0.5	250	1,110	1	-	

Note: the recommended maximum continuous static loading for the Deltec straps is 90 N per strap.

For best results suggested spacing is 35 to 40cm. It is the responsibility of the user to determine whether or not their application meets our recommendation.

Tooling



WT3D

For use with 12.7mm
(1110N) Cable ties.
See page C42.



Technical information

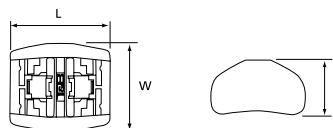
- Material: Toughened weatherable acetal
- Material - locking barb: Marine grade, corrosion-resistant copper alloy
- Superior resistance to UV rays, to moisture and salt environments
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Flammability rating: UL 94 HB
- Colour: Black
- Halogen free

Double locking heads

Std. Cat. N°.	Bulk Cat. N°.	ANSI UL94 Flame rating	Length L			Width W		Height H		Std. pkg. [pcs]	Bulk pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]			
TYD-LH	696-41795	HB	21.6	0.85	19.1	0.75	12.6	0.50	25	1,000	

To be assembled with Deltec strap on reel

Diagrams



Deltec cable support system

Modular stackable cable spacers



Characteristics

- Stackable, 0.5 in (12.7 mm) high each, to achieve desired spacing regardless of cable diameter - no need to store a multitude of spacers of different heights
- Designed to hold and support each side of the cable, limiting movement of the spacer to prevent damage to the cable
- Ideal for coaxial cables (TCP360)
- Can be used for parallel or perpendicular cable routing

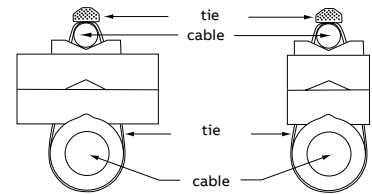
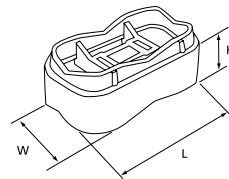
Technical information

- Material: weather-resistant polypropylene
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Flammability rating: UL 94 HB
- Colour: Black
- Halogen free

Spacers

Std. Cat. N°.	Bulk Cat. n°.	ANSI UL94 Flame rating	Length L		Width W		Height H		Std. pkg. [pcs]	Bulk pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		
TCP5255	TCP360	HB	53.3	2.10	30.5	1.20	12.7	0.5	25	100

Diagrams



Cable support system with metallic locking barb

Base and hanger



Characteristics

- Secures cables to all types of surfaces

Technical information

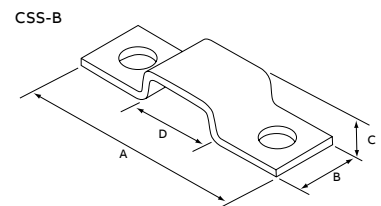
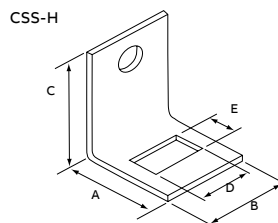
- Material: zinc-plated steel

Base and hanger

Cat. n°.	Dimensions										Dia. from the hole fixation		Std. pkg. [pcs]
	A		B		C		D		E		[mm]	[in.]	
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]			
CSS-B	48.4	1.91	14.3	0.56	7.1	0.28	15.1	0.59	5.6	0.22	6.7 (2x)	0.26 (x2)	50
CSS-H	22.5	0.89	22.2	0.87	29.8	1.17	13.6	0.54	8.3	0.33	6.9	0.27	50

Must be assembled with Deltec on reels.

Diagrams



Deltec cable support system

Messenger hanger straps



Characteristics

- Very good resistance to ultraviolet rays, exposure to chemicals and weathering
- 2 practical kits containing several rolls of ties and separate heads to fully meet your needs on site

Technical information

- Material: polyamide 12
- Temperature range: -40°C to +80°C (-40°F to +176°F)
- Colour: Black



UV-resistant



Chemically resistant



Weather-proof

Messenger Hanger Straps

Cat. n°.	Max. wire bundle dia.		Length		Width		Material hook	Min. tensile strength		Std. pkg. [pcs]
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		[lb]	[N]	
Weather-Resistant polyamide 12 messenger hanger straps (Releasable)										
TYM5412X	76	3	305	12	12.7	0.5	Bronze	200	890	50
TYM5418X	127	5	457	18	12.7	0.5	Bronze	200	890	25
TYM5423X	178	7	610	24	12.7	0.5	Bronze	200	890	25
TYM5430X	229	9	762	30	12.7	0.5	Bronze	200	890	25
TYM5436X	279	11	914	36	12.7	0.5	Bronze	200	890	25
TYM5412X-S	76	3	305	12	12.7	0.5	Stainless steel	200	890	50
TYM5418X-S	127	5	457	18	12.7	0.5	Stainless steel	200	890	25
TYM5423X-S	178	7	610	24	12.7	0.5	Stainless steel	200	890	25
TYM5430X-S	229	9	762	30	12.7	0.5	Stainless steel	200	890	25
TYM5436X-S	279	11	914	36	12.7	0.5	Stainless steel	200	890	25
Weather-resistant polyamide 12 hanger strap (Releasable)										
TY54407X	51	2	161	6,34	12.7	0.5	Steel	200	890	100
TY54413X	102	4	349	13,75	12.7	0.5	Steel	200	890	100

Note: The recommended maximum continuous static load for polyamide is 25 lbs (111 N) per strap.

For best results, the suggested spacing is 15 in. (38cm). It is the user's responsibility to determine whether or not their application meets our recommendations.

The hook hooks onto a ½ in. diameter carrier cable.

Deltec cable support system

Heavy-Duty lashing tie (Releasable)



Characteristics

- Black carbon provides good resistance to ultraviolet rays and also extends the service life of the clip
- One piece heavy duty ties
- Reusable, ideal for temporary installations
- Quick and durable installation
- Easily transportable
- No tools

Technical information

- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Flammability rating: UL 94 V-2
- Colour: Black
- Halogen free



UV-resistant



Weather-proof

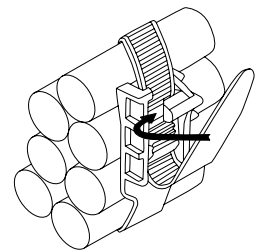
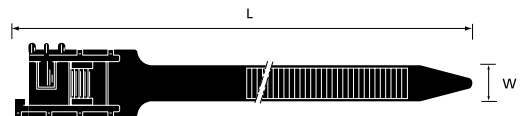
Heavy-Duty lashing tie (Releasable)

Cat. n°. Std. pkg. / Emb. en nbr.	ANSI UL94 Flame rating	Wire bundle dia.		Length L		Width W		Min. tensile strength		Std. pkg. [pcs]	Bulk pkg. [pcs]
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]		
TY5409 / TY409	V-2	45 - 121	1,77 - 4,76	483	19	12,7	0,5	200	890	25	100

Description of Cat. n°. structure: see page C13

Description of materials and properties: see pages C132 to C144

Diagrams



Introduce the cable tie tail into the lower slot in the head. Tighten the tie and pull it back. Slide in the tie under the catch from the side until it snaps into position.

Deltec cable support system

2-piece reusable attachment straps



Characteristics

- Heavy-duty lashing ties, in cut lengths with pre-assembled heads
- The strap is made of UV-resistant Polypropylene, ideal for applications where chemical resistance is important
- Extremely robust (670N)
- Easily releasable & reusable
- 2 types of head:
 - type A: no mounting hole,
 - type B: with mounting hole
- Typical applications: Indoor and outdoor fastening of cables, pipes and other parts in industry, shipbuilding, chemical industry etc

- Cat. n°. 696-41563: strap on reel of 300 meter, UV resistant polypropylene
- Cat. n°. 696-41562: separate head (without fixing hole), polyamide 6.6 UV resistant

Technical information

- Material - tie : weatherable Polypropylene
- Material - head : polyamide 6.6
- Temperature range:
 - strap: -55°C to +110°C (-67°F to +230°F)
 - head: -40°C to +85°C (-40°F to +185°F)
- Flammability rating: UL 94 V-2
- Colour: Black
- Halogen free

Releasable 2-piece lashing ties, pre-assembled version

Cat. n°.	ANSI UL94 Flame rating	Wire bundle dia.		Length L		Width W		Mounting hole diameter		Tensile strength		Std. pkg. [pcs]
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
Weather-resistant polypropylene hanger lashing tie (Releasable)												
TY53418PX	UL 94 V-2	45 - 127	1.77 - 5	457	17.99	13.2	0.52	6.9	0,27	150	670	25
Weather-Resistant polypropylene lashing tie (Releasable)												
TY5418PX	UL 94 V-2	45 - 127	1.77 - 5	457	17.99	13.2	0.52	-	-	150	670	25
TY5424PX	UL 94 V-2	10 - 178	0.39 - 7.01	610	24.02	13.2	0.52	-	-	150	670	25
TY5442PX	UL 94 V-2	10 - 305	0.39 - 12.01	1.067	42.01	13.2	0.52	-	-	150	670	10
TY5460PX	UL 94 V-2	10 - 457	0.39 - 17.99	1.524	60	13.2	0.52	-	-	150	670	10

Description of Cat. n°. structure: see page C13

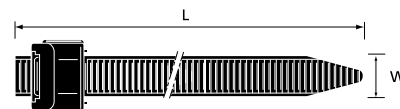
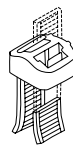
Description of materials and properties: see pages C132 to C144

Releasable 2-piece lashing ties on reel with separate heads

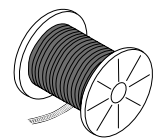
Cat. n°.	ANSI UL94 Flame rating	Max. wire bundle dia.		Length L		Width W		Tensile strength		Std. pkg. [pcs]
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
696-41562	V-2	-	-	-	-	-	-	150	670	200
696-41563	V-2	45	1.8	300	1,000	13.2	0.5	150	670	1

Diagrams

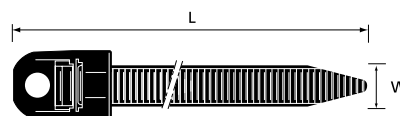
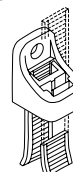
TY54XXPX



696-41563



TY53418PX



696-41562



Hook and Loop Fasteners

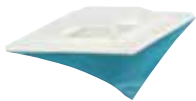
FO and FOL series and mounting bases



FO series loop ties are ideal for wrapping pre-determined bundle diameters thanks to the convenient slotted head.



FOL series buckle ties provide added strength and stability thanks to the high performance polyamide buckle.



Two mounting bases designed for use with hook and loop fasteners

Characteristics

These handy ties are very easy to release and re-use, making them ideal for applications where changes are anticipated or continuous access is required.

- Quick bundling and re-adjustable tension
- No risk of over-tightening the cables, which makes the Ty-Grip Hook & Loop fasteners ideal for specific applications in fibre optics, computer network wiring, telecom cables, etc.
- Multiple colours available for identifying specific bundles
- Different sizes available to accommodate varying bundle diameters
- Screw-mount and self-adhesive mounting bases provide multiple mounting options

Technical information FO and FOL series

- Material hook side: Polyamide 6.6
- Material loop side: Low density Polyethylene
- Temperature range: (FO serie): -20°C to +104°C (-4°F to +219.2°F)
- Temperature range: (FOL serie): -20°C to +93°C (-4°F to +199.4°F)
- Add the suffix "-FR" to obtain an ANSI UL94 V-2 classified product
- Peel-off strength: 0.8N/cm

Technical information mounting bases

- Material: polyamide 6.6
- Temperature range:
 - screw / glue version : -40°C to +85°C (-40°F to +185°F)
 - self-adhesive version : 0°C to +70°C (32°F to +158°F)
- Colour: Natural
- Halogen free, silicone free

Colour code

Colour code	Colour	Colour code	Colour
0	Black	5	Green
1	Brown	6	Blue
2	Red	7	Purple
3	Orange	8	Grey
4	Yellow	10	White

Hook and loop fasteners, mounting bases

Cat. n°.	Max. wire bundle dia.		Length		Width		Tensile strength		Std. pkg. [pcs]
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
FO series									
FO200-40-0	51	2	229	9	12.7	0.50	40	180	10
FO200-50-0	51	2	229	9	19.1	0.75	50	220	10
FO350-40-0	89	3.5	330	13	12.7	0.50	40	180	10
FO350-50-0	89	3.5	330	13	19.1	0.75	50	220	10
FO350-50-0-FR*	89	3.5	330	13	19.1	0.75	50	220	10
FOL series									
FOL300-50-0	76	3	305	12	19.1	0.75	50	220	10
FOL500-50-0	127	5	457	10.13	19.1	0.75	50	220	10

Replace "0" at the reference for the desired colour.

* FR suffix is flame retardant

Mounting bases

Cat. n°.	Description	Screw size	Max width of the tie	Std. pkg.
TC368	2 in. x 2 in. Screw Mounted	#8	19.1	500
TC368A	2 in. x 2 in. Adhesive Mounted	#8	19.1	500

Hook and Loop Fasteners

FOS and FOR series and mounting bases



FOS series strip ties are pre-cut which makes bundling easy.



FOR series rolled hook and loop allows customers to conveniently cut pieces to desired lengths, eliminating waste.



Two mounting bases designed for use with hook and loop fasteners

Characteristics

These handy ties are very easy to release and re-use, making them ideal for applications where changes are anticipated or continuous access is required.

- Quick bundling and re-adjustable tension
- No risk of over-tightening the cables, which makes the Ty-Grip Hook & Loop fasteners ideal for specific applications in fibre optics, computer network wiring, telecom cables, etc.
- Multiple colours available for identifying specific bundles
- Different sizes available to accommodate varying bundle diameters
- Screw-mount and self-adhesive mounting bases provide multiple mounting options

Technical information FOS and FOR series

- Material hook side: Low density Polyethylene
- Material loop side: Polyethylene
- Temperature range: -20°C to +104°C (-4°F to +219.2°F)
- Add the suffix "-FR" to obtain an ANSI UL94 V-2 classified product
- Peel-off strength: 0.8N/cm

Technical information mounting bases

- Material: polyamide 6.6
- Temperature range: screw / glue version : -40°C to +85°C (-40°F to +185°F) self-adhesive version : 0°C to +70°C (32°F to +158°F)
- Colour: Natural
- Halogen free, silicone free

Colour code

Colour code	Colour	Colour code	Colour
0	Black	5	Green
1	Brown	6	Blue
2	Red	7	Purple
3	Orange	8	Grey
4	Yellow	10	White

Hook and loop fasteners, mounting bases

Cat. n°.	Max. wire bundle dia.		Length L		Width W		Tensile strength [lb]	Tensile strength [N]	Std. pkg. [pcs]
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]			
FOS series									
FOS150-50-0	38	1,5	152	6	19.1	0.75	50	220	10
FOS320-50-0	81	3.20	305	12	19.1	0.75	50	220	10
FOS500-50-0	127	5	457	18	19.1	0.75	50	220	10
FOR series									
FOR180-50-0		Variable	4,572	180	19.1	0.75	50	220	1
FOR180-50-0-FR**		Variable	4,572	180	19.1	0.75	50	220	1

* Standard colour: black

Replace "-0" in the Cat. no. by the corresponding colour

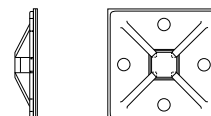
** FOR180-50-0-FR is made of flame retardant material

Contact your Sales Office for Product Availability in the other colours

Mounting bases

Cat. n°.	Description	Screw size	Max width of the tie	Std. pkg.
TC368	2 in. x 2 in. Screw mounted	#8	19.1	500
TC368A	2 in. x 2 in. Adhesive mounted	#8	19.1	500

Diagrams





Catamount cable ties

Introduction

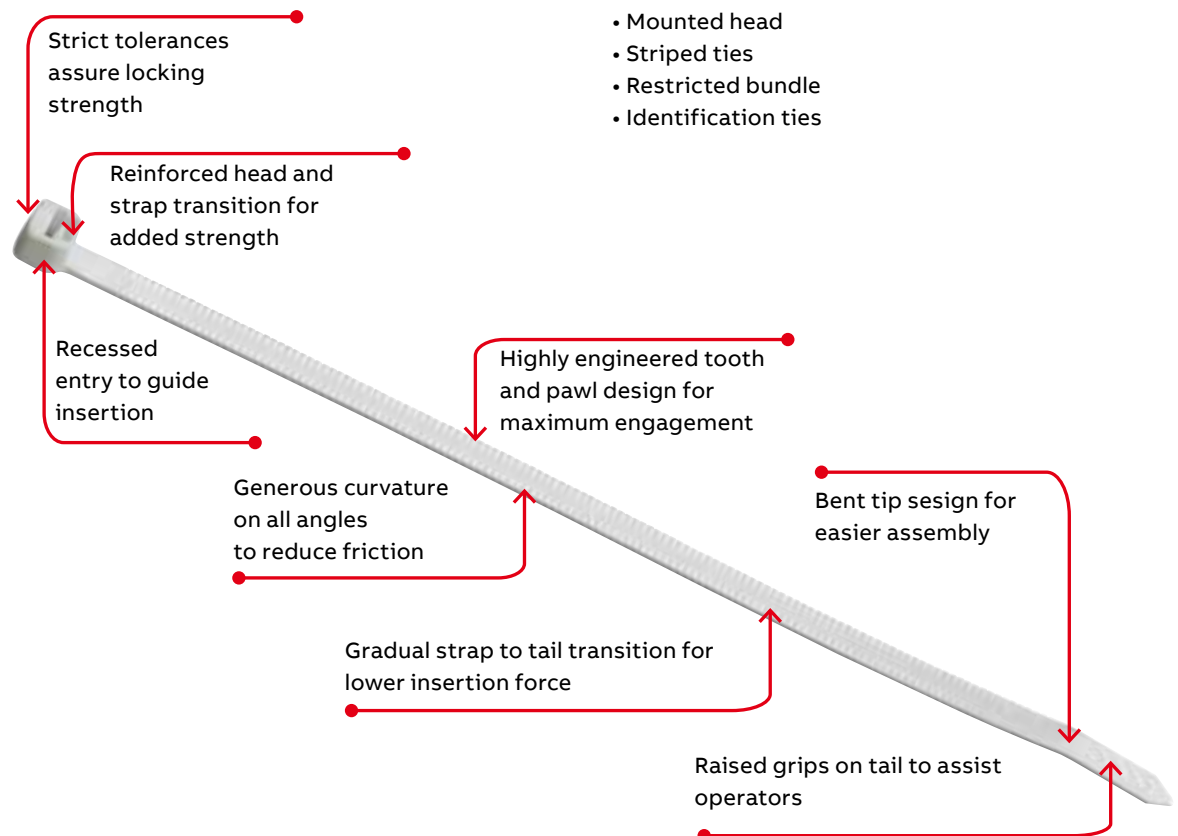
State-of-the-art robotic and raw material handling equipment assures product and material integrity throughout the manufacturing process.

Catamount ties and terminals fit the needs of general-purpose fastening and wire terminations. Installers quickly discover that Catamount products offer durable and value-priced cable bundling for a variety of commercial and residential construction applications. Electricians can also take advantage of other benefits in stocking Catamount products in their toolboxes, such as more terminals per bag in most popular sizes than leading comparable brands..

Catamount ties and terminals are offered in a wide range of sizes, styles and colours and meet listing requirements for most electrical termination and fastening projects. A choice of matching tools are also offered to provide quick and reliable installations. Where applicable, Catamount cable ties are cULus recognized.

Product range

- Miniature
- Heavy-duty
- Intermediate
- Extra heavy-duty
- Standard
- Releasable ties
- Mounted head
- Striped ties
- Restricted bundle
- Identification ties



Catamount cable ties

Catamount catalogue number construction

Ties

L	4	18	HS	-	9	M
↓	↓	↓	↓		↓	↓
Product prefix	Length	Tensile strength	Type of product		Colour	Quantity
L Cable ties	18 lb 30 lb 40 lb 50 lb 120 lb 175 lb 250 lb	blank Polyamide 6.6 HS Heat Stabilized* FL Fluorescent MH Mounting Head PM Pushmount PMR Pushmount Releasable R Releasable TB Restricted Bundle ID Identification * Black and natural colour only	0 Black** 1 Brown 2 Red 3 Orange 4 Yellow 5 Green 6 Blue 7 Purple 8 Grey 9 Natural 11 Fluorescent pink 16 Fluorescent orange 17 Fluorescent yellow 18 Fluorescent green 20 Fluorescent blue	X 10 pack Q 25 pack L 50 pack C 100 pack D 500 pack M 1,000 pack		

Mounting bases

MP	NY	-	750	-	9	C
↓	↓		↓		↓	↓
Product Prefix	Material		Size/n°		Colour	Quantity
MP Mounting pad ID Identification S# Strapping thickness MC Mounting cradle PM Push mounts SM Screw mounts N# Plain-edged cable clamps / Width W# Self-aligning cable clamps / Dia. UL Adjustable cable clamps GG Gator grip FA Flat adhesive clip FS Flat screw clip FR Flat rubber adhesive clip MS Snap mount RA Round adhesive clip SR Spiral wrap GS Grommeting GR Extruded grommeting GRU Extruded grommeting uncut	NY Polyamide TZ Fluoropolymer PV PVC PE Polyethylene FR Flame retardant TL Teflon	0,75 in.	0 Black** 1 Brown 2 Red 3 Orange 4 Yellow 5 Green 6 Blue 7 Purple 8 Grey 9 Natural 11 Fluorescent pink 16 Fluorescent orange 17 Fluorescent yellow 18 Fluorescent green 20 Fluorescent blue	Q 25 pack L 50 pack C 100 pack D 500 pack M 1,000 pack		

Material selection and ordering guide

Physical properties of materials

Materials for molded assembly hardware

Property	ASTM Method	Test condition	Units	Molded Polyamide 6.6	Heat Stabilized Polyamide	UV Black Polyamide
Tensile Strength	D638	+23 °C; 50% RH	kpsi	11.2	11.2	9.0
Elongation at Break	D638	+23 °C; 50% RH	%	Z300	Z300	200
Yield Strength	D638	+23 °C; 50% RH	kpsi	8.5	8.5	9.0
Shear Strength	D732	Dry As Molded (DAM)	kpsi	9.6	9.6	10.5
Deformation Under Load	D621	2 000 psi +50 °C; DAM	%	1.4	1.4	1.2
IZOD Impact	D256	+23 °C; 50% RH	ft. lb./in.	2.1	2.1	2.0
Tensile Impact Strength	D1822	+23°C; Long specimen; DAM	ft. lb./in. ²	240	240	N.R.
Melting Point	D789	Fisher-Johns	°F	491	491	491
Thermal Linear Expansion	D696	DAM	in./in./°F	4 x 10 ⁻⁵	4 x 10 ⁻⁵	N.R.
Thermal Conductivity	-	DAM Conche-Fitch	BTU - po/h . ft ² . °F	1.7	1.7	1.7
Brittleness Temperature	D746	50% RH	°F	-85	-85	-62
Oxygen Index	D2863	DAM	%O ₂	28	28	25
		50% RH	%O ₂	31	31	31
UL Flammability	UL 94	DAM	-	V-2	V-2	V-2
		50% RH	-	V-2	V-2	V-2

Material data as provided by our suppliers

N.R. = Not Reported

Tests conducted on ¼ in. specimens

About Polyamide...

