

---

CATALOG

**Ty-Rap**<sup>®</sup>

## **Fastening solutions**

Easily bundle, secure and manage your cables



---

**First developed to solve the problem of bundling the miles of wiring found inside commercial aircrafts, Ty-Rap® cable ties can now be found virtually everywhere – from high performance racing engines to backyard tool sheds. Self-fastening and extremely durable in demanding applications, the ground-breaking design of the Ty-Rap® cable tie demonstrates how to solve a complex problem with simple technology.**

---

# Table of contents

<b>004–005</b>	<b>Introduction to Ty-Rap®</b>
<b>006–007</b>	<b>Cable tie selection guide</b>
<b>008–009</b>	<b>Environmental considerations, storage &amp; installation</b>
<b>010–045</b>	<b>Ty-Rap® high performance cable ties</b>
<b>046–065</b>	<b>Ty-Met™ stainless steel cable ties</b>
<b>066–075</b>	<b>All plastic cable ties</b>
<b>076–085</b>	<b>Integrated Mounting and Specialty Fastening</b>
<b>086–125</b>	<b>Ty-Rap® and Ty-Fast® Fastening Accessories</b>
<b>126–133</b>	<b>Cable sleeves and spiral wraps</b>
<b>134–143</b>	<b>Cable tie tooling</b>
<b>144–159</b>	<b>Material specifications</b>
<b>160–167</b>	<b>Index</b>

---

# Ty-Rap®

## Fastening solutions, how it all started

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

First developed to solve the problem of bundling the miles of wiring found inside commercial aircraft, Ty-Rap® cable ties can now be found virtually everywhere – from high performance racing engines to backyard tool sheds. Self-fastening and extremely durable in demanding applications, the ground-breaking design of the Ty-Rap® cable tie demonstrates how to solve a complex problem with simple technology.

The marine-grade stainless steel locking device inside the tie head provides proven performance for more resilience to the elements and easier installation. Ty-Rap® has a cable tie offering for the most adverse conditions: humidity, heat, cold, UV radiation, aggressive chemicals, radiation and other harsh conditions.

Engineered for labor 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 Maurus 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 issued. 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.”  
Robert Logan, son of Maurus Logan Ty-Rap® Inventor

# 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® and Ty-Met® cable ties, Shrink-Kon® heat shrink, T&B Cabletray
- Cable Protection Systems – nylon & metallic 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

## Product selection guide



















How to choose the right fastener

### Demanding applications



Type	Ty-Rap® Heat stabilized	Ty-Rap® Heat stabilized + UV-resistant	Ty-Rap® Heat reactive	Ty-Rap® Extra high temperatures	Ty-Rap® Flame retardant	Ty-Rap® Low Smoke	Ty-Rap® UV-resistant black	Ty-Rap® Extreme Outdoor
				<b>High temperatures</b>		<b>Smoke &amp; flame resistance</b>		<b>High UV resistance</b>
Applications	Transportation, Automotive	Transportation, Automotive	Visual safety indicator, MRO, HVAC. Activation temp. 40- 49°C (104-120°F)	Transportation, Automotive	Rail, Aerospace HVAC	HVAC plenum installations High-performance smoke & flame requirements	Outdoor	Solar, Transportation
Material	PA6.6HS	PA6.6HSIUV	Polypropylene	PA4.6	PA6.6FR	ECTFE	PA6.6UV	PA12
Product series	TYH*M	TY*MX-A	TYHR*M	TYHT*M	TY*MFR	TYV*M	TY*MX	TYC*MX
Max. product series	780N 175lb	540N 120lb	265N 60lb	540N 120lb	540N 120lb	220N 50lb	780N 175lb	378N 85lb
Operating temperature	-60 to 105°C -76 to 221°F	-60 to 105°C -76 to 221°F	0 to 80°C 32 to 176°F	-40 to 150°C -40 to 302°F	-20 to 65°C -4 to 149°F	-60 to 160°C -78 to 320°F	-80 to 105°C -112 to 221°F	-40 to 85°C -40 to 185°F
Max length	770mm 30.3"	360mm 14.2"	360mm 14.2"	617mm 24.3"	360mm 14.2"	185mm 7.3"	1140mm 44.9"	760mm 29.9"
Max wire bundle diameter	229mm 9.0"	100mm 4.0"	100mm 4.0"	177mm 7.0"	100mm 4.0"	44mm 1.7"	330mm 13.0"	228mm 9.0"
UV-resistance	●	● ● ●	-	●	●	● ● ● ● ●	● ● ● ●	● ● ● ● ●
Accessories	● ●	● ●	●	● ●	● ●	●	● ●	● ●
Colors								
Easy to install	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●
Installation tools	ERG50 ERG120	ERG50 ERG120	ERG50 ERG120	ERG50 ERG120	ERG50 ERG120	ERG50 ERG120	ERG50 ERG120	ERG50 ERG120
See page	138	138	138	138	138	138	138	138

See material specifications section on pages 150-159

Demanding applications						Simplicity & design		
								
<b>Ty-Rap® Chemical Resistant</b>	<b>Ty-Rap® Extreme Environment</b>	<b>Ty-Rap® Detectable</b>	<b>Ty-Fast® Ag+ Bacteria Resistant</b>	<b>Deltec®</b>	<b>Ty-Met®</b>	<b>Ty-Rap®</b>	<b>Twist Tail™</b>	<b>Ty-Fast® / Col-Ty™</b>
<b>Chemical resistance</b>	<b>Contaminant Resistance</b>	<b>Utilities &amp; telecom</b>	<b>Extreme environments</b>	<b>Customization &amp; performance</b>	<b>Convenience</b>	<b>Essential</b>		
Chemical processing, Autoclave sterilizing	Nuclear, Power plants, Space industry, Environments with risk of smoke generation	Food and beverage, Cosmetic	Medical, Pharmaceutical	Utilities, Packaging	Marine, Rail, Oil & gas, Industrial	Standard applications	MRO, Electrical, Residential	OEM, General bundling
Polypropylene	ETFE	Polypropylene, PA6.6	PA6.6 Ag+	Acetal +UV	Stainless Steel	PA6.6	PA6.6	PA6.6
TYP*MX	TYZ*M	TY*M-NDT TY*M-PDT	TY*-*-ANTI	TYD-*, CSS*	YLS-*-** RS-*-** SS-*-** YLD-*-**	TY*M*	TT-*	TY*
265N 60lb	540N 120lb	540N 120lb	540N 120lb	1100N 250lb	4000N 900lb	780N 175lb	130N 30lb	1100N 175lb
-40 to 85°C -40 to 185°F	-60°C to 170°C -76 to 338°F	-20 to 85°C -4 to 185°F	-40 to 85°C -40 to 185°F	-40 to 85°C -40 to 185°F	-40 to 300°C -40 to 572°F	-60 to 85°C -76 to 185°F	-40 to 85°C -40 to 185°F	-40 to 85°C -40 to 185°F
360mm 14.2"	360mm 14.2"	360mm 14.2"	360mm 14.2"	305m 1000ft	1400mm 55.1"	1143mm 45.0"	360mm 14.2"	1200mm 47.2"
100mm 4.0"	100mm 4.0"	100mm 4.0"	100mm 4.0"	4m 13.1ft	425mm 16.7"	330mm 13.0"	100mm 4.0"	380mm 15.0"
● ● ● ●	● ● ● ● ● ●	● ● ●	●	● ● ● ● ● ●	● ● ● ● ● ● ● ●	● ● ● ● ● ●	● ● ● ●	● ● ● ●
●	●	● ● ●	●	● ●	● ●	● ● ● ● ● ● ● ●	● ● ● ●	● ● ● ●
								
● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	●	● ● ● ● ● ● ● ●	● ● ● ● ● ● ● ●	● ● ● ●
ERG50 ERG120	ERG50 ERG120	ERG50 ERG120	ERG50 ERG120	WT3D	DAS250 CT3	ERG50 ERG120	No tool needed	ERG50 ERG120
138	138	138	138	138	139	138		138

# Environmental considerations

## Impact on product life



### Chemical resistance

ABB Fastening Products are developed to meet the needs of a variety of demanding environments. Whether a chemical processing facility, nuclear power plant, or the wash-down in food processing, there is a range of material choices that will extend the fastener's life and avoid costly maintenance or the introduction of foreign debris.



### Hot / cold resistance

No matter the installation, there is an ABB Fastening Product to meet the need. From the hot chambers in engine compartments to the extreme cold of winter, the unique design and performance of our products offer some of the broadest range of operating temperatures and lowest installation temperatures.



### UV resistance

UV radiation is a formidable force that has a damaging effect on nearly everything it touches. ABB Fastening Products are formulated to withstand a variety of conditions from desert to rainforest.







---

## Storage and installation

### Impact on product performance



#### Moisture Resistance

Most fastening products are made with variants of nylon because nylon offers a great combination of flexibility, strength, durability and economical pricing. Nylon, like many materials, absorbs and releases moisture depending on the external relative humidity. This can have a detrimental impact on the durability of cable ties. If the moisture content gets too low, cable ties become brittle and can break during installation.

ABB Fastening Products addresses those challenges by using high grades of nylon and offers products in moisture resistant materials for easier installation and resilience in cold or dry conditions.



#### Storage

For best results, fastening products should be stored in the sealed packaging until used and should not be stored in direct sunlight or near a heat source. Ideal storage conditions are 23°C (73°F) and 50% relative humidity.



#### Installation

For best results, a compatible ABB Cable Tie Installation Tool should be used to fasten and trim cable ties. Installations must always be tested on the application to ensure proper interaction with the bundle as the type of installation and environmental conditions will vary greatly and impact performance. A properly installed cable tie will be tightened and trimmed so the tail remains flush to the cable tie head. If the tail retracts more than 1mm inside the head, the cable tie has been tightened more than recommended and may cause premature failure.



# 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 any bundle application will improve the reliability of the installation, effectively reducing the total cost of ownership. Ty-rap's carefully designed features will also speed installation and provide the highest level of precision, safety and comfort.

### Safety and reliability

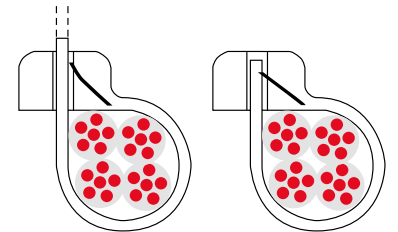
The oval head with rounded edges protects adjacent bundles and improves product life.

### Up to 3X longer life

Solid body construction reduces stress points, increasing durability.

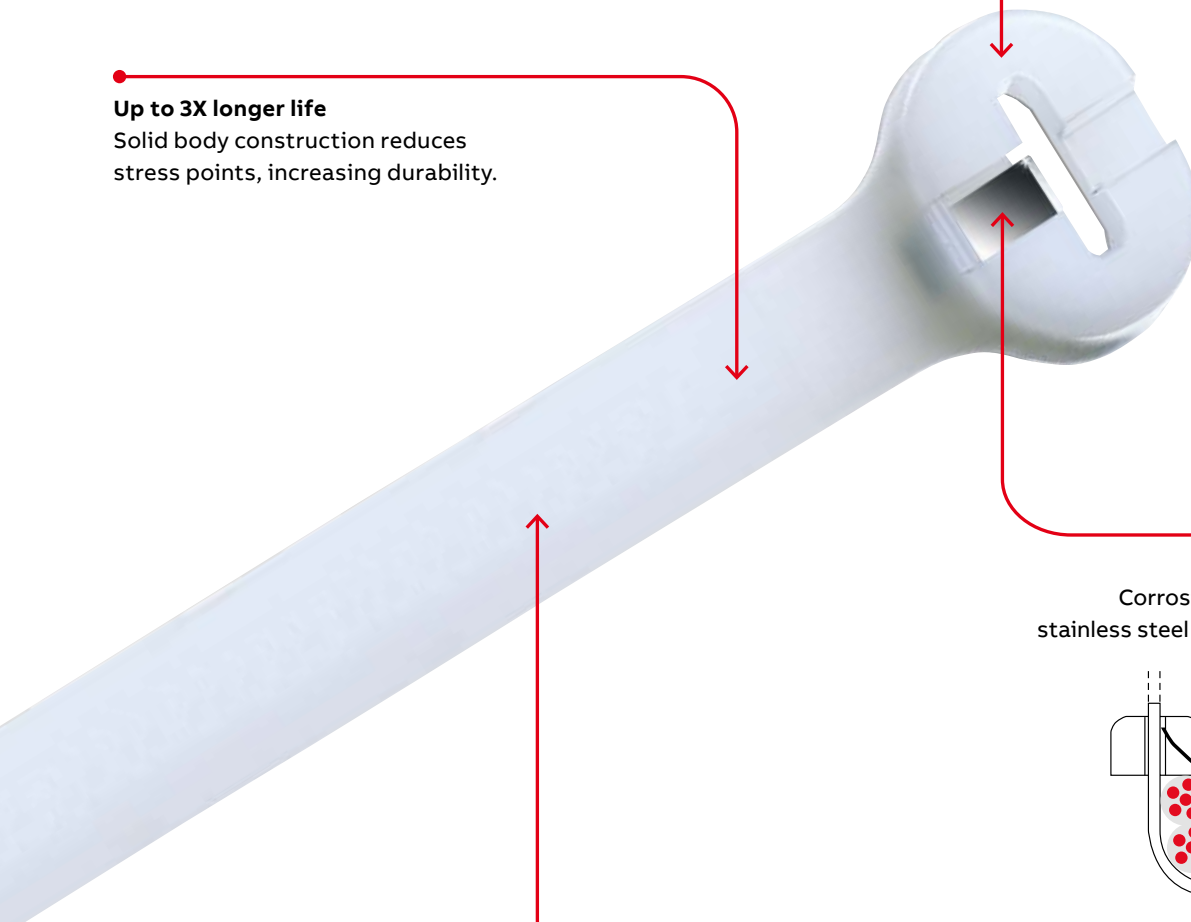
### "The Grip of Steel"

Corrosion resistant marine grade stainless steel barb provides secure lock.