Polyamides possess an outstanding balance of properties combining strength, moderate stiffness, high service temperature and a high level of toughness. Polyamide is particularly resistant to repeated impact, has a low co-efficient of friction and excellent abrasion resistance.

Polyamide is resistant to fuels, lubricants and most chemicals, but is attacked by phenols, strong acids and oxidizing agents. Contact your Regional Sales Office for chemical data relative to your application.

Polyamide is inherently susceptible to environmental conditions. Catamount Cable Ties are moisturized to optimum performance levels at machine-side and should be stored in cool dry areas out of direct sunlight. Cable Ties are packaged in plastic bags to contain moisture and should remain sealed until ready for use.

NBS Smoke Generation for polyamide 6.6

Sample Thickness (in.)	UL flammability	Energy source	Specific optical density at maximum smoke accumulation	
			at 2 minutes	at 2 minutes
¼ ₁₆	94 V-2	Radiant (2.5 watts/sq ²)	13	0
		Radiant Plus		
⅛	94 V-2	Flaming Gas Jets	26	1

Temperature Index for molded polyamide

Material	Minimum thickness (in.)	Temperature index		
		Electrical (°C)	Mechanical w/o impact (°C)	Hot wire ignition (sec)
Polyamide 6.6	0.580	1.25	85	15.0
	0.120	1.25	85	35.0
	0.240	1.25	85	35.0
Polyamide thermostabilisé	0.580	1.30	105	11.0
	0.120	1.30	110	20.0

Catamount cable ties

Standard Catamount cable ties



Characteristics

- Standard ties for multiple applications
- Indoor use only for natural and colored ties
- Indoor or outdoor use for black colour ties

Technical information

- Material - Moulding: polyamide 6.6
- Temperature range: -40°C to 85°C (-40°F to 185°F)
- Min. installation temp.: -20°C (-4°F)
- Plenum rating: AH-2
- Flammability rating: ANSI UL94 V-2
- Halogen free, silicone free



One-piece polyamide 6.6 ties

Std. Cat. N°.	Bulk Cat. N°.	Type DSG	Colour	Max. wire bundle dia.		Length L		Width W		Tensile strength		Std. pkg. [pcs]	Bulk pkg. [pcs]
				[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]		
Miniature – Series 18													
L-4-18-9-C*	L-4-18-9-M*	2 / 21	Natural	1.6 - 19	0.06 - 0.75	104	4.1	2.4	0.10	18	80	100	1,000
L-4-18-0-C*	L-4-18-0-M*	2 / 21	Black	1.6 - 19	0.06 - 0.75	104	4.1	2.4	0.10	18	80	100	1,000
L-6-18-9-C	L-6-18-9-M	-	Natural	1.5 - 40	0.06 - 1.57	160	6.3	2.5	0.10	18	80	100	1,000
L-6-18-0-C	L-6-18-0-M	-	Black	1.5 - 40	0.06 - 1.57	160	6.3	2.5	0.10	18	80	100	1,000
L-8-18-9-C	L-8-18-9-M	-	Natural	1.5 - 53	0.06 - 2.09	200	7.9	2.5	0.10	18	80	100	1,000
L-8-18-0-C	L-8-18-0-M	-	Black	1.5 - 53	0.06 - 2.09	200	7.9	2.5	0.10	18	80	100	1,000
Intermediate – Series 30													
L-5-30-9-C	L-5-30-9-M	2 / 21	Natural	1.6 - 32	0.06 - 1.25	146	5.75	3.6	0.14	40	180	100	1,000
L-5-30-0-C	L-5-30-0-M	2 / 21	Black	1.6 - 32	0.06 - 1.25	146	5.75	3.6	0.14	40	180	100	1,000
L-8-40-9-C	L-8-40-9-M	2 / 21	Natural	1.6 - 51	0.06 - 2.00	222	8.75	3.6	0.14	40	180	100	1,000
L-8-40-0-C	L-8-40-0-M	2 / 21	Black	1.6 - 51	0.06 - 2.00	222	8.75	3.6	0.14	40	180	100	1,000
L-11-40-9-C	L-11-40-9-D	2 / 21	Natural	2 - 76	0.08 - 2.99	280	11.0	3.6	0.14	40	180	100	500
L-11-40-0-C	L-11-40-0-D	2 / 21	Black	2 - 76	0.08 - 2.99	280	11.0	3.6	0.14	40	180	100	500
L-14-40-9-C	L-14-40-9-D	2 / 21	Natural	2 - 102	0.08 - 4.02	368	14.5	3.6	0.14	40	180	100	500
L-14-40-0-C	L-14-40-0-D	2 / 21	Black	2 - 102	0.08 - 4.02	368	14.5	3.6	0.14	40	180	100	500
Standard – Series 50													
L-5-50-9-C	L-5-50-9-M	2 / 21	Natural	3 - 35	0.12 - 1.38	150	5.9	4.7	0.19	50	222	100	1,000
L-5-50-0-C	L-5-50-0-M	2 / 21	Black	3 - 35	0.12 - 1.38	150	5.9	4.7	0.19	50	222	100	1,000
L-7-50-9-C	L-7-50-9-M	2S / 21S	Natural	1.6 - 48	0.06 - 1.87	193	7.6	4.6	0.18	50	222	100	1,000
L-7-50-0-C	L-7-50-0-M	2S / 21S	Black	1.6 - 48	0.06 - 1.87	193	7.6	4.6	0.18	50	222	100	1,000
L-11-50-9-C	L-11-50-9-D	2S / 21S	Natural	1.6 - 76	0.06 - 3.00	282	11.1	4.6	0.18	50	222	100	500
L-11-50-0-C	L-11-50-0-D	2S / 21S	Black	1.6 - 76	0.06 - 3.00	282	11.1	4.6	0.18	50	222	100	500
L-14-50-9-C	L-14-50-9-D	2S / 21S	Natural	1.6 - 102	0.06 - 4.00	371	14.6	4.6	0.18	50	222	100	500
L-14-50-0-C	L-14-50-0-D	2S / 21S	Black	1.6 - 102	0.06 - 4.00	371	14.6	4.6	0.18	50	222	100	500

* Min. installation temp.: 0°C (32°F)

Tooling



ERG50
For use with 2.3mm to 4.3mm (80N to 220N) cable ties.
See page C40.

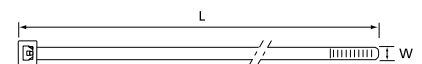


L-200
18-50 lb tension, steel handle.
See page C42.



L-400-C
18-50 lb tension, plastic handle.
See page C42.

Diagram



Catamount cable ties

Standard Catamount cable ties



Characteristics

- Standard ties for multiple applications
- Indoor use only for natural and colored ties
- Indoor or outdoor use for black colour ties

Technical information

- Material - Moulding: polyamide 6.6
- Temperature range: -40°C to 85°C (-40°F to 185°F)
- Min. installation temp.: -20°C (-4°F)
- Plenum rating: AH-2
- Flammability rating: ANSI UL94 V-2
- Halogen free, silicone free

One-piece polyamide 6.6 ties



Std. Cat. N°.	Bulk Cat. N°.	Type DSG	Colour	Max. wire bundle dia.		Length L		Width W		Tensile strength		Std. pkg. [pcs]	Bulk pkg. [pcs]
				[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]		
Heavy-Duty – Series 120													
L-8-120-9-L	L-8-120-9-C	-	Natural	15 - 51	0.59 - 1.97	218	8.6	7.6	0.30	120	534	50	100
L-8-120-0-L	L-8-120-0-C	-	Black	15 - 51	0.59 - 1.97	218	8.6	7.6	0.30	120	534	50	100
L-11-120-9-L	L-11-120-9-C	2S / 21S	Natural	15 - 76	0.59 - 2.99	290	11.4	7.6	0.30	120	534	50	100
L-11-120-0-L	L-11-120-0-C	2S / 21S	Black	15 - 76	0.59 - 2.99	290	11.4	7.6	0.30	120	534	50	100
L-14-120-9-L	L-14-120-9-C	2S / 21S	Natural	5 - 102	0.19 - 4.00	381	15.0	7.6	0.30	120	534	50	100
L-14-120-0-L	L-14-120-0-C	2S / 21S	Black	5 - 102	0.19 - 4.00	381	15.0	7.6	0.30	120	534	50	100
L-18-120-9-L	-	-	Natural	7 - 130	0.28 - 5.12	450	17.7	7.6	0.30	120	534	50	-
L-18-120-0-L	-	-	Black	7 - 130	0.28 - 5.12	450	17.7	7.6	0.30	120	534	50	-
L-24-120-9-Q	L-24-120-9-L	-	Natural	7 - 175	0.28 - 6.89	603	23.7	7.6	0.30	120	534	25	50
L-24-120-0-Q	L-24-120-0-L	-	Black	7 - 175	0.28 - 6.89	603	23.7	7.6	0.30	120	534	25	50
L-28-120-9-Q	L-28-120-9-L	2S / 21S	Natural	5 - 203	0.19 - 8.00	711	28.0	7.6	0.30	120	534	25	50
L-28-120-0-Q	L-28-120-0-L	2S / 21S	Black	5 - 203	0.19 - 8.00	711	28.0	7.6	0.30	120	534	25	50
Extra Heavy-Duty – Series 175													
L-24-175-9-L	-	2S / 21S	Natural	7 - 187	0.28 - 7.36	610	24.0	8.8	0.35	175	778	50	-
L-24-175-0-L	-	2S / 21S	Black	7 - 187	0.28 - 7.36	610	24.0	8.8	0.35	175	778	50	-
L-36-175-9-L	-	2S / 21S	Natural	7 - 263	0.28 - 10.35	914	36.0	8.8	0.35	175	778	50	-
L-36-175-0-L	-	2S / 21S	Black	7 - 263	0.28 - 10.35	914	36.0	8.8	0.35	175	778	50	-
L-41-175-9-X	L-41-175-9-L	2S / 21S	Natural	7 - 295	0.28 - 11.61	1 030	40.5	8.8	0.35	175	778	10	50
L-41-175-0-X	L-41-175-0-L	2S / 21S	Black	7 - 295	0.28 - 11.61	1 030	40.5	8.8	0.35	175	778	10	50
L-48-175-9-X	L-48-175-9-L	2S / 21S	Natural	7 - 365	0.28 - 14.37	1 219	48.0	8.8	0.35	175	778	10	50
L-48-175-0-X	L-48-175-0-L	2S / 21S	Black	7 - 365	0.28 - 14.37	1 219	48.0	8.8	0.35	175	778	10	50

Tooling



ERG120
For a tie width of 7.5mm (220N).
See page C40.



L300-FR
For tie strength 120-175 lb, steel handle.
See page C42.

Catamount cable ties

Catamount cable ties - Heat Stabilized



Characteristics

- Standard ties for multiple applications
- Indoor use only for natural and colored ties
- Indoor or outdoor use for black colour ties

Technical information

- Material - Moulding: polyamide 6.6
- Temperature range: -40°C to 85°C (-40°F to 185°F)
- Min. installation temp.: -20°C (-4°F)
- Plenum rating: AH-2
- Flammability rating: ANSI UL94 V-2
- Halogen free, silicone free



One-piece polyamide 6.6 ties - Heat Stabilized

Std. Cat. N°.	Bulk Cat. N°.	Type DSG	Colour	Max. wire bundle dia.		Length L		Width W		Tensile strength		Std. pkg. [pcs]	Bulk pkg. [pcs]
				[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]		
-	L-4-18HS-0-M*	2 / 21	Black	1.6 - 19	0.06 - 0.75	104	4.1	2.4	0.10	18	80	-	1,000
-	L-5-30HS-0-M	2 / 21	Black	1.6 - 32	0.06 - 1.25	146	5.75	3.3	0.13	40	180	-	1,000
-	L-7-50HS-0-M	2 / 21	Black	1.6 - 48	0.06 - 1.87	193	7.6	4.7	0.19	50	222	-	1,000
L-11-50HS-0-C	L-11-50HS-0-D	2 / 21	Black	1.6 - 76	0.06 - 3.00	282	11.1	4.7	0.19	50	222	100	500
L-14-50HS-0-C	L-14-50HS-0-D	2 / 21	Black	1.6 - 102	0.06 - 4.00	371	14.6	4.7	0.19	50	222	100	500
L-14-120HS-0-C	-	2 / 21	Black	4.8 - 102	0.19 - 4.00	381	15.0	7.6	0.30	120	534	100	-

* Min. installation temp.: 0°C (32°F)

Tooling



ERG50
For use with 2.4mm to 4.8mm (130N to 220N) Cable ties. See page C40.



ERG120
For a tie width of 4.7mm to 7.6mm (220N to 540N). See page C40.

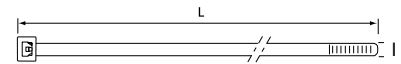


L-200
18-50 lb tension, steel handle. See page C42.



L-400-C
18-50 lb tension, plastic handle. See page C42.

Diagram



Catamount cable ties

Reusable cable ties



Characteristics

- Reusable, ideal for temporary installations
- Natural color for interior use only and black color for exterior or interior use

Technical information

- Material - Moulding: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Min. installation temp.: -20°C (-4°C)
- Halogen free, silicone free

Reusable cable ties



Cat. n°	Colour	ANSI UL94 Flame rating	Wire bundle dia.		Length L		Width W		Tensile strength		Std. pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
L-5-50R-0-C*	Black	V-2	7 - 35	0.28 - 1.38	150	5.91	7.5	0.30	50	222	100
L-8-50R-0-C	Black	V-2	7 - 50	0.28 - 1.97	197	7.75	7.5	0.30	50	222	100
L-8-50R-9-C	Natural	V-2	7 - 50	0.28 - 1.97	197	7.75	7.5	0.30	50	222	100
L-10-50R-0-C*	Black	V-2	7 - 80	0.28 - 3.15	300	11.81	7.5	0.30	50	222	100
L-10-50R-9-C*	Natural	V-2	7 - 80	0.28 - 3.15	300	11.81	7.5	0.30	50	222	100

* Not UL, UR approved

Description of materials and properties: see pages C132 to C144

Tooling

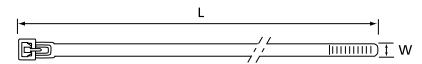


ERG120
For use with 7.6mm
(540N) Cable ties.
See page C40.



WT3D
For use with 7.5mm
(540N) Cable ties.
See page C40.

Diagram



Catamount cable ties

Standard panel mounting cable ties



Characteristics

For use in a pre-drilled hole in a panel with walls up to 3.2 mm (0.125 in.) thick.

- Assembly and assembly of the beam with a single product
- Quick and reliable clip mounting
- Natural color for interior use and black color for exterior or interior use.
- Hole diameter for mounting 0.25 in. (6.35 mm)

Technical information

- Material - Moulding: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Min. installation temp.: -20°C (-4°F)
- Halogen free, silicone free

Standard panel mounting ties



Cat. n°.	Colour	ANSI UL94 Flame rating	Wire bundle dia.		Length L		Width W		Tensile strength		Std. pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	
L-5-50PM-0-C	Black	V-2	3 - 25	0.12 - 0.98	132	5.17	4.8	0.19	50	222	100
L-5-50PM-9-D	Natural	V-2	3 - 25	0.12 - 0.98	132	5.17	4.8	0.19	50	222	500
L-7-50PM-0-C	Black	V-2	3 - 45	0.12 - 1.77	200	7.87	4.8	0.19	50	222	100
L-7-50PM-9-C	Natural	V-2	3 - 45	0.12 - 1.77	200	7.87	4.8	0.19	50	222	100

Description of materials and properties: see pages C132 to C144

Tooling



ERG50
For a tie width of 4.8mm (220N).
See page C40.



ERG120
For a tie width of 4.8mm (220N).
See page C40.



WT3D
For a tie width of 4.8mm (220N).
See page C40.

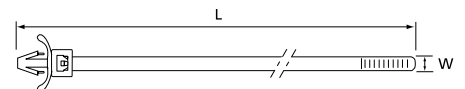


WT1-TB
For a tie width of 4.8mm (220N).
See page C41.



WT2-TB
For a tie width of 4.8mm (220N).
See page C41.

Diagram



Catamount cable ties

Integrated mounting hole cable ties



Characteristics

- Can be directly mounted on a bracket with a screw or rivet
- Pre-wiring of wire harnesses before assembly on all types of machines or installations - indoor and outdoor.
- Color Black ties are UV resistant especially recommended for exterior applications

Technical information

- Material - Moulding: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Halogen free, silicone free

Integrated mounting hole cable ties



Cat. n°.	Colour	ANSI UL94 Flame rating	Wire bundle dia.		Length L		Width w		Fixing hole		Tensile strength		Std. pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]			[lb]	[N]	
L-5-30MH-0-C*	Black	V-2	2 - 32	0.08 - 1.26	152	5.98	3.3	0.13	M4	#8	30	130	100
L-5-30MH-9-C*	Natural	V-2	2 - 32	0.08 - 1.26	152	5.98	3.3	0.13	M4	#8	30	130	100
L-7-50MH-0-C	Black	V-2	2 - 44	0.08 - 1.73	208	8.23	4.7	0.19	M5	#10	50	222	100
L-7-50MH-9-C	Natural	V-2	2 - 44	0.08 - 1.73	208	8.23	4.7	0.19	M5	#10	50	222	100
L-11-50MH-0-C*	Black	V-2	2 - 76	0.08 - 2.99	314	12.36	4.7	0.19	M5	#10	50	222	100
L-11-50MH-9-C*	Natural	V-2	2 - 76	0.08 - 2.99	314	12.36	4.7	0.19	M5	#10	50	222	100
L-14-50MH-0-C	Black	V-2	2 - 102	0.08 - 4.02	382	15.04	4.7	0.19	M5	#10	50	222	100
L-14-50MH-9-C	Natural	V-2	2 - 102	0.08 - 4.02	382	15.04	4.7	0.19	M5	#10	50	222	100
L-14-120MH-0-C*	Black	V-2	5 - 102	0.08 - 4.02	382	15.04	7.6	0.30	M6	¼	120	540	100
L-14-120MH-9-C*	Natural	V-2	5 - 102	0.08 - 4.02	382	15.04	7.6	0.30	M6	¼	120	540	100

* Not UL approved

Description of materials and properties: see pages C132 to C144

Tooling



ERG50
For use with 4,7mm
(220N) Cable ties.
See page C40.

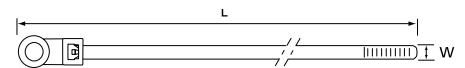


ERG120
For use with 4,7mm
to 7,6mm (220N to
540N) Cable ties.
See page C40.



WT3D
For use with 7.6mm
(540N) Cable ties.
See page C42.

Diagram



Catamount cable ties

Cable ties with identification tag



Characteristics

- Identification ties with incorporated label for a lasting attachment and marking
- Rough writing surface for easy and durable marking
- Natural colour for indoor use

Technical information

- Material - Moulding: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Halogen free, silicone free

Cable ties with identification tag



E49405

Std. Cat. N°.	Bulk Cat. N°.	ANSI UL94 Flame rating	Wire bundle dia.		Length L		Width W		Label dimensions		Tensile strength		Std. Pkg. [pcs]	Bulk pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]		
L-4-18ID-9-C	L-4-18ID-9-M	V-2	1.5 - 22	0.06 - 0.63	102	4.02	2.5	0.10	7.9 x 24.7	0.31 x 0.92	18	80	100	1,000
L-7-50ID-9-C	L-7-50ID-9-M	V-2	1.5 - 44	0.06 - 1.75	200	7.87	4.7	0.19	30 x 13.3	1.18 x 0.52	50	222	100	1,000

Description of materials and properties: see pages C132 to C144

Tooling

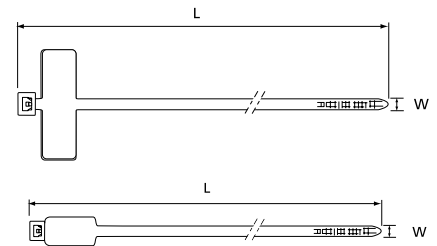


ERG50
For a tie width of 2.5mm to 4.7mm (80N to 220N). See page C40.



L-200
18-50 lb tension, steel handle. See page C42.

Diagrams



Catamount cable ties

Striped cable ties



Characteristics

- Striped ties are used to identify wire bundles primarily for P.I.C. and station cable binder marking
- Telecom applications

Technical information

- Material - Moulding: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Halogen free, silicone free

Striped cable ties



Std. Cat. N°.	Bulk Cat. N°.	Tie colour	Stripe colour	Diameter from ... to		Length L		Width W		Loop Tensile [N]	Std. pkg. [pcs]	Bulk pkg. [pcs]	
				[mm]	[in.]	[mm]	[in.]	[mm]	[in.]				
L-4-18-1/10-L	L-4-18-1/10-M	Brown	White	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-1/2-L	L-4-18-1/2-M	Brown	Rouge	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-1/0-L	L-4-18-1/0-M	Brown	Black	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-1/4-L	L-4-18-1/4-M	Brown	Yellow	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-1/7-L	L-4-18-1/7-M	Brown	Purple	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-3/10-L	L-4-18-3/10-M	Orange	White	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-3/2-L	L-4-18-3/2-M	Orange	Rouge	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-3/0-L	L-4-18-3/0-M	Orange	Black	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-3/4-L	L-4-18-3/4-M	Orange	Yellow	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-3/7-L	L-4-18-3/7-M	Orange	Purple	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-5/10-L	L-4-18-5/10-M	Green	White	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-5/2-L	L-4-18-5/2-M	Green	Rouge	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-5/0-L	L-4-18-5/0-M	Green	Black	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-5/4-L	L-4-18-5/4-M	Green	Yellow	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-5/7-L	L-4-18-5/7-M	Green	Purple	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-6/10-L	L-4-18-6/10-M	Blue	White	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-6/2-L	L-4-18-6/2-M	Blue	Rouge	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-6/0-L	L-4-18-6/0-M	Blue	Black	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-6/4-L	L-4-18-6/4-M	Blue	Yellow	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-6/7-L	L-4-18-6/7-M	Blue	Purple	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-8/10-L	L-4-18-8/10-M	Grey	White	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-8/2-L	L-4-18-8/2-M	Grey	Rouge	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-8/0-L	L-4-18-8/0-M	Grey	Black	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-8/4-L	L-4-18-8/4-M	Grey	Yellow	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000
L-4-18-8/7-L	L-4-18-8/7-M	Grey	Purple	1.5 - 22	0.06 - 0.63	102	4.0	2.5	0.10	18	80	50	1,000

Description of materials and properties: see pages C132 to C144

Tooling



ERG50
For use with 2.3mm to 4.3mm (80N to 220N) cable ties. See page C40.

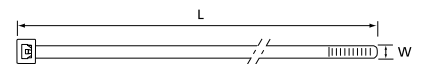


L-200
18-50 lb tension, steel handle. See page C42.



L-400-C
18-50 lb tension, plastic handle. See page C42.

Diagram



Catamount cable ties

Cable tie mounting bases



Characteristics

- For use with 18–50 lb ties
- The acrylic base can be repositioned initially
- Allow 24-72 hours of shaping for maximum performance with acrylic-based adhesives
- For the rubber base, allow 15 minutes of shaping for maximum performance

Technical information

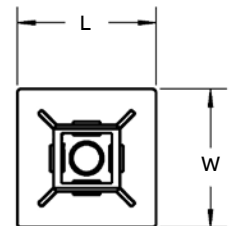
- Material: polyamide 6.6
- Temperature range: 0°C to +70°C (32°F to +158°F)
- installation temperature: 18°C to 49°C (65°F to 120°F)
- Tensile strength:
 - Catégorie ¾ po: 9 lb (40N)
 - Catégorie 1 po: 11 lb (50N)
- Halogen free, silicone free

Cable tie mounting bases



Std. Cat. N°.	Bulk Cat. N°.	Colour	Mounting method	Length L		Width W		Mounting screws	Max. tie width		Std. pkg. [pcs]	Bulk pkg. [pcs]
				[mm]	[in.]	[mm]	[in.]		[mm]	[in.]		
Mounting bases - ¾ in. class												
MPNY-750-9-C	MPNY-750-9-D	Natural	Synthetic Rubber Adhesive	19	0.74	19	0.74	#4	4.8	0.19	100	500
MPNY-750-0-C	MPNY-750-0-D	Black	Synthetic Rubber Adhesive	19	0.74	19	0.74	#4	4.8	0.19	100	500
MPNY-750A-9-C	MPNY-750A-9-D	Natural	Acrylic Adhesive	19	0.74	19	0.75	#6	3.6	0.14	100	500
MPNY-750A-0-C	MPNY-750A-0-D	Black	Acrylic Adhesive	19	0.74	19	0.75	#6	3.6	0.14	100	500
MPNY-750S-9-C	MPNY-750S-9-D	Natural	Synthetic Rubber Adhesive	19	0.74	19	0.74	#6	3.6	0.14	100	500
MPNY-750S-0-C	MPNY-750S-0-D	Black	Synthetic Rubber Adhesive	19	0.74	19	0.74	#6	3.6	0.14	100	500
Mounting bases - 1 in. class												
MPNY-1000-9-C	MPNY-1000-9-D	Natural	Synthetic Rubber Adhesive	25	0.99	25	0.99	#6	4.8	0.19	100	500
MPNY-1000-0-C	MPNY-1000-0-D	Black	Synthetic Rubber Adhesive	25	0.99	25	0.99	#6	4.8	0.19	100	500
MPNY-1000A-9-C	MPNY-1000A-9-D	Natural	Acrylic Adhesive	29	1.13	29	1.13	#6	4.8	0.19	100	500
MPNY-1000A-0-C	MPNY-1000A-0-D	Black	Acrylic Adhesive	29	1.13	29	1.13	#6	4.8	0.19	100	500

Diagram



Catamount cable ties

Identification labels



Characteristics

- Easy to use, simply slip a clip through the slots in the tag and secure it all with the appropriate installation tool.
- Indoor use only

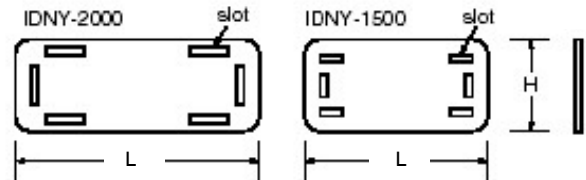
Technical information

- Material: polyamide 6.6
- Colour: Natural
- Halogen free, silicone free

Identification labels

Cat. n°.	Length L		Height H		Slot width		Slot height		Std. pkg. [pcs]
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	
IDNY-1500-9-M	38	1.5	19	0.75	5	0.20	2.3	0.09	1,000
IDNY-2000-9-M	51	2.0	19	0.75	8	0.33	2.8	0.11	1,000

Diagram





Ty-Rap cable ties

Strapping



Characteristics

- Extruded in 5 widths with 8 mounting hole diameters for use with a variety of standard and custom fasteners
- Hole spacing allows for greater flexibility in meeting bundle diameter requirements
- Strapping provides a wide range of tensile strengths depending on mounting method (S2NY-096-0 tested at 50 lb. with BTNY-096)

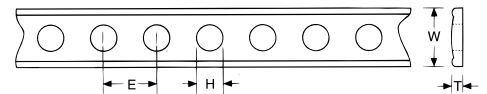
Technical information

- Material: black extruded polyamide 6.6
- Temperature range: up to +105°C (up to +221°F)
- Non-Conductive, Non Corrosive; resistant to fuels, lubricants and most chemicals

Strapping

Cat. n°.	Width - W		Thickness - T		Hole - H		Spacing - E		Std. Pkg [Ft./ rolls]	Strapping accessories reference		
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		Strap-tite buckle	Mounting tab	Machine screw
S2NY-096-0-C	7.1	0.28	0.8	0.32	2.4	0.10	4.8	0.19	100	N/A	N/A	N°2
S4NY-128-0-C	9.5	0.38	1.02	0.40	3.3	0.13	7.9	0.31	100	N/A	N/A	N°5
S4NY-140-0-C	9.5	0.38	1.02	0.40	3.6	0.14	7.9	0.31	100	N/A	N/A	N°6
S4NY-167-0-C	9.5	0.38	1.02	0.40	4.2	0.17	7.9	0.31	100	N/A	N/A	N°8
S6NY-000-0-C	12.7	0.50	1.52	0.60	N/A	N/A	N/A	N/A	100	N/A	N/A	N/A
S6NY-167-0-C	12.7	0.50	1.52	0.60	4.2	0.17	0.4	0.40	100	N/A	N/A	N°8
S6NY-203-0-C	12.7	0.50	1.52	0.60	5.1	0.20	0.4	0.40	100	N/A	N/A	N°10
S6NY-203X-0-C	12.7	0.50	1.52	0.60	5.1	0.20	0.3	0.28	100	N/A	N/A	N°10
S7NY-265-0-C	15.9	0.63	1.78	0.70	6.7	0.27	0.5	0.50	100	B7NY-265-0-D	M7NY-328-0-D	N°10
S7NY-265X-0-C	15.9	0.63	1.78	0.70	6.7	0.27	0.4	0.38	100	B7NY-265-0-D	M7NY-328-0-D	¼
S7NY-281-0-C	15.9	0.63	1.78	0.70	7.1	0.28	0.5	0.50	100	N/A	M7NY-328-0-D	¼
S9NY-265-0-C	22.2	0.88	1.78	0.70	6.7	0.27	0.5	0.50	100	N/A	N/A	¼
S9NY-390-0-C	22.2	0.88	1.78	0.70	9.9	0.39	0.6	0.63	100	N/A	N/A	¾

Diagram



Ty-Rap cable ties

Double loop cable ties



Characteristics

- These clips allow parallel routing of two bundles of cables, or routing of a bundle using a structure as a support.
- Fully formed ratchet combines low insertion force with high locking resistance
- A contoured rounded head for less snagging
- Tails are enhanced with a design with retaining claws on both sides that helps the operator to easily pick up and pull out the tethers
- Easy and quick pulling through the ratchet increases productivity and reduces operator fatigue

Technical information

- Material - Moulding: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Natural
- Flammability rating: UL 94 V-2
- Halogen free, silicone free

Double loop cable ties

Cat. n°	ANSI UL94 Flame rating	Bundle diameter				Length L	Width W		Tensile strength		Std. pkg.	
		Loop 1		Loop 2			[mm]	[in.]	[lb]	[N]		
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[lb]	[N]	[pcs]
TB-50RLDH	V-2	2.5 - 47	0.10 - 1.86	2.0 - 45	0.08 - 1.77	198	7.8	4.8	0.19	50	222	1,000
TB-12-50RLDH	V-2	2.5 - 72	0.10 - 2.83	2.0 - 70	0.08 - 2.76	300	11.8	4.8	0.19	50	222	1,000
TB-15-50RLDH	V-2	2.5 - 100	0.10 - 3.94	2.0 - 97	0.08 - 3.82	370	14.6	4.8	0.19	50	222	1,000

Description of materials and properties: see pages C132 to C144

Characteristics tooling: see page C40 to C43

Tooling

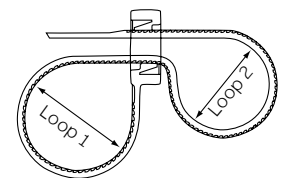
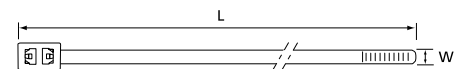


ERG50
For a tie width of
4.8mm (220N).
See page C40.



ERG120
For a tie width of
4.8mm (220N).
See page C40.

Diagram



Mounting bases & accessories

Overview

To complete the range of ties, ABB has also developed a wide range of bases, fasteners and accessories to provide a solution professional in current applications in the electrical field.

It is a wide range from classic polyamide 6.6 to high performance ETFE fluoropolymer for applications in harsh conditions.

To suit every application, these products are available in a wide choice of shapes and designs and with different mounting methods ranging from self-adhesive to glue and / or screwing.

ABB now offers, with the range of TC345 type sub-bases, a high-performance technical sub-base:

- New materials and design for improved performance
- A special adhesive formula, especially for nylon bases

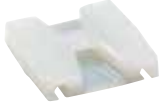
Applications:

- Boxes and control devices
- Professional equipment
- Military and medical equipment
- Lighting and electronic equipment



Cable tie mounting bases

Mounting bases



Characteristics

- Available in a variety of materials for both indoor and outdoor use
- One-piece molding — no lost parts
- Adhesive-backed with pressure-sensitive adhesive tape (where applicable)

Technical information

- Material: polyamide 6.6
- Temperature range: 0°C to +66°C (32°F to +150°F)

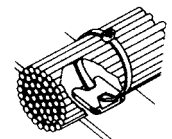
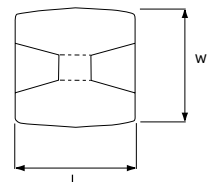


One-way mounting bases

Std. Cat. N°.	Bulk Cat. N°.	Mounting method	Max tie width accom.		Length L		Width W		Material	Std. pkg. [pcs]	Bulk pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]			
TC5342A	TC342A	Self-adhesive*	4.8	0.19	28.6	1.13	28.6	1.13	Polyamide 6.6	100	1,000
-	TC342A-X	Self-adhesive*	4.8	0.19	28.6	1.13	28.6	1.13	Weatherable polyamide 6.6	-	1,000
-	TC342	TC2PA	4.8	0.19	28.6	1.13	28.6	1.13	Polyamide 6.6	-	1,000
-	TC342X	TC2PA	4.8	0.19	28.6	1.13	28.6	1.13	Weatherable polyamide 6.6	-	1,000
-	TC342A-FR	Self-adhesive*	4.8	0.19	28.6	1.13	28.6	1.13	Polyamide 6.6	-	1,000

* Synthetic rubber adhesive

Diagram



Cable tie mounting bases

Four-way mounting bases



Characteristics

- Eliminates errors in premounting the base with respect to its orientation to wire bundle direction
- Convenient way to mount wire bundles at cross-over points — two optional mounting holes included

Technical information

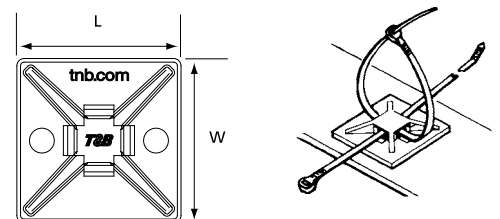
- Temperature range: 0 °C to +70 °C (32 °F to +158 °F)
- Temperature storage: 0 °C to 48 °C (32°F to 120 °F)
- Mechanical strength: 10lb (44N)

Four-way mounting bases

Std. Cat. N°.	Bulk Cat. N°.	Mounting method	Max tie width accom.		Length L		Width W		Material	Std. pkg. [pcs]	Bulk pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]			
4-Way Adhesive Mounting Base											
TC5345A	TC345A	Self-adhesive*	4,8	0,19	28,6	1,13	28,6	1,13	Polyamide 6.6	100	1,000
TC5345AX	TC345AX	Self-adhesive*	4.8	0.19	28.6	1.13	28.6	1.13	Weatherable polyamide 6.6	100	1,000
-	TC345	TC2PA/screws	4.8	0.19	28.6	1.13	28.6	1.13	Polyamide 6.6	-	1,000
4-Way Mini Base											
TC050X050A-C	TC050X050A	Self-adhesive*	2.5	0.10	12.7	0.5	12.7	0.5	Polyamide 6.6	100	1,000
TC050X050AX-C	TC050X050AX	Self-adhesive*	2.5	0.10	12.7	0.5	12.7	0.5	Weatherable polyamide 6.6	100	1,000
TC5344A	TC344A	Self-adhesive*	3.6	0.14	19.1	0.75	19.1	0.75	Polyamide 6.6	100	1,000
TC5344AX	TC344AX	Self-adhesive*	3.6	0.14	19.1	0.75	19.1	0.75	Weatherable polyamide 6.6	100	1,000
TC5344	TC344	Screw Mount	3.6	0.14	19.1	0.75	19.1	0.75	Polyamide 6.6	100	1,000
Large 4-Way Base											
TC150X150L	TC150X150	Screw Mount	4.8	0.19	38.1	1.5	38.1	1.5	Polyamide 6.6	50	500
TC150X150A-L	TC150150A	Self-adhesive*	4.8	0.19	38.1	1.5	38.1	1.5	Polyamide 6.6	50	500
TC150X150AX-L	TC150X150AX	Self-adhesive*	4.8	0.19	38.1	1.5	38.1	1.5	Weatherable polyamide 6.6	50	500
TC200X200-L	TC200X200	Screw Mount	7.6	0.30	50.8	2.0	50.8	2.0	Polyamide 6.6	50	500
TC200X200A-L	TC200X200A	Self-adhesive*	7.6	0.30	50.8	2.0	50.8	2.0	Polyamide 6.6	50	500
-	TC200X200AX	Self-adhesive*	7.6	0.30	50.8	2.0	50.8	2.0	Weatherable polyamide 6.6	-	500
-	TC368	Screw Mount	19.1	0.75	50.8	2.0	50.8	2.0	Polyamide 6.6	-	500
-	TC368A	Self-adhesive*	19.1	0.75	50.8	2.0	50.8	2.0	Polyamide 6.6	-	500

* Synthetic rubber adhesive

Diagram



Cable tie mounting bases

2-way entry



Characteristics

- Can be used in 2-way entry style for cable ties having a width up to 7.6mm (0.30in.)
- For cable ties having a width up to 4.8mm (0.19in.), the mounting bases can be used in 4-way entry style
- Choice of 3 materials: standard Polyamide 6.6 (natural), UV-resistant polyamide 6.6 (black), Polyamide 6.6 flame retardant and ETFE Fluoropolymer (aquamarine)
- Supplied either on a rubber based (synthetic polymer) closed cell foam adhesive (installation: self-adhesive and/or screw) or without self-adhesive (installation: screw and/ or 2-component glue**)

Technical information

TC347, TC347A, TC5347AR, TC347X et TC5347AX

- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
(Self-adhesive version: 0°C to +65°C/32°F to -85°F)

- Flammability rating: UL 94 V-2
- UV-resistant (black), Halogen free, Silicone free

TC347FR (Flame retardant)

- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Flammability rating: UL 94 V-0
- Halogen free, silicone free

TCZ347 (Fluoropolymère)

- Material: ETFE Fluoropolymer
- Temperature range: -46°C to +150°C (-50.8°F to +302°F)
- Flammability rating: UL 94 V-0
- Silicone free, inert to most solvents and chemicals, hydrolytically stable, radiation resistant

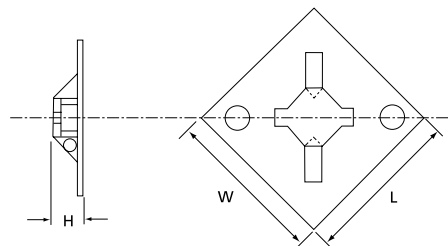
2-way entry

Cat. n°.	Colour	Mounting method	Dimensions				For tie		Mounting		Std. pkg. [pcs]		
			L		W		width up to		hole diameter				
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	
TC347	Natural	Screw / glue**	7.8	0.31	28.6	1.13	28.6	1.13	7.6	0.30	4.4 (2x)	0.17 (2x)	1,000
TC347X	UV-resistant black	Screw / glue**	7.8	0.31	28.6	1.13	28.6	1.13	7.6	0.30	4.4 (2x)	0.17 (2x)	1,000
TC347FR	Natural/ flame retardant	Screw / glue**	7.8	0.31	28.6	1.13	28.6	1.13	7.6	0.30	4.4 (2x)	0.17 (2x)	1,000
TCZ347	Aquamarine	Screw / glue**	7.8	0.31	28.6	1.13	28.6	1.13	7.6	0.30	4.4 (2x)	0.17 (2x)	500
TC5347AR / TC347A	Natural	Self-adhesive*/ screw	8.5	0.34	29.0	1.14	29.0	1.14	7.6	0.30	4.4 (2x)	0.17 (2x)	100 / 1,000
TC5347AX	UV-resistant black	Self-adhesive*/ screw	8.5	0.34	29.0	1.14	29.0	1.14	7.6	0.30	4.4 (2x)	0.17 (2x)	100

* Synthetic rubber adhesive

** Glue = Cat. no. TC2PA (see page C92 for specifications)

Diagram



Cable tie mounting bases

One-piece mounting clamp



Characteristics

- Provides a fast and convenient method of securing bundles
- Single-piece design offers reduced installation time and maximized inventory control
- Integral top cover incorporates a unique ratchet design that is fully adjustable and releasable
- Available in a pressure-sensitive adhesive or screw mount design

Technical information

- Material: polyamide 6.6
- Temperature range: 0°C to +66°C (32°F to +150°F)
- Colour: Natural
- Flammability rating: UL 94 V-2
- Halogen free, silicone free

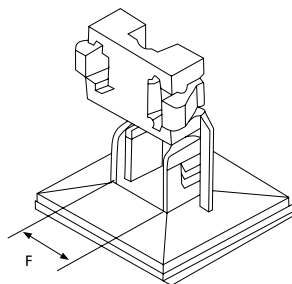
One-piece mounting clamp

Std. Cat. N°.	Bulk Cat. N°.	Mounting method	Dimensions										Std. pkg. [pcs]	Bulk pkg. [pcs]
			Height H		L	E Height of clamping area from ... to		F Width of clamping area		Mounting hole diameter				
			[mm]	[in.]		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	
TC5349A-TB	TC349A-TB	Self-adhesive*	14.5	0.57	25.0	0.98	4.6 à 8.9	0.18 à 0.35	6	0.24	–	–	100	1,000
TC5350A-TB	TC350A-TB	Self-adhesive*	22.0	0.87	25.0	0.98	5 à 11.4	0.20 à 0.45	15	0.59	4.3	0.17	100	1,000

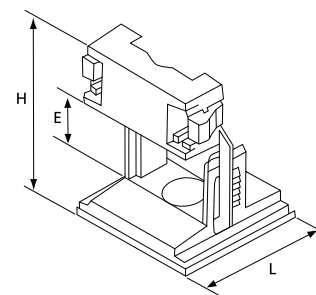
* Synthetic rubber adhesive

Diagrams

TC349A-TB
TC5349A-TB



TC350A-TB
TC5350A-TB



Cable tie mounting bases

Aluminum mounting plates



Characteristics

- Compact
- 650-41349 has two holes for mounting
- Light
- Long life at extreme temperatures

Technical information

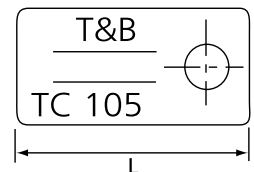
- Material: aluminium (3003, ASTM-B-209)
- Temperature range: -100°C to +450°C (+212°F to +842°F)
- Colour: metal
- Flammability rating: flame resistant
- UV resistant

Aluminum mounting plates

Cat. n°.	Mounting method	For tie width up to	Max. Length of the tie		Width L		Std. pkg. [pcs]
			[mm]	[in.]	[mm]	[in.]	
TC105	Screw / glue*	0.19	25.4	1.00	13.2	0.52	1,000
650-41349*	Screw / glue*	0.19	34.9	1.38	9.5	0.37	1,000

* Glue = Cat. no. TC2PA (see below for specifications)

Diagram



2-component glue

TC2PA



Characteristics

- 2 component glue
- Consists of one tube each of adhesive and activator
- Easy application
- Stable and durable adhesion
- Applicable on all Polyamide and Aluminium mounting bases and cable clamps
- Also applicable on concrete and other porous surfaces
- UV resistant

Cat. n°.	Mounting method	Std. pkg. [pcs]
TC2PA	Consists of one tube each, adhesive and activator	1

Cable tie mounting bases

Adhesive Mounting Cradle



Characteristics

- Accepts cable ties up to 50-lb. (222 N) tensile strength (miniature through standard)
- Supplied on closed cell foam with synthetic rubber-based adhesive
- Use #6 self-tapping screw for added strength if desired

Technical information

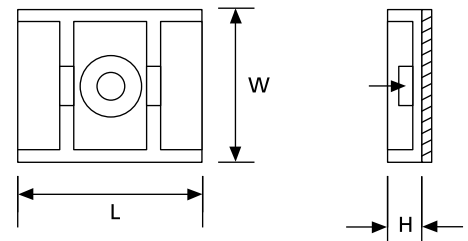
- Material: polyamide 6.6
- Temperature range: 0°C to +49°C (32°F to +120°F)
- Flammability rating: UL 94 V-2
- Colour: Natural
- Halogen free, silicone free

Adhesive Mounting Cradle

Std. Cat. N°.	Bulk Cat. N°.	Mounting method	Dimensions				For tie width up to		Std. pkg. [pcs]	Bulk pkg. [pcs]		
			H		L		W					
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]				
MCNY-1250-9-C	MCNY-1250-9-D	Self-adhesive*	7.2	0.28	31.7	1.25	25.4	1	7.6	0.30	100	500