### Protects bundle

The smooth, rounded body with molded ribs and stipples firmly grips the bundle while protecting conductors from damage.



**Easy handling**

The turned up tail makes orientation and handling easy, even in blind installations or tight locations.

**Easy installation**

The specially designed thin tail with grips makes installing the ties easy, even when wearing gloves.

**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, EN/IEC 62275, UL 62275, MS3367/3368 and EN45545.



**Wide range of size combinations:** several lengths up to 1143mm (45"), in 6 typical widths with a tensile strength up to 780N, to fasten cable bundles with a diameter up to 330mm (13").

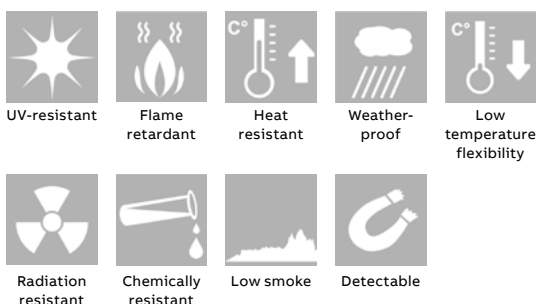
**Performance Installation Tools:** Industry-leading tools tighten and cut the loose end of cable ties with precision for repeatable, consistent installations that leave a safe, clean edge.

**Most extensive choice of special materials:** in addition to Polyamide 6.6 (standard, UV-resistant, heat stabilized, flame retardant, heat stabilized / 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.

**Different types of packaging,** including the unique "workbench boxes" for fast working without problems or losses. Recyclable packaging for a better contribution to the environment.

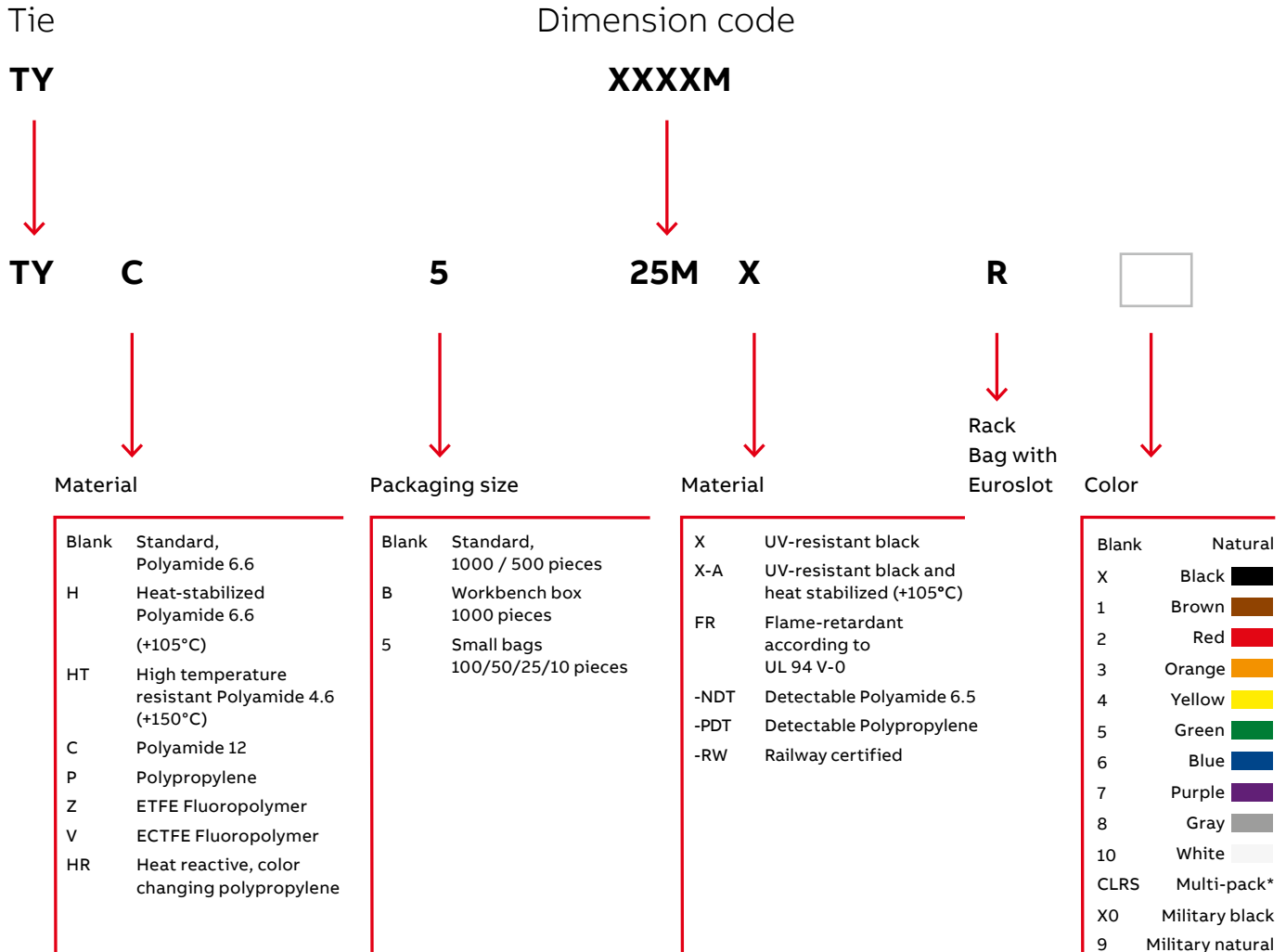
**Outstanding range of special ties,** all with the famous stainless steel locking device: ties with mounting hole or integrated peg/nail, panel mounting ties, identification ties with integrated label.

**Broad range of mounting bases and accessories.** Bundling the wire is just one step. ABB offers a wide range of solutions to mount the bundle to a variety of applications as well as specialty solutions for clamping and protecting wire, cable, tube and hoses.



# Ty-Rap® high performance cable ties

Ty-Rap® product code structure



Note: Nylon (Polyamide) is inherently susceptible to environmental conditions. Ty-Rap® 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.

## Ty-Rap® high performance cable ties

### Polyamide 6.6 cable ties – Natural



#### Characteristics

- Standard (Polyamide 6.6), to cover most indoor applications
- Several lengths and 6 typical widths with a tensile strength up to 780N, to cover the most demanding applications
- Packaging: OEM bulk quantities in recyclable polythene bags
- Also available in small bags with Euroslot (see page 12) and in workbench boxes (see page 15)

#### Technical information

- Material - Molding: 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)
- Color: Natural
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

#### Polyamide 6.6 cable ties – Natural



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength		Pack quantity [pieces]	MIL spec.*
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[lbs]	[N]		
<b>Standard pack size</b>											
TY523M	7TAG009010R0012	1.5 - 16	0.1 - 0.6	92	3.6	2.3	0.09	18	80	100	●
TY52315M	7TAG009020R0050	1.3 - 32	0.1 - 1.3	178	7.0	2.3	0.09	18	80	100	-
TY5232M	7TAG009010R0008	1.5 - 51	0.1 - 2.0	203	8.0	2.3	0.09	18	80	100	-
TY5234M	7TAG009020R0052	1.5 - 102	0.1 - 4.0	356	14.0	2.3	0.09	18	80	100	-
TY524M	7TAG009090R0006	2 - 35	0.1 - 1.4	140	5.5	3.6	0.14	40	180	100	●
TY5242M	7TAG009090R0002	2 - 51	0.1 - 2.0	208	8.2	3.6	0.14	40	180	100	-
TY526M	7TAG009080R0001	2 - 76	0.1 - 3.0	284	11.2	3.6	0.14	30	135	100	-
TY5244M	7TCG009090R0004	2 - 102	0.1 - 4.0	368	14.5	3.6	0.14	30	135	100	-
TY525M	7TAG009170R0000	3 - 48	0.1 - 1.9	186	7.3	4.8	0.19	50	220	100	●
TY5253M	7TAG009180R0006	3 - 78	0.1 - 3.0	290	11.4	4.8	0.19	50	220	100	●
TY528M	7TAG009170R0003	3 - 102	0.1 - 4.0	361	14.2	4.8	0.19	50	220	100	●
TY5272M	7TAG009300R0015	6 - 51	0.2 - 2.0	223	8.8	6.9	0.27	120	534	50	-
TY527M	7TAG009280R0001	6 - 102	0.2 - 4.0	340	13.4	7.0	0.28	121	540	50	●
TY5275M	7TAG009290R0004	6 - 127	0.2 - 5.0	457	18.0	7.0	0.28	121	540	50	-
TY5277M	7TAG009290R0005	6 - 177	0.2 - 7.0	617	24.3	7.0	0.28	121	540	50	-
TY529M	7TAG009280R0004	6 - 229	0.2 - 9.0	771	30.4	6.9	0.27	121	540	50	●
TY53510M	7TCG009380R0001	to 254	to 10.0	889	35	8.2	0.32	121	540	50	-
TY54513M	7TCG009380R0003	to 330	to 13.0	1143	45	8.2	0.32	121	540	50	-

\* Add "-9" for items certified to MS3367. See page 147 for more details  
 Description of product code structure: see page 12  
 Description of materials and properties: see pages 150 to 159  
 Some approvals may not be applicable to all product codes. Contact your Sales Office for approvals limitations

#### Tooling



**ERG50**  
 For use with 2.3mm to 4.8mm (80N to 220N) cable ties. See page 136.

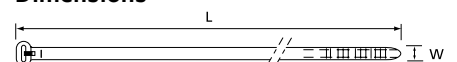


**ERG120**  
 For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



**WT3D**  
 For use with 4.8mm to 8.2mm (220N to 780N) cable ties. See page 136.

#### Dimensions



## Ty-Rap® high performance cable ties

Polyamide 6.6 cable ties – Natural (continued)

### Polyamide 6.6 cable ties – Natural



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength		Pack quantity [pieces]	MIL spec.*
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[lbs]	[N]		
<b>Bulk pack size</b>											
TY23M	7TAG009040R0009	1.5 - 16	0.1 - 0.6	92	3.6	2.3	0.09	18	80	1000	●
TY232M	7TAG009040R0005	1.5 - 51	0.1 - 2.0	203	8.0	2.3	0.09	18	80	1000	—
TY234M	7TAG009050R0000	1.5 - 102	0.1 - 4.0	356	14.0	2.3	0.09	18	80	1000	—
TY24M	7TAG009130R0007	2 - 35	0.1 - 1.4	140	5.5	3.6	0.14	40	180	1000	●
TY242M	7TAG009120R0000	2 - 51	0.1 - 2.0	208	8.2	3.6	0.14	40	180	1000	—
TY26M	7TAG009120R0002	2 - 76	0.1 - 3.0	284	11.2	3.6	0.14	30	135	1000	—
TY244M	7TCG009130R0005	2 - 102	0.1 - 4.0	368	14.5	3.6	0.14	30	135	1000	—
TY25M	7TAG009210R0042	3 - 48	0.1 - 1.9	186	7.3	4.8	0.19	50	220	1000	●
TY253M	7TAG009220R0001	3 - 78	0.1 - 3.0	290	11.4	4.8	0.19	50	220	1000	●
TY28M	7TAG009210R0048	3 - 102	0.1 - 4.0	361	14.2	4.8	0.19	50	220	1000	●
TY272M	7TAG009340R0002	6 - 51	0.2 - 2.0	223	8.8	6.9	0.27	121	540	500	—
TY27M	7TAG009320R0003	6 - 102	0.2 - 4.0	340	13.4	7.0	0.28	121	540	500	●
TY275M	7TAG009330R0009	6 - 127	0.2 - 5.0	457	18.0	7.0	0.28	121	540	500	—
TY277M	7TAG009340R0003	6 - 177	0.2 - 7.0	617	24.3	7.0	0.28	121	540	500	—
TY29M	7TAG009330R0012	6 - 229	0.2 - 9.0	771	30.4	6.9	0.27	121	540	500	●

\* Add "-9" for items certified to MS3367. See page 147 for more details

Description of product code structure: see page 12

Description of materials and properties: see pages 150 to 159

Some approvals may not be applicable to all product codes. Contact your Sales Office for approvals limitations

### Tooling



#### ERG50

For use with 2.3mm to 4.8mm (80N to 220N) cable ties. See page 136.