* Synthetic rubber adhesive

Diagrams



Cable tie mounting bases

Saddle support – Screw mount



Characteristics

- Tie mounting bases with supporting saddle
- For screw- or rivet-mounting
- The prism-shape of the saddle prevents twisting around the fixture
- High strength through compact design
- Non-conductive, non-corrosive, resistant to fuels lubricants and most chemicals

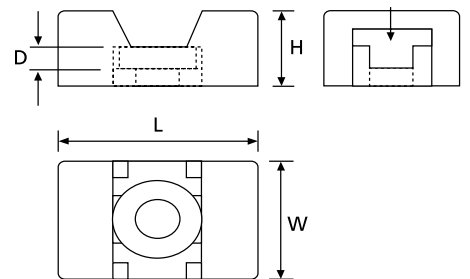
Technical information

- Material: Polyamide 6.6 or heat stabilised
- Temperature range: -40°C to +105°C (-40°F to +221°F)
- Flammability rating: UL 94 V-2
- Colour: UV-resistant black
- Halogen free, silicone free

Saddle support – Screw mount

Cat. n°	Mounting method	Dimensions								For tie width up to	Mounting hole diameter		Std. pkg. [pcs]	
		H		W		L		D			[mm]	[in.]		
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	
SMNY-001-0-D	Screw n° 6 and n° 8	7.1	0.28	9.8	0.39	15.2	0.60	4.7	0.19	4.8	0.19	4.2	0.17	500

Diagrams



Cable tie mounting bases

Saddle support



Characteristics

- Tie mounting bases with supporting saddle
- For screw- or rivet-mounting
- The prism-shape of the saddle prevents twisting around the fixture
- High strength through compact design
- Non-conductive, non-corrosive, resistant to fuels, lubricants and most chemicals
- Available in natural nylon, UV-resistant nylon or heat stabilised black version

Technical information

- Material: Polyamide 6.6 or heat stabilised Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F) (Natural)
- Mounting method: Screw or rivet
- Flammability rating: UL 94 V-2
- Halogen free, silicone free



Saddle support

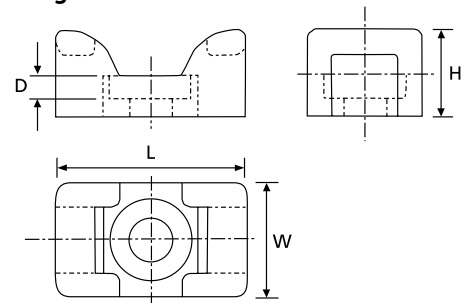
Std. Cat. N°.	Bulk Cat. N°.	Colour	Dimensions								For tie width up to	Mounting hole diameter		Std. pkg. [pcs]	Bulk pkg. [pcs]	
			H		W		L		D			[mm]	[in.]			
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		
TC5140	TC140	Natural	6.7	0.26	8.7	0.34	14.2	0.56	1.8	0.07	2.4	0.09	3.0	0.12	100	500
TC5141	TC141**	Natural	7.5	0.30	11.1	0.44	17.0	0.67	2.3	0.09	4.8	0.19	3.8	0.15	100	500
TC5142	TC142	Natural	10.7	0.42	14.2	0.56	23.4	0.92	2.9	0.11	7.6	0.30	5.2	0.20	100	500
TC5142X*	TC142X*	Black	10.7	0.42	14.2	0.56	23.4	0.92	2.9	0.11	7.6	0.30	5.2	0.20	100	500

* Are not UL recognised

** Add suffix "FR" for flame retardant material (TC141 only)

For other colors and packaging, please contact the sales department
Color black UV resistant and heat stabilized

Diagrams



Mounting bases

Screw-mounted - for crosswise fastening



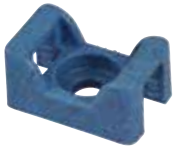
Technical information

- Material - Moulding: Polyamide 6.6 or Polypropylene
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Blue
- Halogen free, silicone free

2-way and 4-way entry mounting bases

Std. Cat. N°.	Bulk Cat. N°.	Width		Length		Mounting hole (2x diameter)		Mounting method	For tie width up to		Std. pkg. [pcs]	Bulk pkg. [pcs]
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		[mm]	[in.]		
TC5344A-NDT	TC344A-NDT	19.1	0.75	19.1	0.75	3	0.12	self-adhesive*/screw	3.6	0.14	100	1,000
TC5344A-PDT	-	19.1	0.75	19.1	0.75	3	0.12	self-adhesive*/screw	3.6	0.14	100	-
TC5347A-NDT	TC347A-NDT	29	1.14	29	1.14	4.4	0.17	self-adhesive*/screw	7.6	0.30	100	1,000
TC5347A-PDT	-	29	1.14	29	1.14	4.4	0.17	self-adhesive*/screw	7.6	0.30	100	-

* Surface preparation: surface should be cleaned with alcohol-based cleaner before application.
Installation: Surface must be clean and dry prior to application of accessory.
Allow 15-minute setting time for maximum adhesion performance of synthetic rubber adhesive (SRA).



Saddle support

Std. Cat. N°.	Bulk Cat. N°.	Width		Length		Mounting hole diameter		Mounting method	For tie width up to		Std. pkg. [pcs]	Bulk pkg. [pcs]
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		[mm]	[in.]		
TC5141-NDT	TC141-NDT	11.1	0.44	17	0.67	3.8	0.15	screw	4.8	0.19	100	500
TC5141-PDT	-	11.1	0.44	17	0.67	3.8	0.15	screw	4.8	0.19	100	-
TC5142-NDT	TC142-NDT	14.2	0.56	23.4	0.92	5.2	0.20	screw	7.6	0.30	100	500
TC5142-PDT	-	14.2	0.56	23.4	0.92	5.2	0.20	screw	7.6	0.30	100	-

Technical information

- Material - Moulding: Polyamide 6.6 or Polypropylene
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Blue
- Halogen free, silicone free

Mounting bases

Screw-mounted - for crosswise fastening

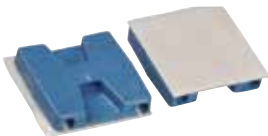


Technical information

- Material - Moulding: Polyamide 6.6 or Polypropylene
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Blue
- Halogen free, silicone free

Screw-mounted miniature bases

Std. Cat. N°.	Bulk Cat. N°.	Width		Length		Mounting hole				Mounting method	For tie width up to		Std. pkg. [pcs]	Bulk pkg. [pcs]
		[mm]	[in.]	[mm]	[in.]	Diameter D1		Diameter D2			[mm]	[in.]		
TC5102-NDT	TC102-NDT	12.7	0.5	19.1	0.75	4.4	0.17	8.7	0.32	screw #8	4.8	0.19	100	1,000
TC102-PDT	-	12.7	0.5	19.1	0.75	4.4	0.17	8.7	0.32	screw #8	4.8	0.19	-	1,000



Low profile plates

Std. Cat. N°.	Bulk Cat. N°.	Width		Length		Mounting method	For tie width up to		Std. pkg. [pcs]	Bulk pkg. [pcs]
		[mm]	[in.]	[mm]	[in.]		[mm]	[in.]		
TC5342A-NDT	TC342A-NDT	29	1.14	29	1.14	self-adhesive*	4.8	0.19	100	1,000
TC5342A-PDT	-	29	1.14	29	1.14	self-adhesive*	4.8	0.19	100	-

* Surface preparation: surface should be cleaned with alcohol-based cleaner before application.

Installation: Surface must be clean and dry prior to application of accessory.

Allow 15-minute setting time for maximum adhesion performance of synthetic rubber adhesive (SRA).

Technical information

- Material - Moulding: Polyamide 6.6 or Polypropylene
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Blue
- Halogen free, silicone free

Cable tie mounting bases

Screw-mounted strips for multiple bundling



Characteristics

- Tie mounting strips for up to 6 bundles simultaneously
- When mounted, the tie is guided through the clamp for fast assembly

Cat. n°. TC1101 to TC1117

- Simple and strong flat mounting beams for fixing multiple cables, bundles or components
- Mil. Specified (MS-3339-....-...)

Cat. n°. TC375 and TC376

- For vertical and double-side mounting

Technical information

- Material: polyamide 6.6
- Temperature range : -40°C to +85°C (-40°F to +185°F)
- Colour: Natural
- Mounting method (TC1101 to TC1117): 2 or more screw #6
- Mountin method (TC375 & TC376): 1 screw #8
- Flammability rating: UL 94 V-2
- Halogen free, silicone free

Screw-mounted strips for multiple bundling



Cat. n°.	H		W		L		D		E		For tie width up to		Mounting hole diameter		Std. pkg. [pcs]	Mil. Spec.
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		
TC1101	3.2	0.13	12.7	0.5	44.0	1.73	31.8	1.25	9.5	0.37	4.8	0.19	3.7	0.15	100	●
TC1102	3.2	0.13	12.7	0.5	76.0	2.99	31.8	1.25	9.5	0.37	4.8	0.19	3.7	0.15	100	●
TC1103	3.2	0.13	12.7	0.5	108.0	4.25	31.8	1.25	9.5	0.37	4.8	0.19	3.7	0.15	100	●
TC1104	3.2	0.13	12.7	0.5	140.0	5.51	31.8	1.25	9.5	0.37	4.8	0.19	3.7	0.15	100	●
TC1105	3.2	0.13	12.7	0.5	171.0	6.73	31.8	1.25	9.5	0.37	4.8	0.19	3.7	0.15	100	●
TC1112	5.2	0.20	15.9	0.63	244.0	9.61	38.1	1.5	14.3	0.56	7.6	0.30	3.7	0.15	100	●
TC1113	5.2	0.20	15.9	0.63	53.3	2.10	38.1	1.5	14.3	0.56	7.6	0.30	3.7	0.15	100	●
TC1114	5.2	0.20	15.9	0.63	91.4	3.60	38.1	1.5	14.3	0.56	7.6	0.30	3.7	0.15	100	●
TC1115	5.2	0.20	15.9	0.63	130.0	5.12	38.1	1.5	14.3	0.56	7.6	0.30	3.7	0.15	100	●
TC1116	5.2	0.20	15.9	0.63	168.0	6.61	38.1	1.5	14.3	0.56	7.6	0.30	3.7	0.15	100	●
TC1117	5.2	0.20	15.9	0.63	206.0	8.11	38.1	1.5	14.3	0.56	7.6	0.30	3.7	0.15	100	●
TC375	19.1	0.75	17.5	0.69	93.0	3.66	-	-	6.4	0.25	4.8	0.19	4.8	0.19	100	-
TC376	17.0	0.67	17.5	0.69	44.0	1.73	-	-	6.4	0.25	4.8	0.19	4.8	0.19	100	-

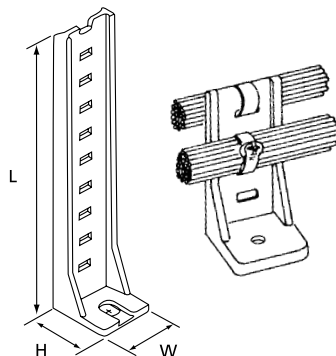
* Black, UV resistant

Application

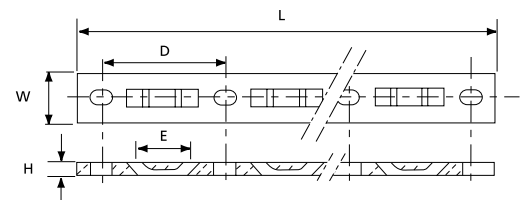


Diagrams

TC375 and TC376



TC1101 ... TC1117



Cable tie mounting bases

Screw-mounted strips for multiple bundling



Characteristics

- Provides a mounting range for bundles from ¼ in. through 4 in. in diameter
- During assembly, the clip is guided through the base for quick assembly
- One mounting hole is slotted to permit adjustment of the bundle position up to the time of actual bundle installation.

Technical information

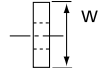
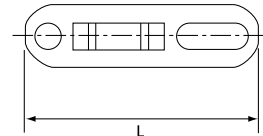
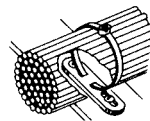
- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Natural
- Mounting method: 2 screws
- Flammability rating: UL 94 V-2
- Halogen free, silicone free



Screw-mounted strips for multiple bundling

Std. Cat. N°.	Dimensions				For tie width up to		Mounting hole diameter		Mounting method	Std. pkg. [pcs]
	W		L		[mm]	[in.]	[mm]	[in.]		
	[mm]	[in.]	[mm]	[in.]						
TC101	12.7	0.5	50.0	1.97	4.8	0.19	5.2	0.20	Screw #10	1,000
TC103	15.8	0.62	79.0	3.11	7.6	0.30	6.9	0.27	Screw ¼ in.	500

Diagrams



Cable tie mounting bases

Right-angle bundle support



Characteristics

- Supporting mounting base with strong hold thanks to 2 mounting holes
- Can be screwed or riveted
- Allows double and/or crosswise (two ties) fixing
- For parallel and through mounting with support
- Suitable for large bundle diameters
- Meets military specs as a support in bulkheads and walls (MS3341).

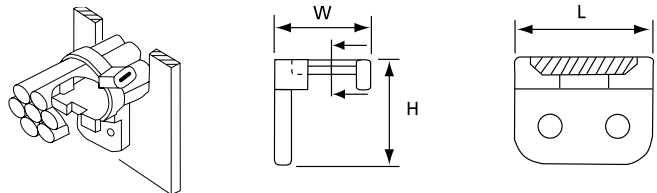
Technical information

- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Natural
- Mounting method: 2 screws or 2 rivets
- Flammability rating: UL 94 V-2
- Halogen free, silicone free

Right-angle bundle support

Cat. n°	Dimensions						For tie width up to	Mounting hole diameter		Mounting method	Std. pkg. [pcs]	
	H		W		L			[mm]	[in.]			
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		
TC106	25.4	1	19.1	0.75	25.4	1	7.6	0.30	3.3	0.13	2 screws #4	200
TC109	11.1	0.44	9.9	0.39	14.3	0.56	4.8	0.19	2.4	0.09	2 screws #2	1,000

Diagrams



Cable tie mounting bases

Aluminum siding clip



Characteristics

- Designed to accommodate metal siding
- Accommodates wires both vertically and/or horizontally
- Provision for utilizing Ty-Rap cable ties to secure large diameter bundles

Technical information

- Material: polycarbonate
- Colour: transparent
- Weather-resistant

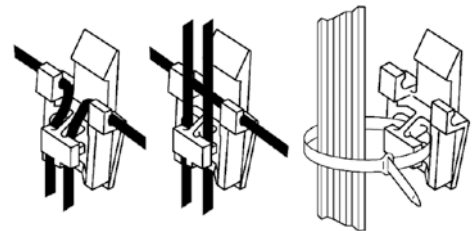


Weather
resistant

Aluminum siding clip

Cat. n°.	Wire Accommodation	Std. pkg. [pcs]
TC201	1/8 in. diameter wire (2-pair station wire)	100

Diagrams



Cable tie mounting bases

Screw-mounted - for wide cable ties



Characteristics

- Extremely low profile
- For screw- or rivet-mounting
- Easy to use thanks to the cable tie insertion guide
- Secure fixing with 2 fastening holes

Technical information

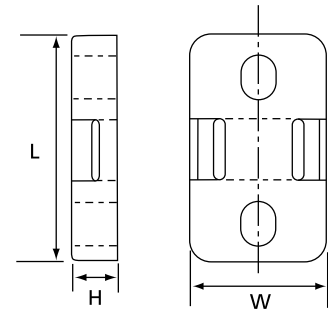
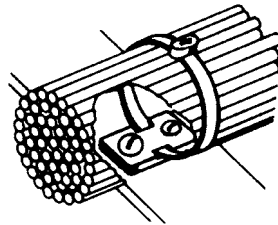
- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Natural
- Mounting method: 2 screws
- Mechanical force : 50lbs (222N)
- Flammability rating: UL 94 V-2
- Halogen free, silicone free



Screw-mounted - for wide cable ties

Cat. n°	Dimensions						For tie width up to		Mounting hole diameter		Mounting method	Std. pkg. [pcs]
	H		W		L							
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		
TC815-TB	6.4	0.25	19.1	0.75	31.2	1.23	7.6	0.30	5.3	0.21	Screw n° 10	1,000

Diagrams



Cable tie mounting bases

Low-profile two-way miniature mounting bases



Characteristics

- Extremely low profile
- For screw- or rivet-mounting
- Easy to use thanks to the cable tie insertion guide
- Threaded nut allows the screw to come from outside the mounting surface

Technical information

- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Natural
- Mounting method: Screw or rivet
- Flammability rating: UL 94 V-2
- Halogen free, silicone free



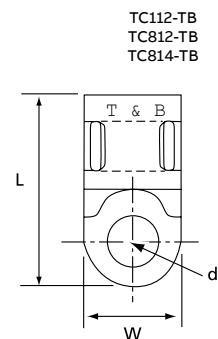
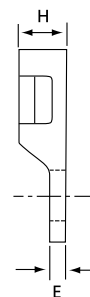
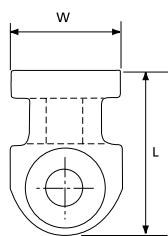
E49405

Low-profile two-way miniature mounting bases

Std. Cat. N°.	Bulk Cat. N°.	Dimensions										Mounting method	For tie width up to		Std. pkg. [pcs]	Bulk pkg. [pcs]
		Height H		Length L		Width W		Mounting hole diameter		[mm]	[in.]					
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]							
TC502	TC102	3.2	0.13	19	0.75	12.7	0.50	4.4	0.17	Screw #8	4.8	0.19	100	1,000		
-	TC104	2.4	0.09	10	0.40	7.9	0.31	3.4	0.13	Screw #5	2.4	0.09	-	1,000		
-	TC804-TB	2.4	0.09	10	0.40	7.9	0.31	2.3	0.09	Screw #2	2.4	0.09	-	1,000		
-	TC112-TB	4.7	0.19	19	0.75	9.5	0.38	4.4	0.17	Screw #8	4.8	0.19	-	1,000		
-	TC812-TB	4.7	0.19	19	0.75	9.5	0.38	5.1	0.20	Screw #10	4.8	0.19	-	1,000		
-	TC814-TB	4.7	0.19	19	0.75	9.5	0.38	3.3	0.13	Screw #5	4.8	0.19	-	1,000		

Diagrams

TC804-TB



Cable tie mounting bases

Miniature mounting base



Characteristics

- Low profile
- Easy to use

Technical information

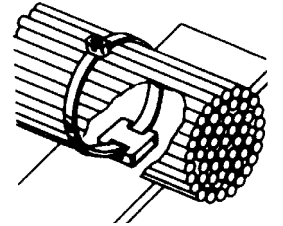
- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Flammability rating: UL 94 V-2
- Colour: Natural
- Halogen free, silicone free



Miniature mounting base

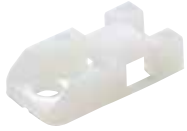
Cat. n°.	Mounting method	Height		Width		Length			For tie width up to	Std. pkg.
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[pcs]
TC817-TB	TC2PA	4.8	0.19	11.0	0.43	11.0	0.43	4.8	0.19	1,000

Diagram



Cable tie mounting bases

Low-profile four-way mounting base



Characteristics

- Extremely low profile
- For screw- or rivet-mounting
- Easy to use thanks to the cable tie insertion guide
- Two ties can be fastened crosswise to securely fix cable intersections

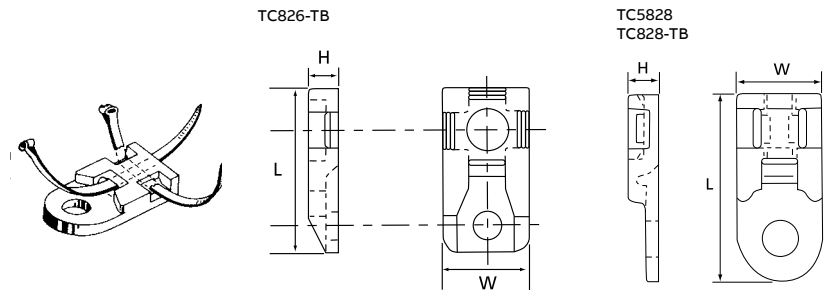
Technical information

- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Natural
- Mounting method: Screw or rivet
- Flammability rating: UL 94 V-2
- Halogen free, silicone free

Low-profile four-way mounting base

Std. Cat. N°.	Bulk Cat. N°.	Dimensions						For tie width up to		Mounting hole diameter		Mounting method	Std. pkg. [pcs]	Bulk pkg. [pcs]
		H		W		L				[mm]	[in.]			
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]			
-	TC826-TB	5.7	0.22	12.7	0.5	23.8	0.94	4.8	0.19	4.4	0.17	Screw #8		1,000
TC5828	TC828-TB	3.8	0.15	10.1	0.40	22.5	0.89	4.8	0.19	4.3	0.17	Screw #8	100	1,000

Diagrams



Cable tie mounting bases

Self-riveting base



Characteristics

- Low profile mounting base with integrated rivet
- Easy to install into normal or blind holes: just hammer in the expanding harbour
- Firmly locks into position when projecting pin is pushed into the mounting hole
- Parts are color-coded according to hole diameter to avoid confusion and prevent operator mistakes

Technical information

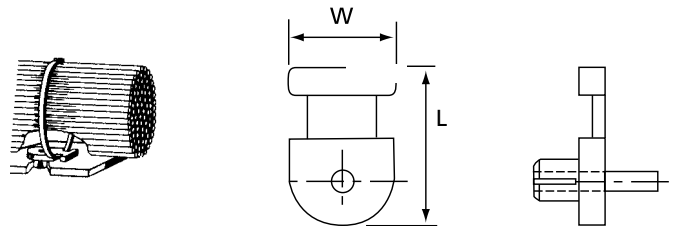
- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Mounting method: Rivet mounted
- Flammability rating: UL 94 V-2
- Halogen free, silicone free

Self-riveting base

RU
E49405

Cat. n°	Colour	Dimensions				For tie width up to		Mounting hole diameter		Std. pkg. [pcs]
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	
TC116-TB	Red	12.7	0.5	19.1	0.75	4.8	0.19	3.7	0.15	1,000
TC116-0	Black	12.7	0.5	19.1	0.75	4.8	0.19	3.7	0.15	1,000
TC118-TB	Blue	12.7	0.5	19.1	0.75	4.8	0.19	4.4	0.17	1,000
TC120	Yellow	12.7	0.5	19.1	0.75	4.8	0.19	4.9	0.19	1,000

Diagrams



Cable tie mounting bases

Clip-in mounting bases for blind mounting



Characteristics

- Clip-in tie mounting bases for housings, faceplates etc
- With fastening clip for blind-mounting and two openings for 2.8mm (0.11") or 4.8mm (0.19") ties
- Low profile

Technical information

- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Mounting method: Clip in
- Flammability rating: UL 94 V-2
- Halogen free, silicone free

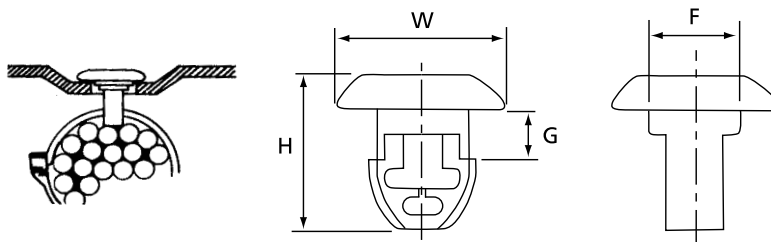


E49405

Clip-in mounting bases for blind mounting

Cat. n°.	Dimensions								For tie width up to	Mounting hole diameter		Std. pkg. [pcs]	
	[mm]	H [in.]	W [mm]	[in.]	G [mm]	[in.]	F [mm]	[in.]		[mm]	[in.]		
TC121-TB	10,4	0.41	11.2	0.44	3.4	0.13	6.1	0.24	4.8	0.19	6.3	0.25	1,000

Diagrams



Cable tie mounting bases

Push-in and bolted bases



Characteristics

- Clip-in tie mounting bases for housings, faceplates etc
- With fastening clip for surface mounting
- Low profile
- TC107: Mounting in a threaded hole

Technical information

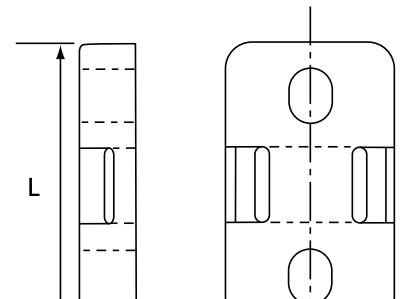
- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Natural
- Mounting method: Clip in or screw
- Flammability rating: UL 94 V-2
- Halogen free, silicone free

Push-in and bolted bases



Std. Cat. N°.	Bulk Cat. N°.	Dimensions						For tie width up to		Size mounting hole	Std. pkg. [pcs]	Bulk pkg. [pcs]
		[mm]	H [in.]	[mm]	W [in.]	[mm]	L [in.]	[mm]	[in.]			
TC5823	TC823-TB	16.8	0.66	11.1	0.44	11.1	0.44	4.8	0.19	¼ in.	100	1,000

Diagrams



Cable clamps and clips

Round Adhesive Clips



Characteristics

- Diverse cable clamps for bundle diameters from 0.16 in. to 0.53 in. (4 mm to 15.7 mm)
- Clips are provided two-up on a rubber based closed cell foam adhesive
- Flexible centre tongue for removal or addition of cables

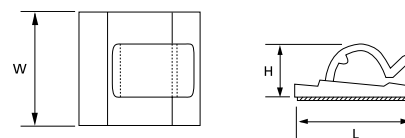
Technical information

- Material: polyamide 6.6 (corps)
- Temperature range: 0°C to +65°C (32°F to +149°F)
- Mounting method: Self-adhesive
- Flammability rating: UL 94 V-2
- Halogen free, silicone free

Self-adhesive clips for round cable

Cat. n°.	Colour	Dimensions								Std. pkg. [pcs]
		Max. wire bundle dia.		Length L		Width W		Height H		
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	
RANY-160-9-D	Natural	4.0	0.16	14.8	0.58	16	0.63	6.4	0.25	500
RANY-280-0-D	Black	7.1	0.28	25.4	1.00	25.4	1.00	10.4	0.41	500
RANY-280-9-D	Natural	7.1	0.28	25.4	1.00	25.4	1.00	10.4	0.41	500
RANY-530-9-D	Natural	13.5	0.53	25.4	1.00	25.4	1.00	15.8	0.62	500
RANY-620-9-D	Natural	15.7	0.62	28.5	1.12	31.8	1.25	16.0	0.63	500

Diagrams



Cable clamps and clips

Adjustable, ladder style clamps



Characteristics

- Ladder style fastener is easily released and refastened
- Supplied "single-cut" on a rubber based closed cell foam adhesive
- In addition, can also be mounted with a screw, for improved pull-off strength
- Optional screw hole for #4 or #5 flat head screw

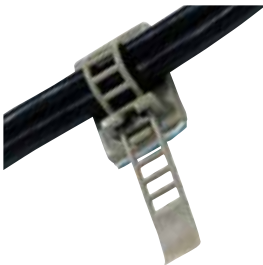
Technical information

- Material: polyamide 6.6
- Temperature range: 0°C to +65°C (+32°F to +149°F)
- Colour: gray
- Mounting method: Self adhesive and/or screw-mounting
- Halogen free, silicone free

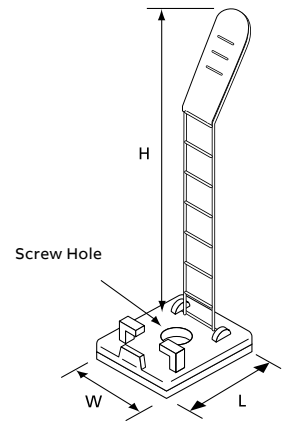
Adjustable, ladder style clamps

Cat. n°	Wire bundle dia.		Dimensions						Screw hole diameter		Std. pkg. [pcs]
	[mm]	[in.]	H [mm]	H [in.]	W [mm]	W [in.]	L [mm]	L [in.]	[mm]	[in.]	
ULNY-013-8-C	3 - 12.7	0.12 - 0.5	59	2.34	18	0.71	25	0.99	2.8	0.11	100
ULNY-018-8-C	5 - 21.0	0.20 - 0.83	79	3.13	21	0.83	30	1.18	2.8	0.11	100
ULNY-023-8-C	7 - 25.0	0.28 - 0.98	86	3.37	25	0.98	35	1.38	3.4	0.14	100

Application

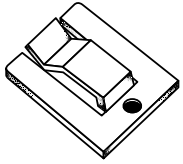


Diagrams



Cable clamps and clips

Flat cable screw clip



Characteristics

- Low profile clip for single or multiple layers of flat ribbon cable
- Flexible centre leg allows for easy removal and replacement of desired cable
- Non-conductive, non-corrosive, resistant to fuels, lubricants and most chemicals

Technical information

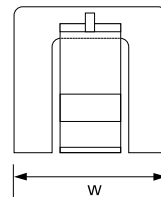
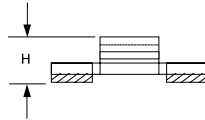
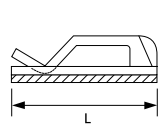
- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Self-adhesive version: 0°C to +65°C (32°F to +149°F)
- Colour: Natural
- Halogen free, silicone free

Flat cable screw clip

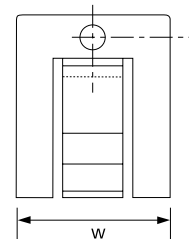
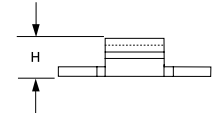
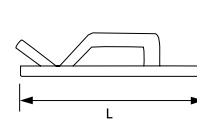
Std. Cat. N°.	Bulk Cat. N°.	Mounting method	Dimensions						Std. pkg. [pcs]	Bulk pkg. [pcs]
			H		L		W			
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		
FSNY-812-9-C	-	Screw n° 8	3.2	0.12	30.2	1.19	25.4	1	100	-
FANY-812-9-C	FANY-812-9-D	self-adhesive	7.1	0.28	25.4	1	25.4	1	100	500

Diagrams

FANY



FSNY



Cable clamps and clips

Self-adhesive clips for round cable



Characteristics

- Self-adhesive clips for round cable

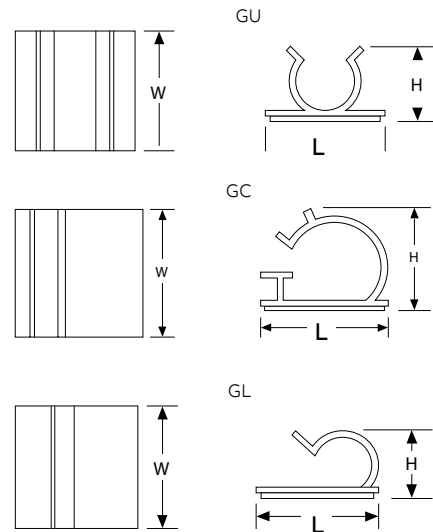
Technical information

- Material: polyamide 6.6
- Temperature range: up to +65°C (up to +149°F)
- Colour: Natural
- Mounting method: Self-adhesive

Self-adhesive clips for round cable

Cat. n°	Max. wire bundle dia.	Height H		Width W		Length L		Mounting method:	Std. pkg. [pcs]
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		
RANY-160-9-D	0.25	9.9	0.39	19.1	0.75	19.1	0.75	Self-adhesive	25
RANY-280-9-D	0.50	16.0	0.63	19.1	1.00	19.1	1.00	Self-adhesive	25
RANY-530-9-D	0.25	19.3	0.76	25.4	1.00	25.4	1.00	Self-adhesive	25
RANY-620-9-D	0.50	19.3	0.76	25.4	1.00	25.4	1.00	Self-adhesive	25

Diagrams



Cable clamps and clips

PVC cable-clips



Characteristics

- Low profile clip for single or multiple layers of flat ribbon cable
- “Single cut” on a rubber based closed cell foam adhesive

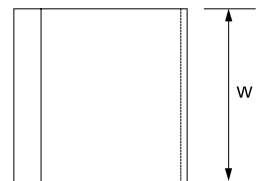
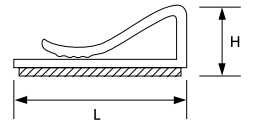
Technical information

- Material: PVC
- Temperature range: -0°C to +65°C (32°F to +149°F)
- Color: Grey
- Mounting method: Self-adhesive
- Flammability rating: UL 94 V-0
- UV-resistant

PVC cable-clips

Std. Cat. N°.	Bulk Cat. N°.	Dimensions						Std. pkg. [pcs]	Bulk pkg. [pcs]
		H		L		W			
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		
FRPV-1000-8-C	FRPV-1000-8-D	5.8	0.23	27	1.06	25.4	1	100	500

Diagrams



Cable clamps and clips

Plain edge cable clamps



Characteristics

- Choose the diameter you need to clamp a specific-sized cable
- Fully curved interior edges with inch and millimeter size graduations for easy identification
- Flat flange clamps are designed to pass NAS-1397P
- Replace "-9-" with "-0-" for the black version
- Replace "-M" or "-D" with "-C" for different quantities

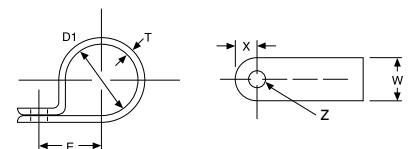
Technical information

- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Flammability rating: UL 94 V-2
- Colour: Natural
- Halogen free, silicone free

Plain edge cable clamps

Cat. n°	Mounting hole size H	D1 closed diameter		E		T		W		Dimensions		Std. pkg. [pcs]
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	
N4NY-002-9-M	n° 8	3.2	0.13	8.7	0.34	1.3	0.05	9.5	0.38	5.5	0.22	1,000
N4NY-003-9-M	n° 8	4.5	0.19	9.6	0.38	1.3	0.05	9.5	0.38	5.5	0.22	1,000
N4NY-004-9-M	n° 8	6.4	0.25	10.7	0.42	1.3	0.05	9.5	0.38	5.5	0.22	1,000
N4NY-005-9-M	n° 8	7.9	0.31	11.2	0.44	1.3	0.05	9.5	0.38	5.5	0.22	1,000
N4NY-006-9-M	n° 8	9.5	0.38	11.8	0.46	1.3	0.05	9.5	0.38	5.5	0.22	1,000
N4NY-007-9-M	n° 8	11.1	0.44	12.7	0.50	1.3	0.05	9.5	0.38	5.5	0.22	1,000
N4NY-008-9-M	n° 8	12.7	0.50	13.5	0.53	1.3	0.05	9.5	0.38	5.5	0.22	1,000
N4NY-002B-9-M	n° 10	3.20	0.13	8.7	0.34	1.3	0.05	9.5	0.38	5.5	0.22	1,000
N4NY-003B-9-M	n° 10	4.5	0.19	9.6	0.38	1.3	0.05	9.5	0.38	5.5	0.22	1,000
N4NY-004B-9-M	n° 10	6.4	0.25	10.7	0.42	1.3	0.05	9.5	0.38	5.5	0.22	1,000
N4NY-005B-9-M	n° 10	7.9	0.31	11.2	0.44	1.3	0.05	9.5	0.38	5.5	0.22	1,000
N4NY-006B-9-M	n° 10	9.5	0.38	11.8	0.46	1.3	0.05	9.5	0.38	5.5	0.22	1,000
N4NY-007B-9-M	n° 10	11.1	0.44	12.7	0.50	1.3	0.05	9.5	0.38	5.5	0.22	1,000
N4NY-008B-9-M	n° 10	12.7	0.50	13.5	0.53	1.3	0.05	9.5	0.38	5.5	0.22	1,000
N6NY-004C-9-M	n° 10	6.4	0.25	11.2	0.44	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-005C-9-M	n° 10	7.9	0.31	12.0	0.47	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-006C-9-M	n° 10	9.5	0.38	12.7	0.50	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-007C-9-M	n° 10	11.1	0.44	13.5	0.53	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-008C-9-M	n° 10	12.7	0.50	14.1	0.55	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-009-9-M	n° 10	14.3	0.56	15.3	0.60	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-010-9-M	n° 10	15.9	0.63	15.9	0.63	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-011-9-M	n° 10	17.5	0.69	16.9	0.67	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-012-9-M	n° 10	19.1	0.75	17.8	0.70	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-013-9-M	n° 10	20.6	0.81	19.4	0.77	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-014-9-M	n° 10	22.2	0.88	20.2	0.80	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-016-9-M	n° 10	25.4	1.00	21.0	0.83	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-018-9-D	n° 10	28.6	1.13	23.9	0.94	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-019-9-D	n° 10	30.2	1.19	24.5	0.96	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-020-9-D	n° 10	31.8	1.25	24.9	0.98	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-022-9-D	n° 10	34.9	1.38	26.5	1.05	1.5	0.06	12.7	0.50	5.5	0.22	1,000
N6NY-024-9-D	n° 10	38.1	1.50	28.3	1.11	1.5	0.06	12.7	0.50	5.5	0.22	1,000

Diagrams



Cable clamps and clips

Mechanical-Locking routing clamps



Characteristics

- Clamp acts as a retainer during wire routing, and as a permanent clamp when desired
- Clip for blind hole, quick assembly
- For mass production or temporary use during wiring installation
- The ends of the clip are rounded, making it easier to open and close
- For use in 6.35 mm (0.25 in) mounting holes for panels up to 1/8 in (3.2 mm) thick

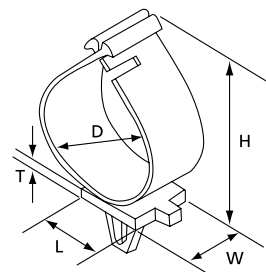
Technical information

- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Natural
- Mounting method: Clip in
- Flammability rating: UL 94 V-2
- Halogen free, silicone free

Mechanical-Locking routing clamps

Cat. n°.	Dimensions										Std. pkg. [pcs]
	H		W		L		D		T		
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	
TC88	22.6	0.89	12.7	0.5	19.1	0.75	12.7	0.5	2.5	0.10	100
TC95	40.5	1.59	12.7	0.5	19.1	0.75	25.4	1	2.5	0.10	100

Diagram



Cable clamps and clips

Ty-Rap saddle mounting plate



Characteristics

- The saddle-type mounting bases allow 3 possible cable mounting:
 - the cables can be attached to a flat surface on which the base is screwed
 - the cable bundles can be mounted in parallel
 - the cable bundles can be mounted crosswise

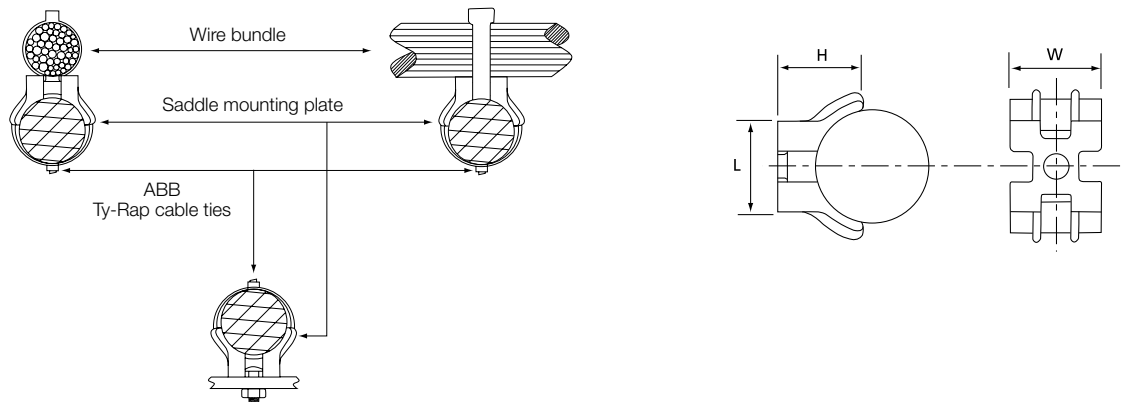
Technical information

- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Natural
- Mounting method: Screw #6
- Flammability rating: UL 94 V-2
- Halogen free, silicone free

Ty-Rap saddle mounting plate

Cat. n°	Wire bundle dia.		Height		Length		Width		Mounting hole diameter		For tie width up to		Std. pkg. [pcs]
	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	
TC92	13 - 32	0.50 - 1.25	14.3	0.56	15.9	0.63	15.1	0.60	4	0.16	4.8	0.19	100

Diagrams



Cable clamps and clips

Wire-bundle retainers



Characteristics

- Holding clips with rubberised fabric tape
- The built-in springs hold the cable bundle safely in the desired position
- The upper clip end is rounded for easy addition of cables
- Strong fixing due to two mounting holes, aligned along the axis of the cable bundle
- Wires are inserted by snapping them through spring-loaded clips

Technical information

- Material – Body: Polyamide 6.6
- Material – Elastic: Rayon & natural rubber
- Material – Spring: Steel
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Natural
- Mounting method: 2 screws #6
- Flammability rating: UL 94 V-2 (body)
- Halogen free

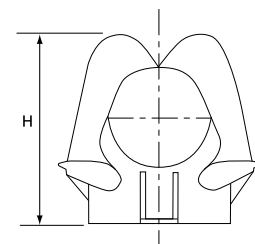
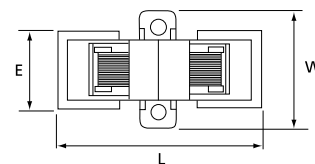
Wire-bundle retainers

Cat. n°.	Max. wire bundle dia.		Dimensions				Mounting hole diameter	Std. pkg.					
	[mm]	[in.]	H	L	W	E							
TC86	19	0,75	46	1,81	44,5	1,75	31,8	1,25	22,2	0,87	3,9	0,15	25
TC87	32	1,26	58	2,28	62,7	2,47	38,1	1,5	25,4	1	3,9	0,15	25

Application



Diagrams



Cable clamps and clips

Harness-board nails



Characteristics

- For wire harness board manufacturing

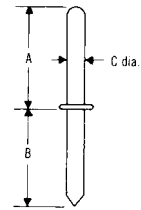
- Material: Hardened, nickel-plated, steel

Technical information

Harness-board nails

Cat. n°	[mm]	A		B		C		Std. pkg. [pcs]
		[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	
HBP-1	25.4	1.0	15.9	0.63	1.8	0.72	25	
HBP112	38.1	1.5	15.9	0.63	2.1	0.82	25	
HBP2	50.8	2.0	15.9	0.63	2.3	0.92	25	
HBP212	63.5	2.5	15.9	0.63	2.7	0.11	25	
HBP3	76.2	3.0	15.9	0.63	3.1	0.12	25	

Diagram



Mounting bases for heavy-duty applications

Framing channel clamp



Characteristics

- Quick and easy to install on existing metal framing channel
- Designed for indoor or outdoor use and heavy-duty applications
- Installs with a push and twist
- Smooth design protects cable insulation
- Takes range of cable diameters

Technical information

- Material: Special polyamide resistant to impact and weather conditions
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Mechanical strength: 120 lbs (540 N)

Framing channel clamp

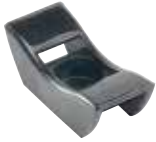
Cat. n°	Profile width		[mm]	For tie width up to		Std. pkg. [pcs]
	[mm]	[in.]		[in.]		
TC5363X	38 and 41	1½ and 1⅝	7.6	0.30	50	

Application



Mounting bases for heavy-duty applications

Heavy duty mounting bases – Screw / dowel



Characteristics

- Tie mounting base for outdoor installation
- UV-resistant
- A strong, weatherproof and durable outdoor fastening solution for pipes, hoses, cables, etc.

Cat. n°. TC5355 to TC5357

- For screw-fastening
- Ergonomically shaped for trouble-free installation



Cat. n°. TC5358 and TC5359

- Built-in plug for mounting into walls
- Easy to install: the plug is simply hammered into a hole
- The lamellar plug ensures high tensile strength and durability

Technical information

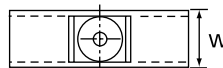
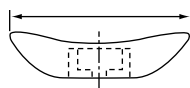
- Material: polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Black
- Mounting method: Screw (for Cat. no. TC5355 to TC5357 only)
- Flammability rating: UL 94 V-2
- Halogen free, silicone free

Heavy duty mounting bases – Screw / dowel

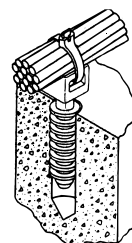
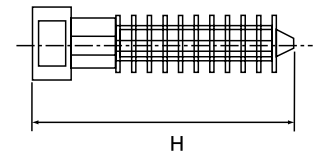
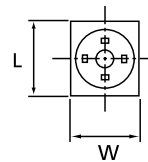
Cat. n°.	Dimensions						For tie width up to		Mounting hole diameter		Mounting method	Std. pkg. [pcs]
	[mm]	H [in.]	[mm]	W [in.]	[mm]	L [in.]			[mm]	[in.]		
Mounting cradle												
TC5355	15.9	0.63	19.1	0.75	44.5	1.75	12.7	0.5	4.6	0.18	screw #8	25
TC5356	15.9	0.63	19.1	0.75	44.5	1.75	12.7	0.5	5.2	0.20	screw #10	25
TC5357	15.9	0.63	19.1	0.75	44.5	1.75	12.7	0.5	6.7	0.26	screw ¼"	25
Wall plug												
TC5358	31.8	1.25	9.9	0.39	9.9	0.39	4.8	0.19	6.4	0.25	–	100
TC5359	38.4	1.51	19.1	0.75	19.1	0.75	12.7	0.5	9.5	0.37	–	50

Diagrams

TC5355-TC5356-TC5357



TC5358-TC5359



Mounting bases for heavy-duty applications

Stud mount fastening system



The ABB Stud mount fastening system is a fast and simple harnessing method for neat, versatile, cord, cable, hose, and wire management. Using a custom drill bit for your $\frac{3}{8}$ in. power drill, the stud mount base is quickly attached onto a threaded stud or bolt to the proper torque—every time. The innovative “X” design of the base reliably supports many types of cable or hose assemblies using a wide range of conventional Ty-Rap cable ties.