#### ERG120

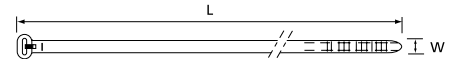
For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



#### WT3D

For use with 4.8mm to 8.2mm (220N to 780N) cable ties. See page 136.

### Dimensions



# Ty-Rap® high performance cable ties

## Polyamide 6.6 cable ties – UV-resistant black



### Characteristics

- UV-resistant
- Recommended for outdoor applications
- Several lengths and 6 typical widths with a tensile strength up to 780N, to cover the most demanding applications
- Packaging: OEM bulk quantities in recyclable polythene bags
- Also available in small bags with Euroslot (see page 12) and in workbench boxes (see page 15)

### Technical information

- Material - Molding: 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)
- Color: Black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, Halogen free, Silicone free

### Polyamide 6.6 cable ties – UV-resistant black



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength		Pack quantity [pieces]	MIL spec.*
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[lbs]	[N]		
<b>Standard pack size</b>											
TY523MX	7TAG009010R0015	1.5 - 16	0.1 - 0.6	92	3.6	2.3	0.09	18	80	100	
TY52315MX	7TAG009020R0051	1.5 - 32	0.1 - 1.3	178	7.0	2.3	0.09	18	80	100	-
TY5232MX	7TAG009010R0010	1.5 - 51	0.1 - 2.0	203	8.00	2.3	0.09	18	80	100	-
TY5234MX	7TAG009010R0011	1.5 - 102	0.1 - 4.0	356	14.0	2.3	0.09	18	80	100	-
TY524MX	7TAG009090R0007	2 - 35	0.1 - 1.4	140	5.5	3.6	0.14	40	180	100	
TY5242MX	7TAG009090R0003	2 - 51	0.1 - 2.0	208	8.2	3.6	0.14	40	180	100	-
TY526MX	7TAG009080R0002	2 - 76	0.1 - 3.0	284	11.2	3.6	0.14	29	130	100	-
TY5244MX	7TCG009090R0005	2 - 102	0.1 - 4.0	368	14.5	3.6	0.14	29	130	100	-
TY525MX	7TAG009170R0002	3 - 48	0.1 - 1.9	186	7.3	4.8	0.19	50	220	100	
TY5253MX	7TAG009180R0007	3 - 78	0.1 - 3.1	290	11.4	4.8	0.19	50	220	100	
TY528MX	7TAG009170R0004	3 - 102	0.1 - 4.0	361	14.2	4.8	0.19	50	220	100	
TY5272MX*	7TAG009290R0003	6 - 51	0.2 - 2.0	223	8.8	6.9	0.27	121	540	50	-
TY527MX*	7TAG009280R0002	6 - 102	0.2 - 4.0	340	13.4	7.0	0.28	121	540	50	-
TY5275MX*	7TAG009280R0000	6 - 127	0.2 - 5.0	457	18.0	7.0	0.28	121	540	50	-
TY5277MX*	7TAG009290R0006	6 - 177	0.2 - 7.0	617	24.3	7.0	0.28	121	540	50	-
TY529MX*	7TAG009280R0004	6 - 229	0.2 - 9.0	771	30.4	6.9	0.27	121	540	50	-
TY53510MX	7TCG009380R0002	to 254	to 10.0	889	35.0	8.2	0.32	121	780	50	-
TY54513MX	7TCG009380R0005	to 330	to 12.99	1143	45.0	8.2	0.32	121	780	50	-

\* Add "-9" for items certified to M53367. See page 147 for more details

\* Min. installation temp: -40°C

Description of product code structure: see page 12

Description of materials and properties: see pages 150 to 159

Some approvals may not be applicable to all product codes

Contact your Sales Office for approvals limitations

### Tooling



**ERG50**  
For use with 2.3mm to 4.8mm (80N to 220N) cable ties. See page 136.

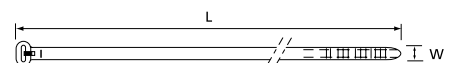


**ERG120**  
For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



**WT3D**  
For use with 4.8mm to 8.2mm (220N to 780N) cable ties. See page 136.

### Dimensions



## Ty-Rap® high performance cable ties

Polyamide 6.6 cable ties – UV-resistant black (continued)

### Polyamide 6.6 cable ties – UV-resistant black



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength		Pack quantity [pieces]	MIL spec.*
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[lbs]	[N]		
<b>Bulk pack size</b>											
TY23MX	7TAG009040R0011	1.5 - 16	0.1 - 0.6	92	3.6	2.3	0.09	18	80	1000	●
TY232MX	7TAG009040R0007	1.5 - 51	0.1 - 2.0	203	8.0	2.3	0.09	18	80	1000	-
TY234MX	7TAG009050R0001	1.5 - 102	0.1 - 4.0	356	14.0	2.3	0.09	18	80	1000	-
TY24MX	7TAG009130R0009	2 - 35	0.1 - 1.4	140	5.5	3.6	0.14	40	180	1000	●
TY242MX	7TAG009130R0004	2 - 51	0.1 - 2.0	208	8.2	3.6	0.14	40	180	1000	-
TY26MX	7TAG009120R0004	2 - 76	0.1 - 3.0	284	11.2	3.6	0.14	29	130	1000	-
TY244MX	7TCG009130R0006	2 - 102	0.1 - 4.0	368	14.5	3.6	0.14	29	130	1000	-
TY25MX	7TAG009210R0045	3 - 48	0.1 - 1.9	186	7.3	4.8	0.19	50	220	1000	●
TY253MX	7TAG009220R0003	3 - 78	0.1 - 3.1	290	11.4	4.8	0.19	50	220	1000	●
TY28MX	7TAG009210R0050	3 - 102	0.1 - 4.0	361	14.2	4.8	0.19	50	220	1000	●
TY272MX**	7TAG009330R0007	6 - 51	0.2 - 2.0	223	8.8	6.9	0.27	121	540	500	-
TY27MX**	7TAG009320R0004	6 - 102	0.2 - 4.0	340	13.4	7.0	0.28	121	540	500	●
TY275MX**	7TAG009320R0001	6 - 127	0.2 - 5.0	457	18.0	7.0	0.28	121	540	500	-
TY277MX**	7TAG009330R0010	6 - 177	0.2 - 7.0	617	24.3	7.0	0.28	121	540	500	-
TY29MX**	7TAG009330R0014	6 - 229	0.2 - 9.0	771	30.4	6.9	0.27	121	540	500	●

\* Add "-9" for items certified to MS3367. See page 147 for more details

\*\* Min. installation temp : -40°C

Description of product code structure: see page 12

Description of materials and properties: see pages 150 to 159

Some approvals may not be applicable to all product codes

Contact your Sales Office for approvals limitations

### Tooling



#### ERG50

For use with 2.3mm to 4.8mm (80N to 220N) cable ties. See page 136.



#### ERG120

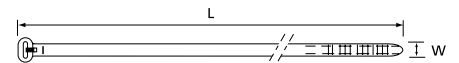
For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



#### WT3D

For use with 4.8mm to 8.2mm (220N to 780N) cable ties. See page 136.

### Dimensions





# Ty-Rap® high performance cable ties

## Polyamide 6.6 cable ties – Workbench boxes



### Characteristics

- An attractive packaging option for high volume manual assembly: 1000 pieces in a workbench box - easy to reach and timesaving
- This user-friendly packaging allows quicker work and easier assembly since all cable ties packed with the heads up for better access.

### Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range:
  - 60°C to +85°C (-76°F to 185°F) (natural),
  - 60°C to +105°C (-76°F to 221°F) (black)
- Min. Installation Temp.:
  - 20°C (-4°F) (natural),
  - 30°C (-22°F) (black)
- Color: Natural or UV-resistant black (other colors see page 12)
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free, UV-resistant (black)

### Polyamide 6.6 cable ties – Workbench boxes



Product code	GID No.	Color	Bundle ø from ... to		Length L		Width W		Min. tensile strength		Quantity [pieces]	MIL spec.
			[mm]	[in]	[mm]	[in]	[mm]	[in]	[lbs]	[N]		
TYB23M	7TCG009450R0186	Natural	1.5 - 16	0.06 - 0.6	92	3.6	2.3	0.09	18	80	1000	●
TYB23MX	7TCG009960R0068	UV-resistant black	1.5 - 16	0.06 - 0.6	92	3.6	2.3	0.09	18	80	1000	●
TYHB23M	7TCG009460R0111	Natural	1.5 - 16	0.10 - 0.6	92	3.6	2.4	0.09	18	80	1000	-
TYB2315M	7TAG009050R0002	Natural	1.3 - 32	0.1 - 1.3	178	7.0	2.3	0.09	18	80	1000	-
TYB2315MX	7TAG009050R0003	UV-resistant black	1.5 - 32	0.1 - 1.3	178	7.0	2.3	0.09	18	80	1000	-
TYB232M	7TCG009020R0054	Natural	1.5 - 51	0.06 - 2.00	203	8.0	2.3	0.09	18	80	1000	-
TYB232MX	7TCG009020R0055	UV-resistant black	1.5 - 51	0.06 - 2.00	203	8.0	2.3	0.09	18	80	1000	-
TYB24M	7TCG009140R0019	Natural	2 - 35	0.08 - 1.4	140	5.5	3.6	0.14	40	178	1000	●
TYB24MX	7TCG009960R0069	UV-resistant black	2 - 35	0.08 - 1.4	140	5.5	3.6	0.14	40	180	1000	●
TYB25M	7TCG009450R0193	Natural	3 - 48	0.12 - 1.9	186	7.3	4.8	0.19	50	220	1000	●
TYB25MX	7TCG009450R0198	UV-resistant black	3 - 48	0.12 - 1.9	186	7.3	4.8	0.19	50	220	1000	●

Description of product code structure: see page 12  
 Description of materials and properties: see pages 150 to 159  
 For tooling specifications: see pages 136 to 143

### Tooling

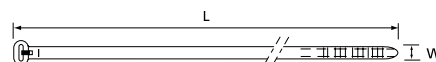


**ERG50**  
 For use with 2.3mm to 4.8mm (80N to 220N) cable ties. See page 136.



**ERG120**  
 For use with 4.8mm (220N) cable ties. See page 136.

### Dimensions



## Ty-Rap® high performance cable ties

Polyamide 6.6 cable ties – Colored (Stocked)



### Characteristics

Ty-Rap® cable ties in Polyamide 6.6 are available in 10 different colors

- Several standard sizes and tensile strengths are normally in stock in standard pack quantities
- Standard packaging is 100/50 pieces

### Technical information

- Material - Molding: 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)
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free