Characteristics

- Great for harnessing wires, cables and hoses to truck and trailer chassis
- Fast, easy installation, using standard $\frac{3}{8}$ in. power drill and application tool or simply hammer on
- Unlimited harnessing flexibility using conventional Ty-Rap cable ties
- Custom drill bit quickly installs base to proper torque – won't crack or break mounting base due to being overtightened
- Unique 4-way multi-directional design



Weather
resistant

- 10-position harness capability
- Available for $\frac{3}{8}$ in., $\frac{1}{2}$ in., $\frac{5}{8}$ in., and $\frac{3}{4}$ in. stud/ bolt sizes
- Self-tapping thread design for reliable installation onto stud
- High pull-out strength of 500+ lb.

Technical information

- Material: Impact-resistant weatherable black polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Black

Stud mount fastening system

Cat. n°.	Description	Stud size [in.]	Std. pkg. [pcs]
XMNY-375-0-D	Mount fastener	$\frac{3}{8}$	500
XMNY-500-0-D	Mount fastener	$\frac{1}{2}$	500
XMNY-625-0-D	Mount fastener	$\frac{5}{8}$	500
XMNY-750-0-D	Mount fastener	$\frac{3}{4}$	500
WTXM	Application tool	–	1



Virtually unlimited harnessing flexibility is provided in the unique 10-position harness design of the Stud Mount base.



During installation, the custom Stud Mount drill bit application tool ejects itself from mounting base, ensuring proper torque and preventing cracking or breaking of the mount from being overtightened.

Cable sleeves and spiral wraps

Cable protection systems

The Cable Protection Systems (CPS) captures different products:

Wrap-around woven sleeving, braided sleeving, spiral wrap & extruded grommeting.

The wrap-around sleeving – better known under the name Bind-It – is a tough but lightweight sleeve used to bundle and protect wires and cables from abrasion, sharp edges and chafing. Bind-It is a selfwrapping sleeve that is very quick and easy to install and remove. Bind-It is also available in a flame retardant version. No heat is necessary to seal the ends of this product. The ends can be secured by using Ty-Rap cable ties.

The braided sleeving is used for bundling and protecting cables. The braided sleeving is a closed sleeve available in a flame and a non-flame retardant version. This product is mainly used inside cabinets and enclosures. To stop the end of the sleeving fraying it is necessary to heat seal the ends using a “hotwire” device.

Spiral wrap is mainly used for protection of bundles. This product is available in a natural and UV-resistant version and supplied in a Euroslot bag, ideal for the distribution market.

Finally the extruded grommeting of ABB is used to line panel edges and knock-outs where the chafing of passing wires is a concern. In most applications, grommeting will grip tightly by itself



Wire protection products

Spiral Wrap



Characteristics

- Install with gaps for greater flexibility or butted together for maximum abrasion resistance, insulation and rigidity
- Packaged in 100 foot reels
- Protects bundles from 0.063 in. to 7 in. (1.6 mm to 177.8 mm) diameters
- Also commonly known as reverse cut, left-handed cut or counter-clockwise cut

Technical information

- Material: Natural polyethylene or Weatherable black polyethylene
- For general indoor use to 50°C (122°F).
- Material is flexible and easy to work with

Spiral wrap

Cat. n°	Colour	Outside diameter		Pitch		Nominal wall thickness		Bundle range		Reel Qty.
		[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	
SRPE-125-9-C	Natural	3.2	0.13	5.3	0.21	0.9	0.35	1.6 - 12.7	0.06 - 0.50	1 (100 ft.)
SRPE-187-9-C	Natural	4.8	0.19	6.1	0.24	1.0	0.04	3.2 - 38.1	0.13 - 1.50	1 (100 ft.)
SRPE-250-9-C	Natural	6.4	0.25	9.5	0.38	1.1	0.05	4.8 - 50.8	0.19 - 2.00	1 (100 ft.)
SRPE-375-9-C	Natural	9.5	0.38	11.1	0.44	1.3	0.05	8.0 - 76.2	0.31 - 3.00	1 (100 ft.)
SRPE-500-9-C	Natural	12.7	0.50	14.3	0.56	1.6	0.06	9.5 - 101.6	0.38 - 4.00	1 (100 ft.)
SRPE-625-9-C	Natural	15.9	0.63	15.9	0.63	1.6	0.06	15.9 - 114.3	0.63 - 4.50	1 (100 ft.)
SRPE-750-9-C	Natural	15.9	0.75	19.1	0.75	1.7	0.07	19.1 - 127.0	0.75 - 5.00	1 (100 ft.)
SRPE-1000-9-C	Natural	25.4	1.00	28.2	1.11	1.8	0.07	25.4 - 177.8	1.00 - 7.00	1 (100 ft.)
SRPE-125-0-C	Black	3.2	0.13	5.3	0.21	0.9	0.35	1.6 - 12.7	0.06 - 0.50	1 (100 ft.)
SRPE-187-0-C	Black	4.8	0.19	6.1	0.24	1.0	0.04	3.2 - 38.1	0.13 - 1.50	1 (100 ft.)
SRPE-250-0-C	Black	6.4	0.25	9.5	0.38	1.1	0.05	4.8 - 50.8	0.19 - 2.00	1 (100 ft.)
SRPE-375-0-C	Black	9.5	0.38	11.1	0.44	1.3	0.05	8.0 - 76.2	0.31 - 3.00	1 (100 ft.)
SRPE-500-0-C	Black	12.7	0.50	14.3	0.56	1.6	0.06	9.5 - 101.6	0.38 - 4.00	1 (100 ft.)
SRPE-625-0-C	Black	15.9	0.63	15.9	0.63	1.6	0.06	15.9 - 114.3	0.63 - 4.50	1 (100 ft.)
SRPE-750-0-C	Black	15.9	0.75	19.1	0.75	1.7	0.07	19.1 - 127.0	0.75 - 5.00	1 (100 ft.)
SRPE-1000-0-C	Black	25.4	1.00	28.2	1.11	1.8	0.07	25.4 - 177.8	1.00 - 7.00	1 (100 ft.)

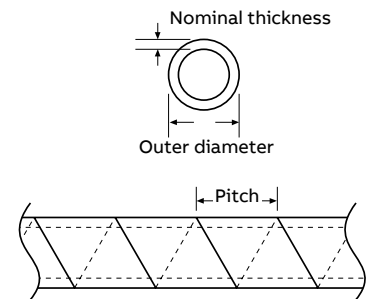
Tooling



CC120B

Cutting tool for all your spiral wrap, plastic pipe and PVC conduit needs up to 1¼ in. I.D. See page C131

Diagrams



Wire protection products

Spiral wrap



Characteristics

- Install with gaps for greater flexibility or butted together for maximum abrasion resistance, insulation and rigidity
- Packaged in 100 foot reels
- Protects bundles from 0.063 in. to 7 in. (1.6 mm to 177.8 mm) diameters
- Also commonly known as reverse cut, left-handed cut or counter-clockwise cut

Technical information

- Material: Natural polyethylene, Weatherable black polyethylene or White flame-retardant polyethylene
- For general indoor use to 50°C (122°F).
- Flammability rating flame-retardant polyethylene: UL 94 V-0
- Material is flexible and easy to work with

Spiral wrap

Cat. n°.	Colour	Outside diameter		Pitch	Nominal wall thickness		Bundle range		Reel Qty.	
		[mm]	[in.]		[mm]	[in.]	[mm]	[in.]		
SRPE-125F-9-C	Natural	4.8	0.19	6.1	0.24	1.0	0.04	1.6 - 12.7	0.06 - 0.50	1 (100 pi)
SRPE-187F-9-C	Natural	4.8	0.19	6.1	0.24	1.0	0.04	3.2 - 38.1	0.13 - 1.50	1 (100 pi)
SRPE-250F-9-C	Natural	6.4	0.25	9.5	0.38	1.1	0.05	4.8 - 50.8	0.19 - 2.00	1 (100 pi)
SRPE-375F-9-C	Natural	9.5	0.38	11.1	0.44	1.3	0.05	8.0 - 76.2	0.31 - 3.00	1 (100 pi)
SRPE-500F-9-C	Natural	12.7	0.50	14.3	0.56	1.6	0.06	9.5 - 101.6	0.38 - 4.00	1 (100 pi)
SRPE-625F-9-C	Natural	15.9	0.63	15.9	0.63	1.6	0.06	15.9 - 114.3	0.63 - 4.50	1 (100 pi)
SRPE-750F-9-C	Natural	15.9	0.75	19.1	0.75	1.7	0.07	19.1 - 127.0	0.75 - 5.00	1 (100 pi)
SRPE-1000F-9-C	Natural	25.4	1.00	28.2	1.11	1.8	0.07	25.4 - 177.8	1.00 - 7.00	1 (100 pi)
SRPE-125F-0-C	Black	4.8	0.19	6.1	0.24	1.0	0.04	1.6 - 12.7	0.06 - 0.50	1 (100 pi)
SRPE-187F-0-C	Black	4.8	0.19	6.1	0.24	1.0	0.04	3.2 - 38.1	0.13 - 1.50	1 (100 pi)
SRPE-250F-0-C	Black	6.4	0.25	9.5	0.38	1.1	0.05	4.8 - 50.8	0.19 - 2.00	1 (100 pi)
SRPE-375F-0-C	Black	9.5	0.38	11.1	0.44	1.3	0.05	8.0 - 76.2	0.31 - 3.00	1 (100 pi)
SRPE-500F-0-C	Black	12.7	0.50	14.3	0.56	1.6	0.06	9.5 - 101.6	0.38 - 4.00	1 (100 pi)
SRPE-625F-0-C	Black	15.9	0.63	15.9	0.63	1.6	0.06	15.9 - 114.3	0.63 - 4.50	1 (100 pi)
SRPE-750F-0-C	Black	15.9	0.75	19.1	0.75	1.7	0.07	19.1 - 127.0	0.75 - 5.00	1 (100 pi)
SRPE-1000F-0-C	Black	25.4	1.00	28.2	1.11	1.8	0.07	25.4 - 177.8	1.00 - 7.00	1 (100 pi)
SRFR-187F-WH-C	White	4.8	0.19	6.1	0.24	1.0	0.04	3.2 - 38.1	0.13 - 1.50	1 (100 pi)
SRFR-250F-WH-C	White	6.4	0.25	9.5	0.38	1.1	0.05	4.8 - 50.8	0.19 - 2.00	1 (100 pi)
SRFR-375F-WH-C	White	9.5	0.38	11.1	0.44	1.3	0.05	8.0 - 76.2	0.31 - 3.00	1 (100 pi)
SRFR-500F-WH-C	White	12.7	0.50	14.3	0.56	1.6	0.06	9.5 - 101.6	0.38 - 4.00	1 (100 pi)

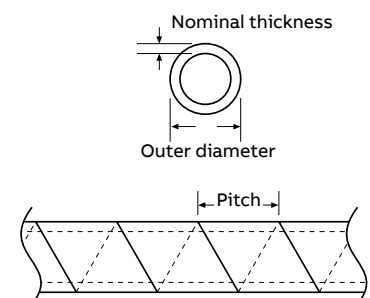
Tooling



CC120B

Cutting tool for all your spiral wrap, plastic pipe and PVC conduit needs up to 1¼ in. I.D.
See page C131

Diagrams



Wire protection products

Extruded grommeting



Characteristics

- Used to line panel edges and knockouts where the chafing of passing wires is a concern
- Available in 8 stock sizes in 100-ft. lengths for panels from 0.04 in. (1.02 mm) to 0.25 in. (6.35 mm) thick
- In most applications, grommeting will grip tightly by itself, if not, a touch of Epoxy will keep it in place

Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Colour: Natural or Black
- Flammability rating: UL 94 V-2
- Halogen free, Silicone free

Extruded grommeting

Cat. n°.	Colour	ANSI UL94 Flame rating	Internal width A		Grommeting thickness C		Grommeting height D		Grommeting width B		Reel Qty. [pi]	
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]		[m]
GRNY-040-9-C	Natural	V-2	1.0	0.04	1.0	0.04	4.8	0.19	3.2	0.13	30.5	100
GRNY-052-9-C	Natural	V-2	1.3	0.05	1.0	0.04	4.8	0.19	3.2	0.13	30.5	100
GRNY-062-9-C	Natural	V-2	1.6	0.06	1.3	0.04	5.1	0.20	4.3	0.17	30.5	100
GRNY-085-9-C	Natural	V-2	2.2	0.08	1.3	0.04	5.1	0.20	4.3	0.17	30.5	100
GRNY-100-9-C	Natural	V-2	2.5	0.10	1.3	0.04	5.9	0.22	5.3	0.21	30.5	100
GRNY-125-9-C	Natural	V-2	3.8	0.13	1.3	0.05	5.9	0.22	5.2	0.20	30.5	100
GRNY-187-9-C	Natural	V-2	4.7	0.19	1.3	0.05	6.9	0.27	7.0	0.28	30.5	100
GRNY-250-9-C	Natural	V-2	6.4	0.25	1.3	0.05	7.1	0.28	9.4	0.37	30.5	100
GRNY-040-0-C	Black	V-2	1.0	0.04	1.0	0.04	4.8	0.19	3.2	0.13	30.5	100
GRNY-052-0-C	Black	V-2	1.3	0.05	1.0	0.04	4.8	0.19	3.2	0.13	30.5	100
GRNY-062-0-C	Black	V-2	1.6	0.06	1.3	0.04	5.1	0.20	4.3	0.17	30.5	100
GRNY-085-0-C	Black	V-2	2.2	0.08	1.3	0.04	5.1	0.20	4.3	0.17	30.5	100
GRNY-100-0-C	Black	V-2	2.5	0.10	1.3	0.04	5.9	0.22	5.3	0.21	30.5	100
GRNY-125-0-C	Black	V-2	3.8	0.13	1.3	0.05	5.9	0.22	5.2	0.20	30.5	100
GRNY-187-0-C	Black	V-2	4.7	0.19	1.3	0.05	6.9	0.27	7.0	0.28	30.5	100
GRNY-250-0-C	Black	V-2	6.4	0.25	1.3	0.05	7.1	0.28	9.4	0.37	30.5	100

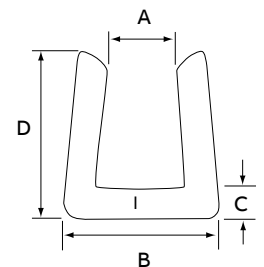
Tooling



CC120B

Cutting tool for all your spiral wrap, plastic pipe and PVC conduit needs up to 1½ in. I.D. See page C131

Diagram



Wire protection products

Extruded grommeting



Characteristics

- Used to line panel edges and knockouts where the chafing of passing wires is a concern
- Available in 8 stock sizes in 100-ft. lengths for panels from 0.04 in. (1.02 mm) to 0.25 in. (6.35 mm) thick
- In most applications, grommeting will grip tightly by itself, if not, a touch of Epoxy will keep it in place

Technical information

- Material: Polyethylene
- Temperature range: -40°C to +85°C (-40°F to +185°F)
- Halogen free, silicone free

Extruded grommeting

Cat. n°.	Colour	ANSI UL94 Flame rating	Max. panel thickness A		Grommeting thickness C		Grommeting height D		Grommeting width B		Reel Qty.	
			[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[mm]	[in.]	[m]	[ft.]
GRPE-040-9-C	Natural	HB	1.0	0.04	1.0	0.04	4.8	0.19	3.2	0.13	30.5	100
GRPE-052-9-C	Natural	HB	1.3	0.05	1.0	0.04	4.8	0.19	3.2	0.13	30.5	100
GRPE-062-9-C	Natural	HB	1.6	0.06	1.3	0.05	5.1	0.20	4.3	0.17	30.5	100
GRPE-085-9-C	Natural	HB	2.1	0.09	1.3	0.05	5.1	0.20	4.3	0.17	30.5	100
GRPE-100-9-C	Natural	HB	2.5	0.10	1.3	0.05	5.9	0.22	5.3	0.21	30.5	100
GRPE-125-9-C	Natural	HB	3.2	0.13	1.3	0.05	5.9	0.22	5.2	0.20	30.5	100
GRPE-187-9-C	Natural	HB	4.7	0.19	1.3	0.05	6.9	0.27	7.0	0.28	30.5	100
GRPE-250-9-C	Natural	HB	6.4	0.25	1.3	0.05	7.1	0.28	9.4	0.37	30.5	100
GRUPE-040-0-C	Natural uncut	HB	1.0	0.04	1.0	0.04	4.8	0.19	3.2	0.13	30.5	100
GRUPE-052-0-C	Natural uncut	HB	1.3	0.05	1.0	0.04	4.8	0.19	3.2	0.13	30.5	100
GRUPE-062-0-C	Natural uncut	HB	1.6	0.06	1.3	0.05	5.1	0.20	4.3	0.17	30.5	100
GRUPE-085-0-C	Natural uncut	HB	2.2	0.09	1.3	0.05	5.1	0.20	4.3	0.17	30.5	100
GRUPE-100-0-C	Natural uncut	HB	2.5	0.10	1.3	0.05	5.9	0.22	5.3	0.21	30.5	100
GRUPE-125-0-C	Natural uncut	HB	3.2	0.13	1.3	0.05	5.9	0.22	5.2	0.20	30.5	100
GRUPE-187-0-C	Natural uncut	HB	4.7	0.19	1.3	0.05	6.9	0.27	7.0	0.28	30.5	100
GRUPE-250-0-C	Natural uncut	HB	6.4	0.25	1.3	0.05	7.1	0.28	9.4	0.37	30.5	100
GRFR-040-WH-C	Flame-retardant white	V-0	1.0	0.04	1.0	0.04	4.8	0.19	3.1	0.13	30.5	100
GRFR-052-WH-C	Flame-retardant white	V-0	1.3	0.05	1.0	0.04	4.8	0.19	3.1	0.13	30.5	100
GRFR-062-WH-C	Flame-retardant white	V-0	1.6	0.06	1.3	0.05	5.1	0.20	4.2	0.17	30.5	100
GRFR-085-WH-C	Flame-retardant white	V-0	2.2	0.09	1.3	0.05	5.1	0.20	4.2	0.17	30.5	100
GRFR-125-WH-C	Flame-retardant white	V-0	3.2	0.13	1.3	0.05	5.9	0.22	5.2	0.20	30.5	100
GRFR-187-WH-C	Flame-retardant white	V-0	4.7	0.19	1.3	0.05	6.9	0.27	7.0	0.28	30.5	100
GRFR-250-WH-C	Flame-retardant white	V-0	6.4	0.25	1.3	0.05	7.1	0.28	9.4	0.37	30.5	100

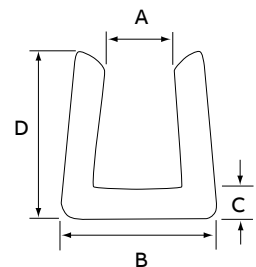
Tooling



CC120B

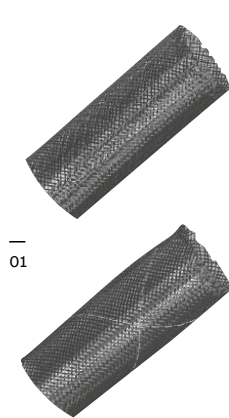
Cutting tool for all your spiral wrap, plastic pipe and PVC conduit needs up to 1¼ in. I.D. See page C131

Diagram



Wire protection products

Braided sleeving



01

02

01 Polyethylene Terephthalate (P.E.T.)

02 F – Flame Retardant Polyethylene Terephthalate (P.E.T.)

Characteristics

The ABB braided wire protection sleeving is used to bundle and protect wires and cables from abrasion and excessive wear. Its flexible, lightweight, open weave construction installs easily over a variety of bundle diameters and shapes. The sleeving is resistant to chemicals, fungus, fuels, UV sunlight, and has an indefinite shelf life. It's easily cut with a hot knife, which seals the end, preventing fraying. Ends can be secured using Ty-Rap cable ties.

- Available in handy mini spools or bulk reels
- Eight sizes from 1/8 in. (3.18 mm) to 2 1/2 in. (63.5 mm) nominal I.D. size
- Solid or wraparound hook and loop braided expandable wire sleeving
- Meets UL94V-1
- Meets Federal Motor Vehicle Standard No. FMV SS 302

Technical information

Polyethylene terephthalate (P.E.T.)

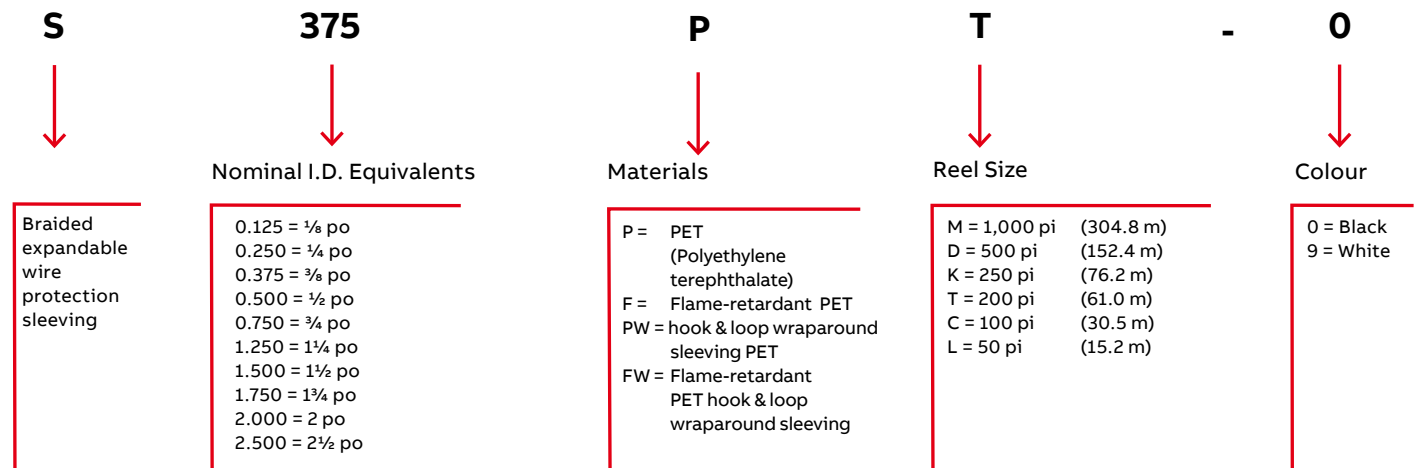
- A black polyester monofilament material
- 0.010 in. (0.25mm)
- Designed for indoor and outdoor applications
- Continuous operating temp.: -75°C to 125°C (-103°F to 257°F).