### Polyamide 6.6 cable ties – Colored (Stocked)

Product code - stocked	GID No.	Color	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Pack quantity [pieces]	MIL spec.
			[mm]	[in]	[mm]	[in]	[mm]	[in]			
<b>Standard pack size</b>											
TY523M-1	N/A	Brown	1.5 - 16	0.06 - 0.63	92	3.6	2.3	0.09	80	100	•
TY523M-2	7TAG009070R0104	Red									
TY523M-3	7TAG009070R0105	Orange									
TY523M-4	N/A	Yellow									
TY523M-5	N/A	Green									
TY523M-6	N/A	Blue									
TY523M-7	N/A	Purple									
TY523M-8	N/A	Gray									
TY523M-10	N/A	White									
TY5232M-1	N/A	Brown	3 - 78	0.12 - 3.07	290	11.42	4.8	0.19	220	100	•
TY5232M-2	N/A	Red									
TY5232M-3	N/A	Orange									
TY5232M-4	N/A	Yellow									
TY5232M-5	N/A	Green									
TY5232M-6	N/A	Blue									
TY5232M-7	N/A	Purple									
TY5232M-8	N/A	Gray									
TY5232M-10	N/A	White									
TY524M-1	7TBG009000R0274	Brown	2 - 35	0.08 - 1.38	140	5.51	3.6	0.14	180	100	•
TY524M-2	N/A	Red									
TY524M-3	7TAG009160R0031	Orange									
TY524M-4	N/A	Yellow									
TY524M-5	N/A	Green									
TY524M-6	N/A	Blue									
TY524M-7	N/A	Purple									
TY524M-8	N/A	Gray									
TY524M-10	N/A	White									

Description of product code structure: see page 12. Description of materials and properties: see pages 150 to 159

### Tooling



**ERG50**  
For use with 2.3mm to 4.8mm (80N to 220N) cable ties. See page 136.

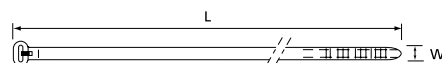


**ERG120**  
For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



**WT3D**  
For use with 4.8mm to 8.2mm (220N to 780N) cable ties. See page 136.

### Dimensions



## Ty-Rap® high performance cable ties

Polyamide 6.6 cable ties – Colored (Stocked)

(Continued)

### Polyamide 6.6 cable ties – Colored (Stocked)



Product code - stocked	GID No.	Color	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Pack quantity [pieces]	MIL spec.
			[mm]	[in]	[mm]	[in]	[mm]	[in]			
TY525M-1	N/A	Brown	3 - 48	0.12 - 1.89	186	7.32	4.8	0.19	220	100	●
TY525M-2	7TAG009270R0032	Red									
TY525M-3	7TAG009270R0034	Orange									
TY525M-4	N/A	Yellow									
TY525M-5	N/A	Green									
TY525M-6	N/A	Blue									
TY525M-7	N/A	Purple									
TY525M-8	7TAG009270R0035	Gray									
TY525M-10	7TAG009270R0053	White									
TY5253M-1	N/A	Brown	3 - 78	0.12 - 3.07	290	11.42	4.8	0.19	220	100	●
TY5253M-2	7TAG009270R0030	Red									
TY5253M-3	N/A	Orange									
TY5253M-4	N/A	Yellow									
TY5253M-5	N/A	Green									
TY5253M-6	N/A	Blue									
TY5253M-7	N/A	Purple									
TY5253M-8	N/A	Gray									
TY5253M-10	N/A	White									
TY528M-1	N/A	Brown	3 - 102	0.12 - 4.02	361	14.21	4.8	0.19	220	100	●
TY528M-2	N/A	Red									
TY528M-3	7TAG009270R0038	Orange									
TY528M-4	N/A	Yellow									
TY528M-5	N/A	Green									
TY528M-6	N/A	Blue									
TY528M-7	N/A	Purple									
TY528M-8	7TBG009010R0026	Gray									
TY528M-10	7TBG009010R0027	White									
TY527M-1	N/A	Brown	6 - 102	0.24 - 4.02	340	13.39	7.0	0.28	540	50	●
TY527M-2	N/A	Red									
TY527M-3	7TAG009370R0040	Orange									
TY527M-4	N/A	Yellow									
TY527M-5	N/A	Green									
TY527M-6	N/A	Blue									
TY527M-7	N/A	Purple									
TY527M-8	N/A	Gray									
TY527M-10	N/A	White									

Description of product code structure: see page 12. Description of materials and properties: see pages 150 to 159

### Tooling



**ERG50**  
For use with 2.3mm to 4.8mm (80N to 220N) cable ties. See page 136.

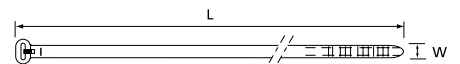


**ERG120**  
For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



**WT3D**  
For use with 4.8mm to 8.2mm (220N to 780N) cable ties. See page 136.

### Dimensions



## Ty-Rap® high performance cable ties

### Polyamide 6.6 cable ties – Variety Packs



#### Characteristics

- Includes 10 each of 10 standard colors: black, brown, red, orange, yellow, green, blue, purple, gray and white

#### Polyamide 6.6 cable ties – Variety Packs



Product code - stocked	GID No.	Color	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Pack quantity [pieces]	MIL spec.
			[mm]	[in]	[mm]	[in]	[mm]	[in]			
<b>Multi-color pack*</b>											
<b>Standard pack size</b>											
TY523M-CLRS	N/A	Assorted	1.5 - 16	0.06 - 0.6	92	3.6	2.3	0.09	80	100	●
TY524M-CLRS	N/A		2 - 35	0.08 - 1.4	140	5.5	3.6	0.14	180	100	●
TY525M-CLRS	7TAG009270R0037		3 - 48	0.12 - 1.9	186	7.3	4.8	0.19	220	100	●
TY528M-CLRS	N/A		3 - 102	0.12 - 4.0	361	14.2	4.8	0.19	220	100	●

Description of product code structure: see page 12. Description of materials and properties: see pages 150 to 159

\*10 different colors and 10 pieces of each color in pack

#### Tooling



##### ERG50

For use with 2.3mm to 4.8mm (80N to 220N) cable ties. See page 136.



##### ERG120

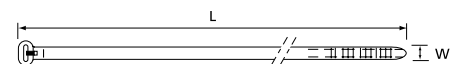
For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



##### WT3D

For use with 4.8mm to 8.2mm (220N to 780N) cable ties. See page 136.

#### Dimensions



# Ty-Rap® high performance cable ties

## Polyamide 6.6 cable ties – Heat stabilized



### Characteristics

- Heat stabilized for applications up to 105°C (221°F).

### Technical information

- Material - Molding: 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)
- Color: Natural (may have a greenish tint)
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

### Polyamide 6.6 cable ties – Heat stabilized



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Thickness		Min. tensile strength		Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[lbs]	[N]	
TYH23M	7TCG009590R0002	1.5 - 16	0.1 - 0.6	92	3.6	2.4	0.09	1.0	0.04	18	80	1000
TYH232M	7TCG009590R0001	1.5 - 51	0.1 - 2.0	203	8.0	2.4	0.09	1.0	0.04	18	80	1000
TYH24M	7TAG009590R0004	2 - 35	0.1 - 1.4	140	5.5	3.6	0.14	1.1	0.04	40	180	1000
TYH242M*	7TCG009590R0003	2 - 51	0.1 - 2.0	208	8.2	3.6	0.14	1.1	0.04	40	180	1000
TYH26M	7TCG009590R0007	2 - 76	0.1 - 3.0	284	11.2	3.6	0.14	1.1	0.04	29	130	1000
TYH25M	7TAG009590R0006	3 - 48	0.1 - 1.9	186	7.3	4.7	0.19	1.3	0.05	50	220	1000
TYH253M*	7TAG009590R0005	3 - 76	0.1 - 3.0	290	11.4	4.8	0.19	1.2	0.05	50	220	1000
TYH28M	7TAG009590R0010	3 - 102	0.2 - 4.0	360	14.2	4.8	0.19	1.3	0.05	50	220	1000
TYH272M*	7TCG009590R0008	4.8 - 51	0.2 - 2.0	222	8.7	7.6	0.30	1.6	0.06	121	540	500
TYH27M	7TAG009590R0009	4.8 - 102	0.2 - 4.0	340	13.4	7.0	0.28	1.6	0.06	121	540	500
TYH29M*	7TCG009590R0011	4.8 - 229	0.2 - 9.0	771	30.4	6.9	0.27	1.5	0.06	121	540	500

\* Not UL recognised  
 Description of product code structure: see page 12  
 Description of materials and properties: see pages 150 to 159  
 For tooling specifications: see pages 136 to 143

### Tooling



**ERG50**  
 For use with 2.4mm to 4.8mm (80N to 220N) cable ties. See page 136.

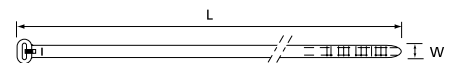


**ERG120**  
 For use with 4.7mm to 7.0mm (220N to 540N) cable ties. See page 136.



**L-500-EU**  
 For use with 6.9mm to 7.6mm (540N) cable ties. See page 136.

### Dimensions



## Ty-Rap® high performance cable ties

Polyamide 6.6 cable ties – Impact and UV resistance + Heat stabilized



### Characteristics

- Heat stabilized + UV-resistant for outdoor applications that also require a resistance to high temperature (+105°C/221°F)
- For OEM and MRO applications like: transportation, agriculture (garden/farm), construction equipment, recreational vehicles

### Technical information

- Material - Molding: 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)
- Color: Black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, heat stabilized, Halogen free, Silicone free

Polyamide 6.6 cable ties – Heat stabilized + UV-resistant



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Thickness		Min. tensile strength		Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[lbs]	[N]	
TY23MX-A	7TAG009640R0000	4.8 - 16	0.2 - 0.6	92	3.6	2.3	0.09	0.9	0.04	18	80	1000
TY24MX-A	7TAG009640R0001	5.2 - 35	0.2 - 1.4	140	5.5	3.6	0.14	1.1	0.04	30	133	1000
TY25MX-A	7TAG009640R0002	6.2 - 48	0.2 - 1.9	186	7.3	4.8	0.19	1.2	0.05	50	220	1000
TY253MX-A	7TAG009640R0009	3 - 78	0.1 - 3.1	290	11.4	4.8	0.19	1.3	0.05	50	220	1000
TY27MX-A	7TAG009640R0003	8 - 95	0.3 - 3.7	340	13.4	6.9	0.27	1.6	0.06	121	540	500
TY28MX-A	7TAG009210R0051	3 - 102	0.1 - 4.0	361	14.2	4.8	0.19	1.3	0.05	121	220	1000

Description of product code structure: see page 12

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

### Tooling



#### ERG50

For use with 2.3mm (80N) cable ties. See page 136.



#### ERG120\*

For use with 2.3mm to 6.9mm (80N to 540N) cable ties. See page 136.

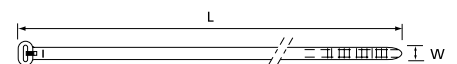


#### L-500-EU

For use with 4.8mm to 6.9mm (220N to 540N) cable ties. See page 136.

\* ERG120 can not be used with TY23MX-A and TY24MX-A

### Dimensions



## Ty-Rap® high performance cable ties

Polyamide 4.6 cable ties – Extra high temperature



### Characteristics

- Extreme continuous temperature rating: -40°C to +150°C (-40°F to 302°F) (in air)
- For high temperature environments in industrial, OEM, MRO and commercial construction applications such as: metal processing, paper mills, lighting, automotive

### Technical information

- Material - Molding: 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 (-0.4°F)
- Color: Light green
- Flammability rating: UL 94 V-2
- Other properties: Extra high temperature resistant, Halogen free, Silicon free

Polyamide 4.6 cable ties – Extra high temperature



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Thickness		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]		
TYHT23M	7TAG009590R0012	2 - 20	0.1 - 0.8	95	3.7	2.3	0.09	0.91	0.04	80	1000
TYHT24M	7TAG009590R0013	2 - 29	0.1 - 1.1	143	5.6	3.6	0.14	1.07	0.42	180	1000
TYHT25M	7TAG009590R0014	5 - 45	0.2 - 1.8	192	7.6	4.8	0.19	1.22	0.05	220	1000
TYHT28M	7TAG009590R0016	5 - 102	0.2 - 4.0	367	14.5	4.8	0.19	1.27	0.05	220	1000
TYHT27M	7TAG009590R0015	5 - 89	0.2 - 3.5	349	13.7	6.9	0.27	1.60	0.02	540	500
TYHT277M	7TAG009000R0326	6 - 177	0.2 - 7.0	617	24.3	7.0	0.28	1.60	0.02	540	500

Description of product code structure: see page 12  
 Description of materials and properties: see pages 150 to 159  
 For tooling specifications: see pages 136 to 143

### Tooling



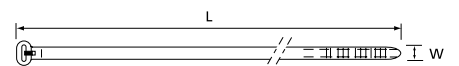
**ERG50**  
 For use with 2.3mm to 4.8mm (80N to 220N) cable ties. See page 136.



**ERG120\***  
 For use with 2.3mm to 7.0mm (80N to 540N) cable ties. See page 136.

\* ERG120 can not be used with TYHT23M and TYHT24M

### Dimensions



## Ty-Rap® heat-reactive cable ties

Changes color to warn you of potentially dangerous high temperatures



### Features

- Changes color from green to translucent when in contact with high-temperature surface
- Efficacy of heat-reactive polypropylene material lasts at least 24 months under normal operating conditions
- Offers all the convenience and performance benefits of standard Ty-Rap cable ties, including the Grip of Steel® type 316 stainless steel locking barb
- Available in three size options
- Choose the ERG50 or ERG120 Ty-Rap cable tie application tool for easy installation

### Applications

Ty-Rap heat-reactive cable ties are ideal for use where visual indication of a hot surface helps identify an unsafe working environment or malfunctioning equipment. Tie may be secured around any surface with normal operating temperature below 40°C (104°F), including:

- Piping
- Electrical circuits
- Boiler room surfaces
- Engine compartments
- Kitchen appliances
- Other applications in which hot surfaces may be a concern

### Specifications

- Material: Polypropylene
- Operating temperature: -40°C to 80°C (-40°F to 176°F)
- Heat-activation temperature: 49°C ± 3°C (120°F ± 6°F)
- Standard color: Green
- Heat-transition color: Translucent
- Color transition life: 1,000 hours above heat activation temperature
- UV resistance: Indoor use only; avoid exposure to UV light
- Tensile strength and installation:
  - 4.8mm (0.19") wide ties: 30 lbs. (135 N), ERG50 setting 2–5
  - 7.9mm (0.31") wide ties: 60 lbs., (265 N) ERG120 setting 3–6

### Ty-Rap® heat-reactive cable ties

Product code	GID No.	Length L		Width W		Thickness		Loop tensile strength		Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[lbs]	[N]	
TYHR525M-5	7TAG009600R0007	185	7.3	4.8	0.18	1.3	0.05	30	135	100
TYHR527M-5	7TAG009600R0009	342	13.5	6.9	0.27	1.6	0.06	60	165	100
TYHR528M-5	7TAG009600R0008	360	14.2	4.8	0.18	1.6	0.06	30	135	50

WARNING: The Ty-Rap heat-reactive cable tie is a heat indicator only. Use appropriate measuring device to verify actual temperature.  
 CAUTION: Replace the Ty-Rap heat-reactive cable tie upon the first occurrence of any of the following conditions: operating temperature range is exceeded, exposure to UV light, visible fading of standard green color or 24 months.



## Ty-Rap® high performance cable ties

Polyamide 6.6 cable ties – Flame retardant



### Characteristics

- Flame retardant. Ideal for use in locations where low flammability and low smoke are needed such as public transport, tunnels, etc.

### Technical information

- Material - Molding: 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)
- Color: White
- Flammability rating: UL 94 V-0
- Other properties: Halogen free, Silicone free

Polyamide 6.6 cable ties – Flame retardant



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Thickness		Min. tensile strength		Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[lbs]	[N]	
TY23MFR	7TAG009570R0002	1.5 - 16	0.1 - 0.6	92	3.6	2.4	0.09	1.0	0.04	18	80	1000
TY232MFR	7TAG009570R0000	1.5 - 51	0.1 - 2.0	203	8.0	2.4	0.09	1.0	0.04	18	80	1000
TY24MFR	7TAG009570R0003	2 - 35	0.1 - 1.4	140	5.5	3.6	0.14	1.1	0.04	30	135	1000
TY25MFR	7TAG009570R0004	3 - 48	0.1 - 1.9	186	7.6	4.6	0.18	1.1	0.04	50	220	1000
TY28MFR	7TAG009570R0007	3 - 102	0.1 - 4.0	360	14.2	4.6	0.18	1.1	0.04	40	180	500
TY27MFR	7TAG009570R0006	6 - 95	0.2 - 3.7	335	13.2	7.6	0.30	1.6	0.06	121	540	500
TY272MFR	7TAG009570R0005	4.8 - 51	0.2 - 2.0	223	8.8	7.0	0.28	1.6	0.06	121	540	500

Description of product code structure: see page 12  
 Description of materials and properties: see pages 150 to 159  
 For tooling specifications: see pages 136 to 143

### Tooling

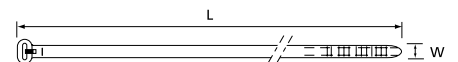


**ERG50**  
 For use with 4.8mm (220N) cable ties.  
 See page 136.



**ERG120**  
 For use with 4.8mm (220N) cable ties.  
 See page 136.

### Dimensions



## Ty-Rap® high performance cable ties for Railways

Polyamide 6.6 cable ties – EN 45545-2 Certified



### Technical Information - UV-resistant

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60°C to +105°C (-76°F to 221°F)
- Color: Black
- Flammability Rating: UL 94 V-2
- Certified to EN 45545-2: HL2

### Technical Information - Flame retardant

- Material - Molding: 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)
- Color: White
- Flammability rating: UL 94 V-0
- Certified to EN 45545-2: HL3



### Polyamide 6.6 cable ties – UV-resistant black

Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Pack quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
TY23MX-RW	7TCG009040R0015	1.5 - 22	0.1 - 0.9	92	3.6	2.4	0.09	80	1000
TY232MX-RW	7TCG009040R0014	1.5 - 51	0.1 - 2.0	203	8.00	2.4	0.09	80	1000
TY234MX-RW	7TAG009050R0005	1.5 - 102	0.1 - 4.0	356	14.0	2.4	0.09	80	1000
TY24MX-RW	7TCG009130R0010	2 - 35	0.1 - 1.4	140	5.5	3.6	0.14	180	1000
TY242MX-RW	7TCG009130R0011	2 - 51	0.1 - 2.0	208	8.2	3.6	0.14	180	1000
TY26MX-RW	7TCG009120R0006	2 - 76	0.1 - 3.0	284	11.2	3.6	0.14	130	1000
TY244MX-RW	7TCG009130R0012	2 - 102	0.1 - 4.0	368	14.5	3.6	0.14	130	1000
TY25MX-RW	7TCG009210R0085	3 - 48	0.1 - 1.9	186	7.3	4.8	0.19	220	1000
TY253MX-RW	7TCG009220R0011	3 - 78	0.1 - 3.1	290	11.4	4.8	0.19	220	1000
TY28MX-RW	7TCG009210R0086	3 - 102	0.1 - 4.0	361	14.2	4.8	0.19	220	1000
TYB271MX-RW	7TCG009450R0226	6 - 31	0.1 - 1.3	150	7.6	7.6	0.30	540	500
TY272MX-RW*	7TAG009330R0008	6 - 51	0.2 - 2.0	223	8.8	6.9	0.27	540	500
TY277MX-RW*	7TAG009340R0003	6 - 177	0.2 - 7.0	617	24.3	7.0	0.28	540	500
TY27MX-RW*	7TAG009320R0006	6 - 102	0.2 - 4.0	340	13.4	6.9	0.27	540	500
TY29MX-RW*	7TCG009330R0012	6 - 229	0.2 - 9.0	771	30.4	8.2	0.32	540	500

### Polyamide 6.6 cable ties – Flame retardant white

Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Pack quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
TY23MFR-RW	7TCG009570R0008	1.5 - 16	0.1 - 0.6	92	3.6	2.4	0.09	80	1000
TY232MFR-RW	7TCG009570R0013	1.5 - 51	0.1 - 2.0	203	8.0	2.4	0.09	80	1000
TY24MFR-RW	7TCG009570R0009	2 - 35	0.1 - 1.4	140	5.5	3.6	0.14	180	1000
TY25MFR-RW	7TCG009570R0010	3 - 48	0.1 - 1.9	186	7.3	4.8	0.19	220	1000
TY28MFR-RW	7TCG009570R0011	3 - 102	0.1 - 4.0	360	14.2	4.8	0.19	220	500
TY27MFR-RW	7TCG009570R0012	6 - 95	0.2 - 3.7	340	13.4	7.0	0.28	540	100

See page 129 & 131 for railway certified accessories

### Tooling



#### ERG50

For use with 2.3mm to 4.8mm (80N to 220N) cable ties. See page 136.



#### ERG120

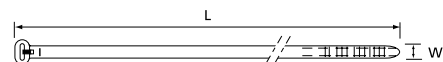
For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



#### WT3D

For use with 4.8mm to 8.2mm (220N to 780N) cable ties. See page 136.

### Dimensions



# Ty-Rap® high performance cable ties

## Fluoropolymer cable ties – ECTFE



### Characteristics

- Outstanding performance of flame resistance and low smoke density when burned
- Recommended for applications where smoke generation is a concern, such as plenum areas
- Extreme resistance to UV degradation

### Technical information

- Material - Molding: 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)
- Color: Maroon
- Flammability rating: UL 94 V-0
- Other properties: low smoke

### Fluoropolymer cable ties – ECTFE



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
<b>Standard pack size</b>									
TYV523M	7TAG009610R0001	1.5 - 22	0.1 - 0.9	92	0.4	2.3	0.09	80	100
TYV525M	7TAG009610R0002	3.0 - 48	0.1 - 1.9	186	7.3	4.7	0.19	220	100
<b>Bulk pack size</b>									
TYV23M	7TAG009000R0330	1.5 - 22	0.1 - 0.9	92	0.4	2.3	0.09	80	1000
TYV25M	7TAG009610R0000	3.0 - 48	0.1 - 1.9	186	7.3	4.7	0.19	220	1000

Description of product code structure: see page 12  
 Description of materials and properties: see pages 150 to 159  
 For tooling specifications: see pages 136 to 143

### Tooling

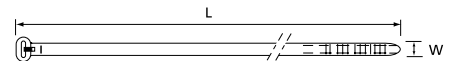


**ERG50**  
 For use with 2.3mm to 4.7mm (80N to 220N) cable ties. See page 136.



**ERG120**  
 For use with 4.7mm (220N) cable ties. See page 136.

### Dimensions



## Ty-Rap® high performance cable ties

### Fluoropolymer cable ties – ETFE



#### Characteristics

- ETFE Fluoropolymer
- Resistant to chemicals and to radiation
- No outgassing prevents contamination of sensitive areas in a vacuum, zero gravity or radioactive environments
- Typical applications include: nuclear, power plants, space industry, etc.
- Extreme resistance to UV degradation

#### Technical information

- Material - Molding: Fluoropolymer ETFE
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -45°C to +150°C (-49°F to 302°F)
- Min. Installation Temp.: -60°C (-76°F)
- Color: Aquamarine
- Flammability rating: UL 94 V-0
- Other properties: Silicone free, inert to most solvents and chemicals, hydrolytically stable, radiation resistant, non-outgassing

#### Fluoropolymer cable ties – ETFE



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
<b>Standard pack size</b>									
TYZ523M	7TAG009620R0006	1.5 - 22	0.1 - 0.9	92	3.6	2.3	0.09	80	100
TYZ525M	7TAG009620R0007	3 - 48	0.1 - 1.9	186	7.3	4.3	0.17	220	100
TYZ528M	7TAG009620R0009	3 - 102	0.1 - 4.0	360	14.2	4.4	0.17	220	100
TYZ527M*	7TAG009620R0008	6 - 95	0.2 - 3.7	340	13.4	6.8	0.27	540	50
<b>Bulk pack size</b>									
TYZ23M	7TAG009620R0000	1.5 - 22	0.1 - 0.9	92	3.6	2.3	0.09	80	1000
TYZ25M	7TAG009620R0002	3 - 48	0.1 - 1.9	186	7.3	4.3	0.17	220	1000
TYZ28M	7TAG009620R0005	3 - 102	0.1 - 4.0	360	14.2	4.4	0.17	220	500
TYZ27M*	7TAG009620R0004	6 - 95	0.2 - 3.7	340	13.4	6.8	0.27	540	100

\* Not on EC Declaration

Description of product code structure: see page 12

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

#### Tooling



##### ERG50

For use with 2.3mm to 4.3mm (80N to 220N) cable ties. See page 136.

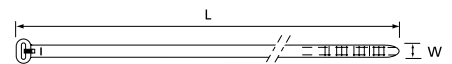


##### ERG120\*

For use with 2.3mm to 6.8mm (80N to 540N) cable ties. See page 136.