Technical information

F – Flame Retardant polyethylene terephthalate (P.E.T.)

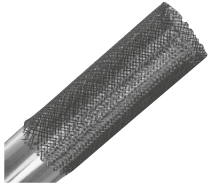
- Selfextinguishing polyester monofilament material
- 0.010 in. (0.25mm)
- Designed for indoor and outdoor applications
- It's provided in black with white tracer for identification
- Continuous operating temp.: -75°C to 125°C (-103°F to 257°F).
- Flammability rating.: UL 94V-1

Catalogue number system



Wire protection products

Braided sleeving

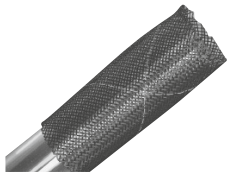


P.E.T. Braided expandable wire sleeving – Mini spool



Cat. n°.	Nominal I.D.		Colour	Nominal diameter range		Spool quantity		Std. pkg.
	[mm]	[in.]		[mm]	[in.]	[mm]	[ft.]	
S250PT-0	6.4	0.25	Black	3.2 - 9.5	0.13 - 0.38	61.0	200	1
S500PC-0	12.7	0.50	Black	6.4 - 19.1	0.25 - 0.75	30.5	100	1
S750PC-0	19.1	0.75	Black	12.7 - 31.8	0.50 - 1.25	30.5	100	1
S1250PL-0	31.8	1.25	Black	19.1 - 44.5	0.75 - 1.75	15.2	50	1

NOTE: Order by spool, not per foot.

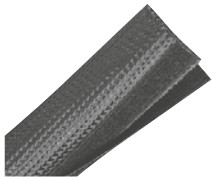


Flame retardant braided expandable wire sleeving – Mini spool



Cat. n°.	Nominal I.D.		Colour	Nominal diameter range		Spool quantity		Std. pkg.
	[mm]	[in.]		[mm]	[in.]	[mm]	[ft.]	
S250FT-0	6.4	0.25	Black with white tracer	3.2 - 9.5	0.13 - 0.38	61.0	200	1
S500FC-0	12.7	0.50	Black with white tracer	6.4 - 19.1	0.25 - 0.75	30.5	100	1
S750FC-0	19.1	0.75	Black with white tracer	12.7 - 31.8	0.50 - 1.25	30.5	100	1
S1250FL-0	31.8	1.25	Black with white tracer	19.1 - 44.5	0.75 - 1.75	15.2	50	1

NOTE: Order by spool, not per foot.



P.E.T. Hook and loop, wraparound sleeving – Mini spool



Cat. n°.	Nominal I.D.		Colour	Nominal diameter range		Spool quantity		Std. pkg.
	[mm]	[in.]		[mm]	[in.]	[mm]	[ft.]	
S500PWL-0	12.7	0.50	Black	6.4 - 19.1	0.25 - 0.75	15.2	50	1
S750PWL-0	19.1	0.75	Black	12.7 - 31.8	0.50 - 1.25	15.2	50	1
S1250PWL-0	31.8	1.25	Black	19.1 - 44.5	0.75 - 1.75	15.2	50	1
S2000PWL-0	50.8	2.00	Black	38.1 - 88.9	1.50 - 3.50	15.2	50	1

NOTE: Order by spool, not per foot.

- No tools required to close the sleeving
- Hook and loop material is made of 100% polyamide



Flame retardant hook and loop, wraparound sleeving – Mini spool

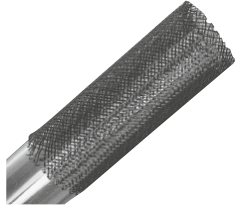


Cat. n°.	Nominal I.D.		Colour	Nominal diameter range		Spool quantity		Std. pkg.
	[mm]	[in.]		[mm]	[in.]	[mm]	[ft.]	
S500FWL-0	12.7	0.50	Black with white tracer	6.4 - 19.1	0.25 - 0.75	15.2	50	1
S750FWL-0	19.1	0.75	Black with white tracer	12.7 - 31.8	0.50 - 1.25	15.2	50	1
S1250FWL-0	31.8	1.25	Black with white tracer	19.1 - 44.5	0.75 - 1.75	15.2	50	1
S2000FWL-0	50.8	2.00	Black with white tracer	38.1 - 88.9	1.50 - 3.50	15.2	50	1

NOTE: Order by spool, not per foot.

Wire protection products

Braided sleeving

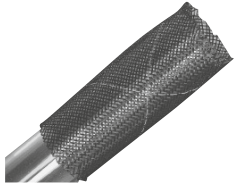


P.E.T. Braided expandable wire sleeving – Bulk reel



Cat. n°.	Nominal I.D.		Colour	Nominal diameter range		Spool quantity		Std. pkg.
	[mm]	[in.]		[mm]	[in.]	[mm]	[ft.]	
S125PM-0	3.2	0.13	Black	2.4 - 6.4	0.09 - 0.25	304.8	1,000	1
S250PM-0	6.4	0.25	Black	3.2 - 9.5	0.13 - 0.38	304.8	1,000	1
S375PD-0	9.5	0.38	Black	4.8 - 15.9	0.19 - 0.63	152.4	500	1
S500PD-0	12.7	0.50	Black	6.4 - 19.1	0.25 - 0.75	152.4	500	1
S750PK-0	19.1	0.75	Black	12.7 - 31.8	0.50 - 1.25	76.2	250	1
S1250PK-0	31.8	1.25	Black	19.1 - 44.5	0.75 - 1.75	76.2	250	1
S1500PT-0	38.1	1.50	Black	25.4 - 63.5	1.00 - 2.50	61.0	200	1
S1750PT-0	44.5	1.75	Black	31.8 - 59.9	1.25 - 2.36	61.0	200	1
S2000PT-0	50.8	2.00	Black	38.1 - 88.9	1.50 - 3.50	61.0	200	1
S2500PT-0	63.5	2.50	Black	44.5 - 114.3	1.75 - 4.50	61.0	200	1

NOTE: Order by spool, not per foot.



Flame retardant braided expandable wire sleeving – Bulk reel



Cat. n°.	Nominal I.D.		Colour	Nominal diameter range		Spool quantity		Std. pkg.
	[mm]	[in.]		[mm]	[in.]	[mm]	[ft.]	
S125FM-0	3.2	0.13	Black with white tracer	2.4 - 6.4	0.09 - 0.25	304.8	1,000	1
S250FM-0	6.4	0.25	Black with white tracer	3.2 - 9.5	0.13 - 0.38	304.8	1,000	1
S375FD-0	9.5	0.38	Black with white tracer	4.8 - 15.9	0.19 - 0.63	152.4	500	1
S500FD-0	12.7	0.50	Black with white tracer	6.4 - 19.1	0.25 - 0.75	152.4	500	1
S750FK-0	19.1	0.75	Black with white tracer	12.7 - 31.8	0.50 - 1.25	76.2	250	1
S750FK-9	19.1	0.75	White with black tracer	12.7 - 31.8	0.50 - 1.25	76.2	250	1
S1250FK-0	31.8	1.25	Black with white tracer	19.1 - 44.5	0.75 - 1.75	76.2	250	1
S1750FT-0	44.5	1.75	Black with white tracer	31.8 - 59.9	1.25 - 2.36	61.0	200	1
S1750FT-9	44.5	1.75	White with black tracer	31.8 - 59.9	1.25 - 2.36	61.0	200	1
S2000FT-0	50.8	2.00	Black with white tracer	38.1 - 88.9	1.50 - 3.50	61.0	200	1
S2500FT-0	63.5	2.50	Black with white tracer	44.5 - 114.3	1.75 - 4.50	61.0	200	1

NOTE: Order by spool, not per foot.

For other colours, lengths, sizes and materials, please Contact your Regional Sales Office.

Wire protection products

Tooling



—
Cat. n°.: CC120B

Characteristics

- Contoured handle resists tube crushing
- Produces no “sawdust” — no need to debur
- Lightweight, low-profile and no exposed blade when stored

Technical information

- Type: Cutting Tool
- High-carbon, Teflon® coated steel blade
- Cutting tool for all your spiral wrap, plastic pipe and PVC conduit needs up to 1¼ in. I.D.



—
Cat. n°.: WTBM

Characteristics

- It's recommended that the sleeving be cut with a hot knife for a straight cut and to seal the ends, which prevents fraying.

Technical information

- Type: Sleeving End Cutter/Sealer Tools
- 110 Volts-AC
- Benchmount End Cutter/Sealer Tool



Material specifications

Material selection and specifications

ABB offers Ty-Rap cable ties and accessories in a wide variety of materials, each suitable for specific environmental conditions.

The purpose of this document is to help you choose the best material for your particular application. The effects of climate, flames, chemicals, temperature extremes and radiation on the different materials are clearly shown in the following tables to simplify the process.

Once you've determined which material is best for you, you can choose from the wide variety of Ty-Rap cable ties, ID ties, mounting bases, tie-down straps, and more, offered by ABB.

How to use Table 1

Table 1 simplifies the selection process by giving the relative performance ratings of materials offered by ABB. For example, if your application is in an extremely cold environment, 4 materials will meet your needs: fluoropolymer, polyamide 12, Halar® * and stainless steel. Then the cost may be your next most important criterion. Of these 4 options, polyamide 12 would be the most cost effective. However, if the tensile strength is important, then stainless steel would be the best choice.

There is a number of factors to be considered when choosing the proper materials for a specific environment. It is extremely difficult to provide data on all the possible combinations or conditions that can occur and therefore, it is recommended that this information be used as a guideline and that cable tie samples be tested in the intended application, by the user, to determine suitability.

* Halar® is a registered trademark of Solvay Solexis, inc.

Refer to Tables 2 and 3 (pages C140-C142) for more detailed information regarding the physical properties of the materials and the chemical resistance of the materials, respectively.

Table 1

	Materials available									
	Polyamide 6.6 Natural	Polyamide 6.6 weather resistant	Polyamide 6.6 Natural heat stabilised	Polyamide 6.6 flame retardant	Polyamide 12 weather resistant	Polypropylene weather resistant	Fluoro-polymer	Halar®	Stainless steel	Toughened weatherable acetal
UV resistant	1	4	1	1	4	4	5	5	5	4
Radiation resistant	1	1	1	1	1	1	4	4	5	1
Flexible at low temperatures	3	3	3	2	4	3	4	4	5	4
Flexible at high temperatures	3	3	4	3	2	2	4	4	5	2
Flame retardant	3	3	3	4	1	1	4	4	5	1
Tensile strength	3	3	3	3	2	1	3	3	5	2
Relative cost	Low	Low	Low	Medium	Medium	Low	High	High	High	High
Résistance chimique	See table 3									

1 = Less suitable
5 = More suitable

Material selection ordering guide

Physical properties of cable tie materials

Table 2

		Polyamide 6.6 Natural	Polyamide 6.6 weather resistant	Polyamide 6.6 Natural heat stabilised	Polyamide 6.6 flame retardant	Polyamide 12 weather resistant	Poly- propylene weather resistant	Fluoro- polymer radiation resistant	Fluoro- polymer ECTFE	Stainless steel
Physical properties of Ty-Rap cable tie materials										
Tensile strength (Yield) @ 23°C (Dry-As-Molded) ⁽¹⁾	psi	12 000	12 000	12 000	11,000	7 500	4 600	6 700	6 600	90 000
Flammability Rating	–	UL 94 V-2	UL 94 V-2	UL 94 V-2	UL 94 V-0	–	–	UL 94 V-0	UL 94 V-0	–
Radiation Resistance	rads	1 x 105	1 x 105	1 x 105	1 x 105	1 x 105	1 x 105	2 x 108	2 x 108	2 x 108
UV Resistance	–	Poor	Good	Poor	Poor	Good	Good	Excellent	Excellent	Excellent
Water Absorption (24 hrs)	%	1,3	1,2	1,4	1,4	0,25	0,1	<,01	<,01	None
Oxygen Index	–	28	28	31	34	–	–	30	52	–
Max. continuous use temp.	°C/°F	85 / 185	85 / 185	105 / 221	65 / 149	85 / 185	85 / 185	150 / 302	160 / 320	537 / 1000
Min. continuous use temp.	°C/°F	-60 / -76	-60 / -76	-60 / -76	-20 / -4	-40 / -40	-40 / -40	-60 / -76	-46 / -50	-80 / -112
Colour	–	Natural	Black	Green tint	White	Black	Black	Aqua	Maroon	Stainless

⁽¹⁾ ASTM D638-878 except stainless steel which is ASTM E8

Stainless steel cable ties

Specification

AISI type name or number	201		201 ¼ hard		301		
	UNS designation	S20100	S20100	S20100	S30100	S30100	
Specification	ASTM	A-666	A-666	A-666	A-666	A-666	
		C	0.15 Max.	C	0.03 Max	C	0.15 Max.
		Mn	5.50 - 7.50	Mn	5.50 - 7.50	Mn	2.00 Max.
% of the main alloying elements		Si	0.75 Max	Si	1.00 Max	Si	1.00 Max
		Cr	16.00 - 18.00	Cr	16.00 - 18.00	Cr	16.00 - 18.00
		Ni	3.50 - 5.50	Ni	3.50 - 5.50	Ni	6.00 - 8.00
		N	0.25 Max	N	0.25 Max		
Physical properties							
Density , lb/in. ³		0.28		0.28		0.29	
Mod. elasticity in tension x 106 PSI		28.0		28.6		28.0	
Structure		Austenitic		Austenitic		Austenitic	
Average coefficient of thermal expansion by °F x 10-6	32 - 212°F	8.7		9.0		9.4	
	32 - 600°F	9.7		10.0		9.5	
	32 - 1000°F	10.2		10.5		10.1	
	32 - 1200°F	10.5		-		10.4	
Melting interval		2,550 - 2,650°F		2,550 - 2,650°F		2,550 - 2,590°F	
Electrical properties							
		Non magnetic		Non magnetic		Non magnetic	
Magnetic permeability, annealing		μ = 1.02		μ = 1.02		μ = 1.02	
Electrical resistivity, microhm - cm, 70° F		69.00		69.00		72.00	
Mechanical properties							
Rockwell hardness		90 - 95R _B		20 - 30R _B		75 - 95R _B	
Tensile strength -spec. min. of BAND-IT (PSI) and typical (PSI)		100,000		120,000		100,000	
		115,000		135,000		105,000	
Yield strength - spec. min. by BAND-IT (PSI) and typical (PSI)		45,000		85,000		45,000	
		45,000		90,000		55,000	
% elongation per 2in. spec. min. of BAND-IT (PSI) and typical (PSI)		40		40		40	
		55		45		50	
Tensile strength at	1,300°F	37,500		37,500		35,500	
High temperature	1,500°F	23,000		23,000		22,500	
Short term tests (PSI)	1,700°F	11,000		11,000		11,000	
Corrosion resistance							
Normal atmosphere and fresh water		Good		Good		Good	
Industrial atmosphere		Good		Good		Good	
Marine atmosphere		Middling		Middling		Middling	
Salt water		No		No		No	
Mild chemicals		Middling		Middling		Middling	
Oxidizing chemicals		Middling		Middling		Middling	
Reducing chemicals		No		No		No	

All values in this table are for reference only.

Material specifications

Flammability rating UL

Flammability ratings UL

Note: These tests for flammability of plastic material are intended to serve as a preliminary indication of acceptability with respect to flammability for particular applications.

UL 94 vertical burn test procedures

Test specimens of the material, with dimensions 127 mm x 12,7 mm (5 in. x ½ in.) with the thickness intended for use in the end product, are tested in both the manufactured condition and in the aged state. The test requires that the specimen be supported in a vertical fixture and a precisely controlled flame applied for a 10 second period. The flame is removed and the duration of flaming is noted. If the flame extinguishes, a second exposure to flame for 10 seconds is applied and duration of flaming is again noted. It is observed and recorded whether or not test specimens drip flaming particles that ignite a cotton swatch.

Materials classed V-0:

A material classed V-0 shall:

- A. Not have any specimens that burn with flaming combustion for more than 10 seconds after either application of the test flame.
- B. Not have a total flaming combustion time exceeding 50 seconds for the 10 flame applications for each set of five specimens.
- C. Not have any specimens that burn with flaming or glowing combustion up to the holding fixture.
- D. Not have any specimens that drip flaming particles that ignite the dry absorbent surgical cotton located 12 in. below the test specimen.
- E. Not have any specimens with glowing combustion that persists for more than 30 seconds after the second removal of the test flame.

Materials classed V-1:

A material classed V-1 shall:

- A. Not have any specimens that burn with flaming combustion for more than 30 seconds after either application of the test flame.
- B. Not have a total flaming combustion time exceeding 250 seconds for the 10 flame applications for each set of five specimens.
- C. Not have any specimens that burn with flaming or glowing combustion up to the holding fixture.
- D. Not have any specimens that drip flaming particles that ignite the dry absorbent surgical cotton located 12 in. below the test specimen.
- E. Not have any specimens with glowing combustion that persists for more than 60 seconds after the second removal of the test flame.

Materials classed V-2:

A material classed V-2 shall:

- A. Not have any specimens that burn with flaming combustion for more than 30 seconds after either application of the test flame.
- B. Not have a total flaming combustion time exceeding 250 seconds for the 10 flame applications for each set of five specimens.
- C. Not have any specimens that burn with flaming or glowing combustion up to the holding fixture.
- D. Be permitted to have specimens that drip flaming particles that burn only briefly, some of which ignite the dry absorbent surgical cotton placed 12 in. below the test specimen.
- E. Not have any specimens with glowing combustion that persists for more than 60 seconds after the second removal of the test flame.

UL 94 horizontal burn (HB) test procedures

The test uses a ½ inch x 5 inches (12.7mm x 127mm) specimen held at one end in a horizontal position with marks at 1 inch (25.4mm) and 5 inches (127mm) from the free end. A flame is applied to the free end for 30 seconds or until the flame front reaches the 1 inch (25.4mm) mark. If combustion continues the duration is timed between the 1 inch (25.4mm) mark and the 5 inch (127mm) mark. If combustion stops before the 5 inch (127mm) mark, the time of combustion and the damaged length between the two marks are recorded. A set of three specimens are tested.

Materials classed 94 HB

A material that is less than 0.118 inch (3mm) in thickness will be classified 94HB if it has a burning rate of less than 3 inches (76.2mm) per minute or stops burning before the 5 inches (127mm) mark. If one specimen from the set of three fails to comply, then a second set of three are tested. All three of this second set must comply. HB rated materials are considered "self-extinguishing". This is the lowest (least flame retardant) UL94 rating.

Material specifications

Material selection and specifications

Selecting the right material for your applications

ABB offers cable ties and accessories in a wide variety of materials, each suited for specific environments. The purpose of this document, therefore, is to assist in choosing the best material for a particular application.

The effects of weathering, flame, chemicals, extreme temperatures and radiation on the different materials is clearly presented in tabular form. This will facilitate the choice of the best material for the application.

Having determined the most suitable material, one can choose from the wide variety of cable ties, identification ties, mounting bases, lashing ties, etc., offered by ABB.

Polyamide 6.6

- Thermoplastic material used in cable ties for universal applications in the industry
- Excellent resistance to shocks, chemicals, oils and temperature fluctuations
- High surface hardness and a small coefficient of friction
- Flammability rating: UL 94 V-2
- Halogen free and Silicone free
- Indoor applications

Material specifications

Note: Nylon (Polyamide) is inherently susceptible to environmental conditions. Polyamide 6.6 cable ties are moisturised to optimum performance levels at machine-side and should be stored in cool dry areas out of direct sunlight. Cable ties are packaged in plastic bags to contain moisture and should remain sealed until ready for use.

Polyamide 6.6, weather resistant

- Similar to Polyamide 6.6, but recommended for outdoor applications
- UV-resistant
- Halogen free and Silicone free
- Ty-Fast ties in weather resistant Polyamide 6.6 are available in black color only (with 2% carbon for military specifications)
- Ty-Rap ties in weather resistant Polyamide 6.6 are available in black color (with 2% carbon for military specifications) and in a wide range of colors (except natural)
- Flammability rating: UL 94 V-2



UV-resistant



Weather-proof

Material specifications

Material selection and specifications

Polyamide 6.6, heat stabilised

- Similar to Polyamide 6.6, but increased operating temperatures, up to 105°C (221°F)
- Excellent tensile strength
- High temperature resistance
- Color: natural (may have a greenish tint)
- Flammability rating: UL 94 V-2



Heat resistant

Polyamide 6.6, heat stabilised and UV-resistant

- Similar to Polyamide 6.6, but recommended for outdoor applications and/or high temperature applications, up to 105°C (221°F)
- Combines the features & benefits of Polyamide 6.6, weather resistant and Polyamide 6.6, heat stabilised
- Color: black
- Flammability rating: UL 94 V-2



UV-resistant



Weather-proof



Heat resistant

Polyamide 12, weather resistant

- Extremely flexible, also at low temperatures
- Ages better than Polyamide 6.6
- UV-resistant and weatherproof
- Better chemical resistance than Polyamide 6.6
- Color: black
- Flammability rating: UL 94 V-2



UV-resistant



Weather-proof



Low temperature flexibility



Chemically resistant

Polyamide 6.6, flame retardant

- Excellent flammability rating: UL 94 V-0
- Ideal in areas where human life is at risk
- Color: white



Flame retardant

Polyamide 6.6 detectable

- Similar to Polyamide 6.6, but contains a compound detectable by metal detectors (tested and rated at 1.5mm (0.06") diameter ferrous sphere setting) and X-ray equipment
- Color: bright blue, also contributes to visual detection
- Especially recommend for the food industry, and for any other contamination sensitive industry using detection equipment
- Halogen free and silicone free
- Flammability rating: UL 94 V-2



Detectable

Polyamide 4.6, extra high temperature (150°C)

- Similar to Polyamide 6.6, but outstanding resistance to high temperatures up to 150°C (221°F)
- Halogen free and silicone free
- Color: light green
- Flammability rating: UL 94 V-2



Heat resistant

Material specifications

Material selection and specifications

Polypropylene, weather resistant

- Resistant against inorganic acids, polyhydric alcohols, neutral and basic salts
- Resists a number of other chemicals
- UV resistant
- Lower tensile strength than Polyamide 6.6
- Color: black
- Flammability rating: UL 94 HB



UV-resistant



Weather-proof



Chemically resistant

Polypropylene, detectable

- Similar to standard Polypropylene, but contains a compound detectable by metal detectors (tested and rated at 1.5mm (0.06") diameter ferrous sphere setting) and X-ray equipment
- Color: bright blue, also contributes to visual detection
- Especially recommend for the food industry, and for any other contamination sensitive industry using detection equipment
- Halogen free and silicone free
- Flammability rating: UL 94 HB



Detectable

ETFE Fluoropolymer

- Tensile strength slightly lower than Polyamide 6.6
- ETFE Fluoropolymer is inert to most solvents and chemicals, hydrolytically stable, UV and weather resistant
- Radiation resistant (meets IEEE383) and approved for nuclear plant use
- Non-outgassing properties for zero gravity applications
- Very high temperature resistance
- Flammability rating: UL 94 V-0
- The best all around plastic material for cable ties
- Color: aquamarine



UV-resistant



Flame retardant



Heat resistant



Low temperature flexibility



Weather-proof



Radiation resistant



Chemically resistant

ECTFE Fluoropolymer

- Similaire aux performances du ETFE fluoropolymère
- Faible émission de fumée lors de sa combustion
- Recommandé pour les applications liées à la ventilation, aération, évacuation de fumée
- Couleur: Bordeaux
- Flammability rating: UL 94 V-0



UV-resistant



Flame retardant



Heat resistant



Low temperature flexibility



Weather-proof



Low smoke



Chemically resistant

Material specifications

Material selection and specifications

Toughened weatherable
acetal

- Excellent resistance to a wide variety of solvents, esters, oils, greases, gasoline and other petroleum hydrocarbons
- Resistant to weak acids and bases
- Excellent resistance to UV
- Limited self-extinguishing properties
- Color: black
- Flammability rating: UL 94 HB



UV-resistant

Weather-
proofChemically
resistant

Material selection ordering guide

Chemical resistance

Table 3 shows the resistance of Ty-Rap cable tie materials to various chemicals. The table is designed to help you determine

the cable tie material best suited for a particular chemical environment.