\*ERG120 not to be used on TYZ23M

#### Dimensions



## Ty-Rap® high performance cable ties

Polypropylene cable ties – Chemical and weather resistant



### Characteristics

- Polypropylene weather resistant
- Increased resistance to chemicals
- Resistant against inorganic acids, polyhydric alcohols, neutral and basic salts

### Technical information

- Material - Molding: Polypropylene
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Black
- Flammability rating: UL 94 HB
- Other properties: UV-resistant, Halogen free, Silicone free

### Polypropylene cable ties – Chemical and weather resistant

Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
TYP23MX	7TAG009600R0000	2 - 16	0.1 - 0.6	92	3.6	2.4	0.09	50	1000
TYP25MX	7TAG009600R0001	3.5 - 45	0.1 - 1.7	186	7.3	4.8	0.19	130	1000
TYP28MX	7TAG009600R0003	3.5 - 102	0.1 - 4.0	360	14.2	4.8	0.19	130	1000
TYP27MX	7TAG009600R0002	6 - 90	0.2 - 3.5	340	13.4	7.0	0.28	270	500

Description of product code structure: see page 12  
 Description of materials and properties: see pages 150 to 159  
 For tooling specifications: see pages 136 to 143

### Tooling

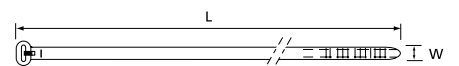


**ERG50**  
 For use with 2.4mm to 4.8mm (50N to 130N) cable ties. See page 136.



**ERG120**  
 For use with 7mm (270N) cable ties. See page 136.

### Dimensions



## Ty-Rap® high performance cable ties

Polyamide 12 cable ties – UV-resistant



### Characteristics

- Polyamide 12 UV-resistant
- Remains flexible in cold & dry environments
- Ages better and has a better chemical resistance than Polyamide 6.6

### Technical information

- Material - Molding: Polyamide 12
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, Halogen free, Silicone free

### Polyamide 12 cable ties – UV-resistant

Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
<b>Standard pack size</b>									
TYC525MX	7TCG009580R0006	3.5 - 45	0.1 - 1.8	186	7.3	4.70	0.19	155	100
TYC527MX	7TCG009580R0007	6 - 89	0.2 - 3.5	343	0.1	7.62	0.30	380	50
<b>Bulk pack size</b>									
TYC25MX	7TCG009580R0001	3.5 - 45	0.1 - 1.8	186	7.3	4.70	0.19	155	1000
TYC28MX	7TCG009580R0004	3.5 - 102	0.1 - 4.0	360	14.2	4.70	0.19	155	1000
TYC272MX	7TCG009580R0002	6 - 51	0.2 - 2.0	222	8.7	7.60	0.30	380	500
TYC27MX	7TCG009580R0003	6 - 89	0.2 - 3.5	343	0.1	7.62	0.30	380	500
TYC29MX	7TCG009580R0005	6 - 229	0.2 - 9.0	771	30.4	7.60	0.30	380	500

Description of product code structure: see page 12

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

### Tooling



#### ERG50

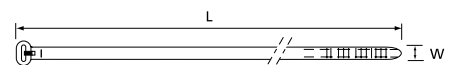
For use with 4.7mm to 7.6mm (155N to 380N) cable ties. See page 136.



#### ERG120

For use with 4.7mm to 7.6mm (155N to 380N) cable ties. See page 136.

### Dimensions



# Ty-Rap® high performance cable ties

## Nylon detectable cable ties



### Characteristics

The Ty-Rap® detectable cable ties from ABB incorporate a unique compound (patent pending) detectable by X-ray equipment and metal detectors. Bright blue color enhances visual detection.

Recommended for applications in food, pharmaceutical and other contamination-sensitive industries using detection systems, where cable tie installation residuals (cut tails) are permitted in the finished product.

- Engineered to provide the highest detectability in metal detectors by size
- Specially formulated metallic particles provide high reflection in X-ray equipment
- Bright blue color for an easy visual detection
- Help achieve the HACCP EU-Directive
- Available in 6 different sizes in convenient small bags

### Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Bright blue
- Flammability rating: UL 94 V-2 (Polyamide 6.6)
- Other properties: Halogen free, silicone free

### Detectable cable ties

Product code	GID No.	Color	Material	Bundle ø from ... to		Length L		Width W		Min. tensile strength		Quantity [pieces]
				[mm]	[in]	[mm]	[in]	[mm]	[in]	[lbs]	[N]	
<b>Detectable Polyamide 6.6</b>												
TY523M-NDT	7TAG009660R0029	Blue	Polyamide 6.6	2 - 16	0.1 - 0.6	92	3.6	2.4	0.09	18	80	100
TY523M-1-NDT	7TAG009660R0082	Brown										
TY523M-9-NDT	7TAG009660R0081	Gray										
TY524M-NDT	7TAG009660R0031	Blue	Polyamide 6.6	2 - 29	0.1 - 1.1	140	5.5	3.6	0.14	30	134	100
TY524M-1-NDT	7TAG009660R0070	Brown										
TY524M-9-NDT	7TAG009660R0072	Gray										
TY525M-NDT	7TAG009660R0032	Blue	Polyamide 6.6	3.5 - 45	0.1 - 1.8	186	7.3	4.8	0.19	40	180	100
TY525M-1-NDT	7TAG009660R0073	Brown										
TY525M-9-NDT	7TAG009660R0074	Gray										
TY5253M-NDT	7TAG009660R0071	Blue	Polyamide 6.6	3.5 - 76	0.1 - 3	295	11.6	4.7	0.19	50	220	100
TY5253M-1-NDT	7TAG009660R0075	Brown										
TY5253M-9-NDT	7TAG009660R0076	Gray										
TY528M-NDT	7TAG009660R0036	Blue	Polyamide 6.6	3.5 - 102	0.1 - 4	360	14.2	4.8	0.19	50	220	100
TY528M-1-NDT	7TAG009660R0077	Brown										
TY528M-9-NDT	7TAG009660R0080	Gray										
TY527M-NDT	7TAG009660R0034	Blue	Polyamide 6.6	6 - 90	0.2 - 3.5	340	13.39	7.0	0.28	121	540	50
TY527M-1-NDT	7TAG009660R0079	Brown										
TY527M-9-NDT	7TAG009660R0078	Gray										

Description of product code structure: see page 12  
 Description of materials and properties: see pages 150 to 159  
 For tooling specifications: see pages 136 to 143

### Tooling

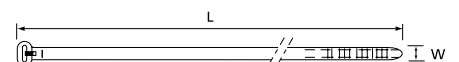


**ERG50**  
 For use with 2.4mm to 4.8mm (50N to 220N) cable ties. See page 136.



**ERG120**  
 For use with 4.8mm to 7.0mm (180N to 540N) cable ties. See page 136.

### Dimensions



## Ty-Rap® high performance cable ties

### Polypropylene detectable cable ties



#### Characteristics

The Ty-Rap® detectable cable ties from ABB incorporate a unique compound (patent pending) detectable by X-ray equipment and metal detectors and visual inspection equipment.



















Recommended for applications in food, pharmaceutical and other contamination-sensitive industries using detection systems, where cable tie installation residuals (cut tails) are permitted in the finished product.

- Engineered to provide the highest detectability in metal detectors by size
- Specially formulated metallic particles provide high reflection in X-ray equipment
- Bright blue color for an easy visual detection
- Help achieve the HACCP EU-Directive
- Available in 6 different sizes in convenient small bags

#### Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Bright blue
- Flammability rating: UL 94 V-2 (Polyamide 6.6)
- Other properties: Halogen free, silicone free

#### Detectable cable ties

Product code	GID No.	Color	Material	Bundle ø from ... to		Length L		Width W		Min. tensile strength		Quantity [pieces]
				[mm]	[in]	[mm]	[in]	[mm]	[in]	[lbs]	[N]	
<b>Detectable Polypropylene</b>												
TY523M-PDT	7TAG009660R0030	Blue 	Polypropylene	2 - 16	0.1 - 0.6	92	3.62	2.4	0.09	11	50	100
TY523M-1-PDT	N/A	Brown 										
TY523M-9-PDT	N/A	Gray 										
TY524M-PDT	N/A	Blue 	Polypropylene	2 - 29	0.1 - 1.1	140	5.5	3.6	0.14	30	135	100
TY524M-1-PDT	N/A	Brown 										
TY524M-9-PDT	N/A	Gray 										
TY525M-PDT	7TAG009660R0033	Blue 	Polypropylene	3.5 - 45	0.1 - 1.8	186	7.3	4.8	0.19	30	135	100
TY525M-1-PDT	N/A	Brown 										
TY525M-9-PDT	N/A	Gray 										
TY5253M-PDT	N/A	Blue 	Polypropylene	3.5 - 76	0.1 - 3	295	11.6	4.7	0.19	50	220	100
TY5253M-1-PDT	N/A	Brown 										
TY5253M-9-PDT	N/A	Gray 										
TY528M-PDT	7TAG009660R0037	Blue 	Polypropylene	3.5 - 102	0.1 - 4	360	14.2	4.8	0.19	30	135	100
TY528M-1-PDT	N/A	Brown 										
TY528M-9-PDT	N/A	Gray 										
TY527M-PDT	7TAG009660R0035	Blue 	Polypropylene	6 - 90	0.2 - 3.5	340	13.4	7.0	0.28	61	270	50
TY527M-1-PDT	N/A	Brown 										
TY527M-9-PDT	N/A	Gray 										

Description of product code structure: see page 12

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

#### Tooling



##### ERG50

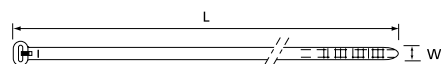
For use with 2.4mm to 4.8mm (50N to 220N) cable ties. See page 136.



##### ERG120

For use with 4.8mm to 7.0mm (180N to 540N) cable ties. See page 136.

#### Dimensions





# Ty-Fast®

## Ag+™ bacteria-resistant cable ties



### Characteristics

- 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
- Made from FDA-approved resin with EPA-registered antimicrobial
- Offers reliable Ty-Fast cable tie design for easy cable management
- UL recognized, RoHS and FDA compliant
- Patent pending

### 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: -60°C to 85°C (-76°F to 185°F)
- 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



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



Standard cable tie after 24 hours of exposure to bacteria



### Ag+™ bacteria-resistant cable ties

Product code	GID No.	Max bundle ø		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
TY100-18-ANTI	7TAG054970R0000	22	0.9	104.1	4.1	2.5	0.1	80	100
TY175-50-ANTI	7TAG054970R0001	44	1.8	195.6	7.7	4.8	0.19	220	100
TY400-50-ANTI	7TAG054970R0002	102	4	363.2	14.3	4.8	0.19	220	100
TY400-120-ANTI	7TAG054970R0003	102	4	363.2	14.3	7.0	0.3	540	50

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.

### Tooling

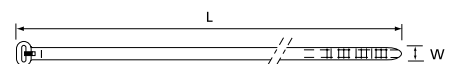


**ERG50**  
For use with 22mm to 102mm (80N to 540N) cable ties. See page 136.



**ERG120**  
For use with 4.8mm to 7.0mm (180N to 540N) cable ties. See page 136.

### Dimensions



## Heavy duty cable strap and accessories

Strap on reel and reel kits, double locking heads & pre-assembled Deltec® cable ties



### Characteristics

- Designed to perform a minimum of 20 years outdoors
- Double locking head with corrosion resistant locking barbs in copper alloy
- No sharp edges: operator friendly, cable friendly!
- Easy to install, low installation costs
- Extremely robust ties, with high tensile strength (1110N) after fastening
- Available either in pre-cut and pre-assembled lengths, or on reels with separate heads for total flexibility
- Choice of specific spacers and accessories
- Month and year of manufacture stamped into strap material

### Technical information

- Material - Strap & head: Toughened weatherable acetal
- Material - Locking barb: Marine grade, corrosion-resistant copper alloy
- Temperature range: -65°C to +90°C (-85°F to 194°F)
- Flammability rating: UL 94 HB
- Color: Black
- Other properties: UV-resistant, Halogen free, superior resistance to moisture and salt environments

### Strap on reel and reel kits

Product code	GID No.	Length per reel L		Width W [mm]	Width W [in]	Min. tensile strength [N]	Included heads [pieces]	Reel quantity [pieces]
		[m]	[ft]					
TYD-50R	7TAA159090R0005	15.2	50	12.7	0.5	1110	0	1
696-41794	7TAA159090R0000	304.8	1000	12.7	0.5	1110	0	1
CSS-5K	7TAA159120R0000	15.2	50	-	-	-	150	5
CSS-10K	7TAA159130R0001	15.2	50	-	-	-	300	5

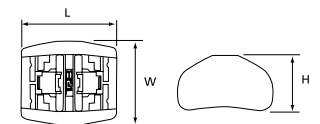
Note: the recommended maximum continuous static loading for the Deltec® straps is 90 N per strap. For best results, suggested spacing is 35 to 40cm. It is the responsibility of the user to determine if their installation provides sufficient load support. Reel kits (CSS-5K / CSS-10K) to be assembled with Deltec® strap on reel.

### Double locking heads

Product code	GID No.	Length L		Width W		Height [mm]	Height [in]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]			
TYD-LH	7TAA159090R0006	21.6	0.9	19.1	0.75	12.6	0.50	25
696-41795	7TAA159090R0001	21.6	0.9	19.1	0.75	12.6	0.50	1000

To be assembled with Deltec® strap on reel

### Dimensions



### Pre-assembled Deltec® cable ties

Product code	GID No.	Max. bundle dia.		Length L		Width W [mm]	Width W [in]	Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]				
CSS-100	7TAA159110R0000	76	3	254	10	12.7	0.5	1112	25
CSS-135	7TAA159090R0003	89	3.5	343	13.5	12.7	0.5	1112	25
CSS-160	7TAA159170R0000	102	4	406	16	12.7	0.5	1112	50
CSS-270	7TAA159080R0000	203	8	686	27	12.7	0.5	1112	10

### Tooling

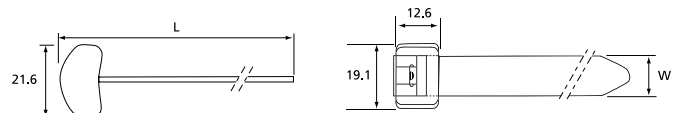


**WT3D**  
For use with 12.7mm (1110N) cable ties. See page 136.



**L-500-EU**  
For use with 12.7mm (1110N) cable ties. See page 136.

### Dimensions



## Heavy duty cable strap and accessories

### Cable spacers & base and hanger



#### Characteristics

- Stackable height in 12.7mm (0.5") increments, for any desired spacing and all cable sizes - no need to stock multiple sizes of individual height spacers
- Designed to retain strap on each side and cradle the cable, providing restricted movement of spacer and preventing damage to cable
- Suitable for coaxial cables
- Can be used for parallel routing or for perpendicular cables

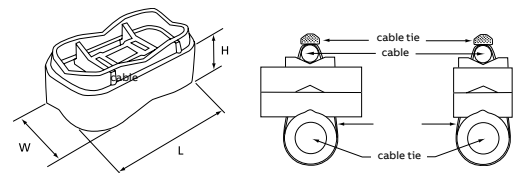
#### Technical information

- Material: Weather-resistant polypropylene
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Flammability rating: UL 94 HB
- Color: Black
- Other properties: UV-resistant, Halogen free

#### Cable spacers

Product code	GID No.	Length L		Width W		Height		Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	
TCP5255	7TAA159090R0004	53.3	2.10	30.5	1.20	12.7	0.5	25
TCP360	7TAA159160R0000	53.3	2.10	30.5	1.20	12.7	0.5	100

#### Dimensions



#### Characteristics

- To secure cables to all types of surfaces

#### Technical information

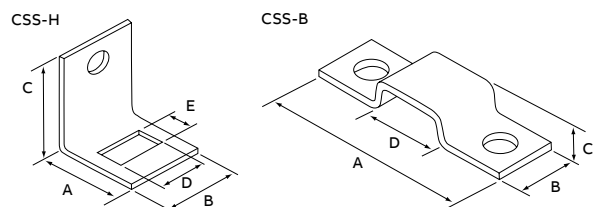
- Material: Zinc plated steel
- Color: Metallic

#### Base and hanger

Product code	GID No.	Dimensions										Mounting hole diameter		Quantity [pieces]
		A		B		C		D		E		[mm]	[in]	
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]			
CSS-B	7TAA159220R0000	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	7TAA159180R0000	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

To be assembled with Deltec® strap on reel

#### Dimensions



## Special ties

### Releasable 2-piece lashing ties on reel with separate heads

#### Characteristics

- Heavy-duty lashing ties on reel with separate heads
- Also available in cut lengths with pre-assembled heads (see page 37)
- UV-resistant Polypropylene, ideal for applications where chemical resistance is important (heads in weatherable rigid Polyamide 6.6)
- Extremely robust (670N)
- Easily releasable and 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.
- Product code 696-41563: lashing tie on reel (300m/984.25ft), in weatherable Polypropylene

- Product code 696-41562: separate head, type A (no mounting hole), weatherable Polyamide 6.6 (200 pieces)
- Product code 696-41614: separate head, type B (with mounting hole), weatherable Polyamide 6.6 (200 pieces) Mounting hole: Ø 6.9mm (0.27")
- Product code TY4100PX: kit containing 30m (98.43ft) of lashing tie on reel + 50 separate heads, type A

#### Technical information

- Material - Tie: Weatherable Polypropylene
- Material - Head: Polyamide 6.6
- Temperature range:  
Head: -40°C to +85°C (-40°F to 185°F)  
Tie: -55°C to +110°C (-67°F to 230°F)
- Color: UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, Halogen free

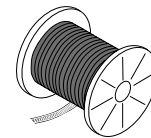
#### Releasable 2-piece lashing ties on reel with separate heads

Product code	GID No.	Lashing tie, dimensions						Separate locking heads		Min. tensile strength of assembly [N]
		Length		Width		Thickness		Quantity [pieces]	Type	
		[m]	[ft]	[mm]	[in]	[mm]	[in]			
696-41563	7TAG009550R0013	300	1000	13.2	0.52	1.8	0.07	-	-	670
696-41562	7TAG009550R0012	-	-	-	-	-	-	200	Type A, no mounting hole	670
696-41614	7TAG009910R0018	-	-	-	-	-	-	200	Type B, with mounting hole	670
TY4100PX	7TCG009460R0099	15.2	50	13.2	0.52	1.8	0.07	50	Type A, no mounting hole	670

Description of product code structure: see page 12

Description of materials and properties: see pages 150 to 159

696-41563



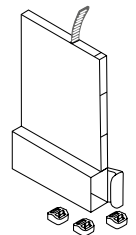
696-41562



696-41614



TY4100PX



696-41563



## Special ties

### Releasable 2-piece lashing ties, pre-assembled version

#### Characteristics

- Heavy-duty lashing ties, in cut lengths with pre-assembled heads
- Also available on reel with separate heads (see page 36)
- UV-resistant Polypropylene, ideal for applications where chemical resistance is important (heads in weatherable rigid Polyamide 6.6)
- 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

#### Technical information

- Material - Tie: Weatherable Polypropylene
- Material - Head: Polyamide 6.6
- Temperature range:
  - Head: -40°C to +85°C (-40°F to 185°F)
  - Tie: -55°C to +110°C (-67°F to 230°F)
- Color: UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, Halogen free

#### Releasable 2-piece lashing ties, pre-assembled version

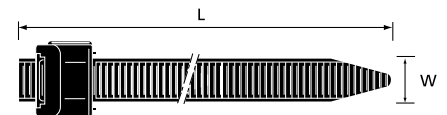
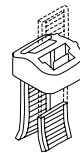
Product code	GID No.	Bundle ø from ... to		Diameter of mounting hole		Length L		Width W		Thickness		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]		
TY53418PX	7TAG009550R0019	45 - 127	1.77 - 5	6.9	0.27	457	18	13.2	0.52	1.9	0.07	670	25
TY5418PX	7TAG009550R0021	45 - 127	1.77 - 5	-	-	457	18	13.2	0.52	1.8	0.07	670	25
TY5424PX	7TAG009550R0022	10 - 178	0.4 - 7	-	-	610	24	13.2	0.52	1.8	0.07	670	25
TY5442PX	7TAG009550R0025	10 - 305	0.4 - 12	-	-	1067	42	13.2	0.52	1.8	0.07	670	10
TY5460PX	7TAG009550R0026	10 - 457	18	-	-	1524	60	13.2	0.52	1.8	0.07	670	10

Description of product code structure: see page 12

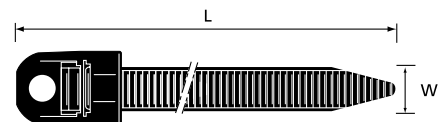
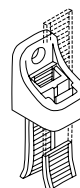
Description of materials and properties: see pages 150 to 159

#### Dimensions

TY54XXPX



TY53418PX



## Special ties with steel locking barb

### Integrated mounting hole cable ties



#### Characteristics

- Can be mounted directly onto a support with screws, bolts or rivets
- Mounting and bundling in one maintenance-friendly assembly: mounts cables, tubes and part in all types and sizes of machines and installations
- Typical application: cable harness manufacture and pre- and end- mounting of bundles and parts.
- indoor and outdoor

#### Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural or UV-resistant black (see table)
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant (black), Halogen free, Silicone free

#### Integrated mounting hole cable ties

Product code	GID No.	Color	Bundle ø from ... to		Diameter of mounting hole		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
			[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]		
<b>Standard pack size</b>												
TY533M	7TAG009520R0062	Natural	2 - 16	0.1 - 0.6	3.0	0.12	102	4	2.3	0.09	80	100
TY533MX	7TAG009520R0063	Black	2 - 16	0.1 - 0.6	3.0	0.12	102	4	2.3	0.09	80	100
TY534M	7TAG009520R0064	Natural	2 - 29	0.1 - 1.1	4.4	0.17	151	5.9	3.5	0.14	180	100
TY534MX	7TAG009520R0065	Black	2 - 29	0.7 - 1.1	4.4	0.17	151	5.9	3.5	0.14	180	100
TY535M	7TAG009520R0068	Natural	3.5 - 45	0.1 - 1.8	5.1	0.20	199	7.8	4.7	0.19	220	100
TY535MX	7TAG009520R0069	Black	3.5 - 45	0.1 - 1.8	5.1	0.20	199	7.8	4.7	0.19	220	100
TY537M	7TAG009520R0070	Natural	6 - 90	0.2 - 3.5	6.7	0.26	356	14	7.7	0.30	540	50
TY537MX	7TAG009520R0071	Black	6 - 90	0.2 - 3.5	6.7	0.26	356	14	7.7	0.30	540	50
TYF535M	7TCG009520R0077	Natural	3.5 - 45	0.1 - 1.8	4.0	0.16	186	7.3	4.7	0.19	220	100
<b>Bulk pack size</b>												
TY33M	7TAG009520R0048	Natural	2 - 16	0.1 - 0.6	3.0	0.12	102	4	2.3	0.09	80	1000
TY33MX	7TAG009520R0048	Black	2 - 16	0.1 - 0.6	3.0	0.12	102	4	2.3	0.09	80	1000
TY34M	7TAG009520R0049	Natural	2 - 29	0.1 - 1.1	4.4	0.17	151	5.9	3.5	0.14	180	1000
TY34MX	7TAG009520R0050	Black	2 - 29	0.7 - 1.1	4.4	0.17	151	5.9	3.5	0.14	180	1000
TY635M	7TAG009520R0074	Natural	3.5 - 45	0.1 - 1.8	4.0	0.16	198	7.8	4.7	0.19	220	1000
TY635MX	7TAG009520R0075	Black	3.5 - 45	0.1 - 1.8	4.0	0.16	198	7.8	4.7	0.19	220	1000
TY35M	7TAG009520R0053	Natural	3.5 - 45	0.1 - 1.8	5.1	0.20	199	7.8	4.7	0.19	220	1000
TY35MX	7TAG009520R0056	Black	3.5 - 45	0.1 - 1.8	5.1	0.20	199	7.8	4.7	0.19	220	1000
TY1435M	7TAG009520R0045	Natural	3.5 - 45	0.1 - 1.8	6.7	0.26	198	7.8	4.7	0.19	220	1000
TY37M	7TAG009520R0057	Natural	6 - 90	0.2 - 3.5	6.7	0.26	356	14	7.7	0.30	540	500
TY37MX	7TAG009520R0060	Black	6 - 90	0.2 - 3.5	6.7	0.26	356	14	7.7	0.30	540	500
TYF35M	7TCG009520R0076	Natural	3.5 - 45	0.1 - 1.8	4.0	0.16	186	7.3	4.7	0.19	220	1000

VG approved. VG95387 part 4, type B

Some approvals may not be applicable to all product codes. Contact your Sales Office for approvals limitations

Description of product code structure: see page 12. Description of materials and properties: see pages 150 to 159.