Table 3: Resistance of available materials to various chemicals at 21°C

Reagents	Concentration	HS PA6.6	TV	DEL	PA6.6	UV PA6.6	FR PA6.6	UV PA12	PP	UVPP	TZ	SS
Arsenic Acid	40%	–	–	–	–	–	–	–	E	E	–	E
Acetaldehyde	50%	S	–	–	S	S	S	–	–	–	–	–
Acetone	100%	E	E	F	E	E	E	E	E	E	E	E
Aluminum Hydroxide	AQ	–	E	–	–	–	–	–	E	E	E	E
Ammonia	All	–	E	–	–	–	–	E	E	E	E	15.0
Ammonium Carbonate	5%	S	E	–	S	S	S	E	E	E	E	E
Ammonium Hydroxide	10%	E	E	F	E	E	E	–	E	E	E	E
Ammonium Nitrate	–	–	E	–	–	–	–	E	E	E	E	E
Ammonium Sulfate	10%	–	E	–	–	–	–	S	S	S	S	S
Barium Carbonate	All	–	E	–	–	–	–	E	E	E	E	E
Barium Chloride	5%	NR	–	–	NR	NR	NR	E	E	E	E	E
Barium Sulfate	10%	E	–	–	E	E	E	E	E	E	E	E
Barium Sulfide	10%	S	–	–	S	S	S	E	E	E	E	E
Benzene	100%	E	E	F	E	E	E	E	S	S	E	E
Benzoic Acid	100%	NR	E	–	NR	NR	NR	E	E	E	E	E
Butyric Acid	50%	NR	E	–	NR	NR	NR	–	E	E	E	E
Calcium Carbonate	AQ	–	E	–	–	–	–	–	E	E	E	E
Calcium Hydroxide	20%	–	F	E	–	–	–	–	E	E	E	E
Calcium Hydrochlorite	2	NR	–	–	NR	NR	NR	–	F	F	F	F
Calcium Sulfate	2%	–	E	–	–	–	–	–	E	E	E	E
Carbon Tetrachloride	100%	E	E	E	E	E	E	E	F	F	E	E
Chlorine (WET)	–	NR	–	–	NR	NR	NR	–	F	F	F	F
Chlorine (DRY)	–	NR	–	–	NR	NR	NR	–	NR	NR	F	F
Chloroacetic Acid	30%	NR	–	–	NR	NR	NR	–	–	–	F	F
Chloroform	100%	–	E	–	–	–	–	F	F	F	E	E
Chromic Acid	50%	NR	S	–	NR	NR	NR	–	F	F	F	F
Citric Acid	50%	S	E	E	S	S	S	E	E	E	E	E
Copper Cyanide	10%	–	E	–	–	–	–	–	E	E	E	E
Copper Nitrate	50%	–	E	–	–	–	–	–	E	E	E	E
Cider	–	–	E	–	–	–	–	–	E	E	E	E
Dichloroethane	100%	–	E	–	–	–	–	–	–	–	E	E
Diethyl Ether	100%	–	E	S	–	–	–	E	E	E	E	E
Ethyl Alcohol	100%	S	E	–	S	S	S	E	E	E	E	E
Ethyl Chloride	100%	–	S	E	–	–	–	F	F	F	E	E
Ethylene Glycol	100%	E	E	S	E	E	E	–	E	E	E	E
Ferric Hydroxide	All	–	E	–	–	–	–	–	E	E	E	E
Ferric Nitrate	10%	–	E	–	–	–	–	–	E	E	E	E
Ferrous Sulfate	10%	–	E	–	–	–	–	–	E	E	E	E
Fuel Oil	100%	–	E	–	–	–	–	E	–	–	E	E

Ratings

E = Excellent

S = Satisfactory

F = Fair

NR = Not Recommended

(AQ = Aqueous)

Material selection ordering guide

Chemical resistance

Table 3: Resistance of available materials to various chemicals at 21°C

Reagents	Concentration	HS PA6.6	TV	DEL	PA6.6	UV PA6.6	FR PA6.6	UV PA12	PP	UVPP	TZ	SS
Furfural	100%	–	E	–	–	–	–	–	F	F	E	E
Gallic Acid	AQ	–	E	–	–	–	–	–	–	–	E	E
Gasoline	100%	E	E	–	E	E	E	–	S	S	E	E
Glycerine	100%	–	E	–	–	–	–	E	E	E	–	E
Hydrocyanic Acid	All	–	E	–	–	–	–	–	E	E	E	E
Hydrogen Peroxide	30%	NR	E	F	NR	NR	NR	S	E	E	E	E
Hydrogen Sulfide	Dry	NR	E	–	NR	NR	NR	E	E	E	E	E
Iodoform	100%	–	E	–	–	–	–	–	–	–	E	E
Isopropyl Alcohol	100%	S	E	–	S	S	S	E	E	E	E	E
Jet Fuel	100%	E	E	–	E	E	E	–	S	S	E	E
Lactic Acid	10%	E	E	–	E	E	E	S	E	E	E	E
Lanolin	10%	E	E	–	E	E	E	E	E	E	E	E
Lead Acetate	5%	–	E	–	–	–	–	–	E	E	E	E
Linseed Oil	10%	E	E	E	E	E	E	E	E	E	E	E
Magnesium Carbonate	All	–	E	–	–	–	–	E	E	E	E	E
Magnesium Chloride	10%	F	–	–	F	F	F	F	F	F	F	F
Magnesium Nitrate	All	–	E	–	–	–	–	E	E	E	E	E
Malic Acid	AQ	–	E	–	–	–	–	–	E	E	E	E
Mercury	100%	–	E	–	–	–	–	E	E	E	E	E
Methyl Alcohol	100%	S	E	–	S	S	S	E	E	E	E	E
Methyl Chloride	100%	–	S	–	–	–	–	–	S	S	E	E
MethylEthyl Ketone	100%	–	E	F	–	–	–	E	E	E	E	E
Naptha	100%	–	E	–	–	–	–	–	E	E	E	E
Nitric Acid	30%	NR	E	NR	NR	NR	NR	–	E	E	E	E
Nitric Acid	30-70%	NR	S	NR	NR	NR	NR	–	F	F	S	E
Nitrous Acid	5%	–	E	–	–	–	–	–	F	F	E	E
Oieic Acid	100%	–	E	S	–	–	–	–	E	E	E	E
Oxalic Acid	10%	–	E	–	–	–	–	S	E	E	E	E
Paraffin	100%	E	E	–	E	E	E	E	E	E	E	E
PetroleumEther	100%	–	E	–	–	–	–	E	F	F	E	E
Phenol	90%	NR	E	NR	NR	NR	NR	–	E	E	E	E
Phosphoric Acid	10%	NR	E	–	NR	NR	NR	–	E	E	E	E
Picric Acid	1%	–	E	–	–	–	–	–	E	E	E	E
Potassium Bromide	AQ	–	–	–	–	–	–	–	S	S	S	S
Potassium Carbonate	1%	–	E	–	–	–	–	E	E	E	E	E
Potassium Chlorate	AQ	–	E	–	–	–	–	S	E	E	E	E
Potassium Dichromate	40%	NR	E	–	NR	NR	NR	F	E	E	E	E
Potassium Ferrocyanide	25%	–	E	–	–	–	–	–	E	E	E	E
Potassium Hydroxide	5%	S	E	–	S	S	S	–	E	E	E	E

Ratings

E = Excellent

S = Satisfactory

F = Fair

NR = Not Recommended

(AQ = Aqueous)

Material selection ordering guide

Chemical resistance

Table 2: Resistance of available materials to various chemicals at 21°C

Reagents	Concentration	HS PA6.6	TV	DEL	PA6.6	UV PA6.6	FR PA6.6	UV PA12	PP	UVPP	TZ	SS
Potassium Iodide	All	–	E	–	–	–	–	E	E	E	E	E
Potassium Nitrate	50%	F	E	–	F	F	F	E	E	E	E	E
Potassium Permanganate	5%	NR	E	S	NR	NR	NR	NR	E	E	E	E
Potassium Sulfate	5%	–	E	–	–	–	–	E	E	E	E	E
Potassium Sulfide	AQ	–	E	–	–	–	–	–	E	E	E	E
Propyl Alcohol	100%	E	E	–	E	E	E	–	E	E	E	E
Silver Nitrate	10%	–	E	–	–	–	–	E	E	E	E	E
Sodium Acetate	60%	E	E	–	E	E	E	–	E	E	E	E
Sodium Bicarbonate	All	E	E	–	E	E	E	E	E	E	E	E
Sodium Bisulfate	10%	–	E	E	–	–	–	E	E	E	E	E
Sodium Borate	All	–	E	–	–	–	–	–	E	E	E	E
Sodium Carbonate	5%	E	E	S	E	E	E	E	E	E	E	E
Sodium Chlorate	25%	–	E	E	–	–	–	S	E	E	E	E
Sodium Chloride	2%	E	E	S	E	E	E	E	E	E	E	E
Sodium Fluoride	5%	–	–	–	–	–	–	–	F	F	F	F
Sodium Hydroxide	10%	E	E	S	E	E	E	E	E	E	E	E
Sodium Hyposulfite	AQ	–	E	–	–	–	–	–	–	–	E	E
Sodium Nitrate	5%	E	E	–	E	E	E	E	E	E	E	E
Sodium Nitrite	AQ	–	E	–	–	–	–	S	E	E	E	E
Sodium Perchlorate	10%	–	E	–	–	–	–	–	–	–	E	E
Sodium Phosphate	5%	–	E	–	–	–	–	E	E	E	E	E
Sodium Sulfate	5%	S	E	–	S	E	E	E	E	E	E	E
Sodium Thiosulfate	5%	–	–	S	–	–	–	S	S	S	S	S
Stearic Acid	100%	–	E	–	–	–	–	F	E	E	E	E
Sulfur	100%	–	E	–	–	–	–	E	E	E	E	E
Sulfur Dioxide	All	NR	E	–	NR	NR	NR	E	E	E	E	E
Sulfuric Acid	Conc.	NR	E	NR	NR	NR	NR	–	S	S	E	E
Sulfuric Acid	5%	NR	F	F	NR	NR	NR	F	F	F	F	F
Tannic Acid	10%	–	E	–	–	–	–	–	E	E	E	E
Tartaric Acid	50%	–	E	E	–	–	–	E	E	E	E	E
Tetrahydrofuran	100%	–	F	E	–	–	–	S	F	F	E	E
Toluene	100%	E	E	F	E	E	E	E	F	F	E	F
Xylene	100%	E	–	E	E	E	E	F	F	E	E	E
Zinc Chloride	70%	F	E	NR	F	F	F	E	E	E	E	E
Zinc Nitrate	AQ	–	E	–	–	–	–	E	E	E	E	E
Zinc Sulfate	AQ	–	E	–	–	–	–	E	E	E	E	E

Ratings

E = Excellent

S = Satisfactory

F = Fair

NR = Not Recommended

(AQ = Aqueous)

Material specifications

Characteristics des matières adhésives

Installation instructions for self-adhesive mounting bases

- Mounting surfaces should be cleaned with alcohol based (IPA) cleaner before application
- The self-adhesive mounting bases have a double-sided adhesive tape made of synthetic foam, covered by a protecting foil
- To install the self-adhesive mounting base, remove the protecting foil and press the mounting base onto the cleaned surface
- The thickness of the self-adhesive foam (0.8mm) compensates the irregularities of the application surfaces and allows installations on structured surfaces of cabinet doors, on sheet metal, on machines, etc
- The adhesion is achieved immediately during the installation, which means that later repositioning is not possible

- Also applicable on concrete and other porous surfaces
- UV resistant

Technical information

- Description: 2 component glue
- Weight: 0.21 kg

Installation instructions for Cat. no.: TC2PA (2 component glue)

- Mounting surfaces should be cleaned before application
- The liquid adhesive in the tube is to be spread onto the mounting surface. It can be used on most rough surfaces (like concrete)
- The activator liquid is then spread onto the surface of the mounting base
- Place the surface of the mounting base in contact with the surface where it has to be mounted, position the mounting base correctly and then press firmly
- Repositioning the mounting base remains possible only for a few seconds
- Do not use the mounting base immediately after installation. The Acrylic-based adhesive requires a set-up time that can be influenced by factors such as temperature (allow 24 - 72 hours for maximum performance)
- Temperature of installation needs to be above +20°C (68°F)

Cat. no.: TC2PA

Characteristics

- 2 component glue
- Consists of one tube each of adhesive and activator
- Easy application
- Stable and durable adhesion
- Applicable on all Polyamide and Aluminium mounting bases and cable clamps

Adhesive material specifications

Property	Method	Unit of measure	Rubber based (self-adhesive)	Acrylic based (2 component glue)
Coated sides	–	each	2	2
Foam density	–	Kg/m ³	96.9	96.9
Peel adhesion	PSTC 1	N/cm width	10.9	10
	ASTM D 1000	Average		8.8
Shear adhesion	natural	15.0	15.0	10
22°C (71.6°F) 50% RH	PSTC 7	Hours	100 +	8 +
22°C (71.6°F) occasional wetting		N/m ²	68971	15174
Tensile strength	ASTM D 412	PSI	100	100 +
Tear resistance	ASTM D 624	N/cm	52.6	52.6 +
Elongation at break	–	%	400	200
Service temperature	–	°C/°F Min	-18	-29
	–	°C/°F Max	+66	+79
Flammability	ASTM D 624		Slow burn	Slow burn

Material specifications

Unit conversion factors

Unit conversion factors

Unit	x	Constant	=	Unit	Unit	x	Constant	=	Unit
BTU		778.0		foot-pound (ft x lb)	gallons		0.13368		cubic foot (ft ³)
BTU		1054.8		Joules	gallons		231.0		cubic inch (in ³)
BTU		0.293		Watt-hours (W x h)	gallons		3,785.332		cubic centimetres (cm ³)
centimetres (cm)		0.032808		feet (ft)	grams (g)		15.432		grains
centimetres (cm)		0.3937		inches (in)	gram/centimetre ³ (gm/cm ³)		0.0361275		pounds/in ³ (lb/in ³)
centimetres (cm)		0.00001		kilometres (km)	horsepower (hp)		33,000.0		ft x lb/min
centimetres (cm)		0.010		metres (m)	horsepower (hp)		550.0		ft x lb/sec
centimetres (cm)		10.0		millimetres (mm)	horsepower (hp)		745.7		Watts (W)
circular mils		0.00064516		circular millimetres	inch (in)		0.027178		yards (yd)
circular mils		0.0000007854		inches ² (in ²)	inch (in)		0.083333		feet (ft)
circular mils		0.000506671		square millimetres (mm ²)	inch (in)		0.00002540		kilometre (km)
circular mils		0.7854		mils ²	inch (in)		0.025400		metre (m)
cubic centimetre (cm ³)		0.000035314		cubic foot (ft ³)	inch (in)		2.54000514		centimetre (cm)
cubic centimetre (cm ³)		0.061023		cubic inch (in ³)	inch (in)		25.4000514		millimetre (mm)
cubic centimetre (cm ³)		0.000001		cubic metre (m ³)	inch (in)		1,000.0		mils
cubic centimetre (cm ³)		0.0026417		gallons	Joules		0.000948		BTU
cubic foot (ft ³)		17,280		cubic inch (in ³)	Joules		107		ergs
cubic foot (ft ³)		28317.016		cubic centimetre (cm ³)	liters (l)		61.0250		cubic inch (in ³)
cubic inch (in ³)		0.00057870		cubic feet (ft ³)	metres (m)		1.093611		yard (yd)
cubic inch (in ³)		0.000016387		cubic metre (m ³)	metres (m)		3.2808333		feet (ft)
cubic inch (in ³)		16.387162		cubic centimetre (cm ³)	metres (m)		39.37		inch (in)
cubic metre (m ³)		1,000,000.0		centimetre (cm)	metres (m)		100.0		centimetre (cm)
cubic metre (m ³)		35.314456		cubic foot (ft ³)	miles		1,760.0		yards (yd)
cubic metre (m ³)		264.17		gallons	miles		5,280.0		feet (ft)
foot (ft)		0.00018939		miles	miles		1.6093		kilometre (km)
foot (ft)		0.33333		yards (yd)	millimetres (mm)		0.0032808		feet (ft)
foot (ft)		12		inches (in)	millimetres (mm)		0.03937		inch (in)
foot (ft)		0.00030480		kilometres (km)	millimetres (mm)		0.001		metres (m)
foot (ft)		0.30480		metres (m)	millimetres (mm)		0.01		centimetres (cm)
foot (ft)		30.480		centimetres (cm)	millimetres (mm)		39.3701		mils
foot (ft)		304.80		millimetres (mm)	millimetres (mm)		1,000.0		microns (µm)
foot/pound (ft/lb)		0.00067197		metres/grams (m/g)	Watts (W)		44.25		ft x lb/minute
foot-pound (ft x lb)		0.001285		BTU	Watts (W)		0.737562		ft x lb/sec
foot-pound (ft x lb)		1.356		Joules (J)	Watts (W)		0.001341		horsepower (hp)
foot/pound (ft/lb)		0.1383		kilogram/metre (kg/m)	Watt-hours (W x h)		3.41266		BTU
gallons (US)		3.785332		litres (l)					

Certifications

SAE AS23190 Military certified cable ties











- MS3367 standard cable ties
- See pages 16 à 18 for characteristics and specifications

MS3367 Standard cable ties

Military designator	Type	Colour	Cat. n°. Ty-Rap standard pack	Cat. n°. Ty-Rap bulk pack
MS3367-1-0	7" x 50lb	Black	TY525MX-0	TY25MX-0
MS3367-1-9	7" x 50lb	Natural	TY525M-9	TY25M-9
MS3367-1-*	7" x 50lb	*Various	TY525M-*	TY25M-*
MS3367-2-0	14" x 50lb	Black	TY528MX-0	TY28MX-0
MS3367-2-9	14" x 50lb	Natural	TY528M-9	TY28M-9
MS3367-2-*	14" x 50lb	*Various	TY528M-*	TY28M-*
MS3367-3-0	14" x 120lb	Black	TY527MX-0	TY27MX-0
MS3367-3-9	14" x 120lb	Natural	TY527M-9	TY27M-9
MS3367-3-*	14" x 120lb	*Various	TY527M-*	TY27M-*
MS3367-4-0	4" x 18lb	Black	TY523MX-0	TY23MX-0
MS3367-4-9	4" x 18lb	Natural	TY523M-9	TY23M-9
MS3367-4-*	4" x 18lb	*Various	TY523M-*	TY23M-*
MS3367-5-0	6" x 30lb	Black	TY524MX-0	TY24MX-0
MS3367-5-9	6" x 30lb	Natural	TY524M-9	TY24M-9
MS3367-5-*	6" x 30lb	*Various	TY524M-*	TY24M-*
MS3367-6-0	30" x 120lb	Black	TY529MX-0	TY29MX-0
MS3367-6-9	30" x 120lb	Natural	TY529M-9	TY29M-9
MS3367-6-*	30" x 120lb	*Various	TY529M-*	TY29M-*
MS3367-7-0	11" x 50lb	Black	TY5253MX-0	TY253MX-0
MS3367-7-9	11" x 50lb	Natural	TY5253M-9	TY253M-9
MS3367-7-*	11" x 50lb	*Various	TY5253M-*	TY253M-*
MS3376-12-0	35" x 175lb	Black	TY53510MX-0	-
MS3376-15-0	35" x 175lb	Black	TY54513MX-0	-

* Enter color code for various colors.
Consult with local sales representatives for MOQs, lead times and prices for color ties that are not in stock

Cable tie colour code

Colour code	Colour	Colour code	Colour
X	Black 	7	Purple 
1	Brown 	8	Gray 
2	Red 	10	White 
3	Orange 	CLRS	Multi-pack*
4	Yellow 	XO	Military black
5	Green 		Military natural
6	Blue 	9	

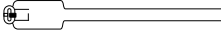

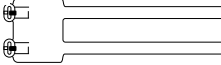
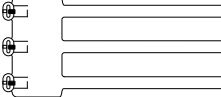
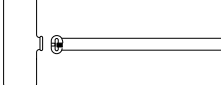
Certifications

SAE AS23190 Military certified cable ties



- MS3368 identification cable ties
- See pages 16 à 18 for characteristics and specifications

MS3368 Identification cable ties

Military designator	Colour	Cat. n°. Ty-Rap standard pack	Cat. n°. Ty-Rap bulk pack
 MS3368-1-A	Natural	TY546M-9	TY46M-9
 MS3368-2-A	Natural	TY548M-9	TY48M-9
 MS3368-3-C	Natural	TY546MD-9	TY46MD-9
 MS3368-4-D	Natural	TY546MT-9	TY46MT-9
 MS3368-5-E	Natural	TY551M-9	TY51M-9