For tooling specifications: see pages 136 to 143.

#### Tooling



##### ERG50

For use with 2.3mm to 4.7mm (80N to 220N) cable ties. See page 136.

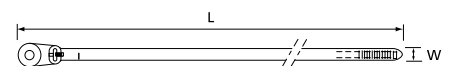


##### ERG120

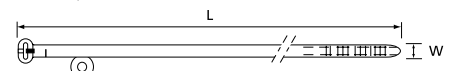
For use with 4.7mm to 7.7mm (220N to 540N) cable ties. See page 136.

#### Dimensions

TY...M, TY...MX



TYF35M, TYF535M



## Special ties with steel locking barb

### Panel mounting cable ties



#### Characteristics

- Provides both fastening and clip-mounting
- Fast pre- or on-site-assembly for a range of panel thickness up to 4.0mm
- Fast and secure installation

#### Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural or UV-resistant black (see table)
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant (black), Halogen free, Silicone free

#### Panel mounting cable ties

Product code	GID No.	Color	Bundle ø from ... to		Diameter of mounting hole		Length L		Width W		Min. tensile strength [N]	For panel thicknesses from ... to		Quantity [pieces]
			[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]		[mm]	[in]	
<b>With wing</b>														
TY54SM	7TCG009460R0104	Natural	2-32	0.1-1.3	4.5-5.2	0.18-0.20	150	5.9	3.5	0.14	130	0.1-2.5	0.04-0.10	1000
TY54SMX	7TCG009460R0105	UV-resistant black	2-32	0.1-1.3	4.5-5.2	0.18-0.20	150	5.9	3.5	0.14	130	0.1-2.5	0.04-0.10	1000
TY38M	7TAG009530R0005	Natural	3.5-44	0.1-1.7	6.4-6.7	0.25-0.26	200	7.9	4.7	0.19	220	1.0-4.0	0.04-0.16	1000
TY38MX	7TAG009530R0006	UV-resistant black	3.5-44	0.1-1.7	6.4-6.7	0.25-0.26	200	7.9	4.7	0.19	220	1.0-4.0	0.04-0.16	1000
<b>Without wing</b>														
696-41836		Natural	3.5-45	0.1-1.7	5.8-7.5	0.23-0.30	197	7.76	4.8	0.19	220	2.2-3.7	0.09-1.15	1000

Description of product code structure: see page 12

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

#### Tooling

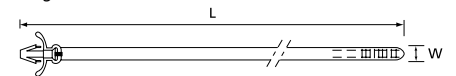


#### ERG50

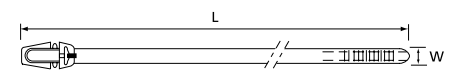
For use up to 4.8mm (130N to 220N) cable ties. See page 136.

#### Dimensions

##### Wing Push Mount



##### Push Mount without Wing



## Special ties with steel locking barb

### Blind mounting cable ties



#### Characteristics

- Suitable for hard-to-reach areas
- Fast hidden mounting on walls and vehicle chassis
- Twist off the locking head
- Pull the tie end through the fastening hole
- Place locking head on tie end
- Pull tight and cut off excess
- In the locked state, head neatly covers the mounting hole

#### Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural or UV-resistant black (see table)
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant (black), Halogen free, Silicone free

#### Blind mounting cable ties



Product code	GID No.	Color	Bundle ø from ... to		Diameter of mounting hole		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
			[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]		
<b>Standard pack size</b>												
TYG534M	7TCG009520R0080	Natural	2 - 32	0.1 - 1.3	6.4 - 7.0	0.25 - 0.28	160	6.3	3.6	0.14	180	100
TYG534MX	7TCG009520R0081	UV-resistant black	2 - 32	0.1 - 1.3	6.4 - 7.0	0.25 - 0.28	160	6.3	3.6	0.14	180	100
<b>Bulk pack size</b>												
TYG34M	7TCG009520R0078	Natural	2 - 32	0.1 - 1.3	6.4 - 7.0	0.25 - 0.28	160	6.3	3.6	0.14	180	1000
TYG34MX	7TCG009520R0079	UV-resistant black	2 - 32	0.1 - 1.3	6.4 - 7.0	0.25 - 0.28	160	6.3	3.6	0.14	180	1000

Description of product code structure: see page 12

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

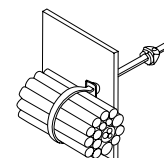
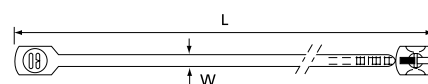
#### Tooling



#### ERG50

For use with up to 4.8mm (180N) cable ties. See page 136.

#### Dimensions





## Special ties with steel locking barb

### Integrated peg / nail cable ties



#### Characteristics

- 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 - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, Halogen free, Silicone free

### Integrated peg / nail cable ties

Product code	GID No.	Bundle ø from ... to		Diameter of mounting hole		Length L		Width W		Min. tensile strength [N]	Mounting hole depth (min)		Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]		[mm]	[in]	
TY544MX	7TAG009530R0008	3.5 - 45	0.1 - 1.8	6.4	0.25	200	7.9	4.6	0.18	220	25	0.98	50
TY545MX	7TAG009520R0073	4.7 - 38.1	0.2 - 1.5	-	-	200	7.9	4.7	0.19	220	-	-	50

Description of product code structure: see page 12

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

### Tooling



#### ERG50

For use with up to 4.8mm (220N) cable ties. See page 136.

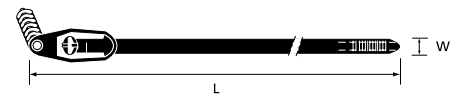


#### ERG120

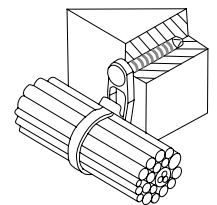
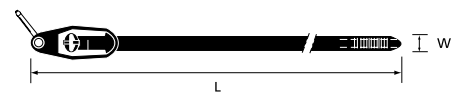
For use with 4.7mm to 7.7mm (220N to 540N) cable ties. See page 136.

### Dimensions

#### TY544MX



#### TY545MX



## Special ties

### Releasable cable ties



#### Characteristics

- For temporary but strong bundling, such as during control box wiring
- Very simple application
- Available in 2 lengths
- May be re-used many times
- No tooling necessary

#### Technical information

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

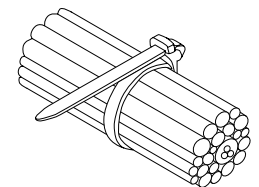
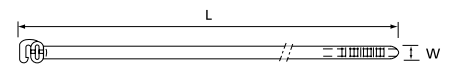
#### Releasable cable ties

Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
TYR505	7TAG009540R0001	10 - 44	0.4 - 1.7	190	7.5	4.7	0.19	220	100
TYR508	7TAG009540R0002	10 - 102	0.4 - 4	364	14.3	4.7	0.19	220	100

Description of product code structure: see page 12

Description of materials and properties: see pages 150 to 159

#### Dimensions



Pull end of tie through head.  
Turn tie end back on itself and insert into side of clip.  
To open, release tie end from clip and open tie.

## Special ties with steel locking barb

### Cable ties with identification tag



#### Characteristics

- Identification ties with incorporated label for durable marking and tying
- Label forms onto the bundle for types TY512M, TY51M and protrudes for ties TY532M and TY53M
- Series 51M is MIL (MS-3368-5) approved
- Trouble-free installation
- All edges are rounded for safety and ease of installation
- Available in bulk packaging (500/1000 pieces) or in small packaging (100 pieces)

#### Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

#### Cable ties with identification tag



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Thickness		Min. tensile strength [N]	Label dimensions		Quantity [pieces]	MIL Spec.
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]		[mm]	[in]		
<b>Standard pack size</b>														
TY551M	7TAG009510R0065	10 - 16	0.4 - 0.6	92	3.62	2.4	0.1	1.0	0.04	80	25.4 x 7.9	1 x 0.31	100	●
TY5512M	7TAG009510R0064	10 - 51	0.4 - 2	210	8.27	2.4	0.1	1.0	0.04	80	25.4 x 7.9	1 x 0.31	100	-
TY553M	7TAG009510R0069	2 - 16	0.1 - 0.6	102	4.02	2.4	0.1	1.0	0.04	80	20.6 x 9.3	0.81 x 0.36	100	-
TY5532M	7TAG009510R0067	2 - 51	0.1 - 2	212	8.35	2.4	0.1	1.0	0.04	80	20.6 x 9.3	0.81 x 0.36	100	-
<b>Bulk pack size</b>														
TY51M*	7TAG009510R0046	10 - 16	0.4 - 0.6	92	3.62	2.4	0.1	1.0	0.04	80	25.4 x 7.9	1 x 0.31	500	●
TY512M*	7TAG009510R0044	10 - 51	0.4 - 2	210	8.27	2.4	0.1	1.0	0.04	80	25.4 x 7.9	1 x 0.31	1000	-
TY53M	7TAG009510R0052	2 - 16	0.1 - 0.6	102	4.02	2.4	0.1	1.0	0.04	80	20.6 x 9.3	0.81 x 0.36	500	-
TY532M	7TAG009510R0050	2 - 51	0.1 - 2	212	8.35	2.4	0.1	1.0	0.04	80	20.6 x 9.3	0.81 x 0.36	1000	-

\*TY51M and TY512M are UL listed

For other materials and colors contact your Sales Office

Description of product code structure: see page 12

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

#### Tooling

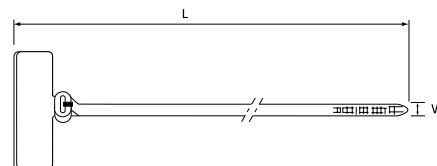


##### ERG50

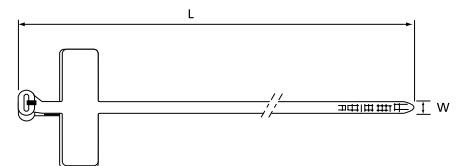
For use with up to 4.8mm (80N) cable ties. See page 136.

#### Dimensions

TY53M, TY553M, TY532M, TY5532M



TY51M, TY551M, TY512M, TY5512M



## Special ties with steel locking barb

### Cable ties with identification tag



#### Characteristics

- Identification ties with incorporated label for durable marking and tying
- Label forms onto the bundle
- 5 different versions, up to 4 straps, in bulk and small packaging
- 4 versions (up to 3 straps) are Mil-specified
- Trouble free installation
- Labelling of bundles up to 102mm (4.02") diameter
- All edges are rounded and surfaces smoothed to ease installation

#### Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural
- Approvals: MIL: MS-3368 -1, -2, -3, -4
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

#### Cable ties with identification tag



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Thickness		Min. tensile strength [N]	Label dimensions		Quantity [pieces]	MIL spec.
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]		[mm]	[in]		
<b>Standard pack size</b>														
TY548M	7TAG009510R0063	19 - 102	0.8 - 4	360	14.17	4.8	0.2	1.1	0.04	220	13.1 x 57.2	0.52 x 2.25	100	●
TY546M	7TAG009510R0058	9.5 - 45	0.4 - 1.8	184	7.24	4.8	0.2	1.1	0.04	220	13.1 x 27.0	0.52 x 1.06	100	●
TY546MD	7TAG009510R0059	9.5 - 45	0.4 - 1.8	184	7.24	4.8	0.2	1.1	0.04	220 x 2	29.7 x 27.0	1.17 x 1.06	50	●
TY546MT	7TAG009510R0061	9.5 - 45	0.4 - 1.8	184	7.24	4.8	0.2	1.1	0.04	220 x 3	46.0 x 27.0	1.81 x 1.06	100	●
TY546MF	7TAG009510R0060	9.5 - 45	0.4 - 1.8	184	7.24	4.8	0.2	1.1	0.04	220 x 4	63.1 x 27.0	2.48 x 1.06	50	-
<b>Bulk pack size</b>														
TY48M*	7TAG009510R0039	19 - 102	0.8 - 4	360	14.17	4.8	0.2	1.1	0.04	220	13.1 x 57.2	0.52 x 2.25	1000	●
TY46M*	7TAG009510R0018	9.5 - 45	0.4 - 1.8	184	7.24	4.8	0.2	1.1	0.04	220	13.1 x 27.0	0.52 x 1.06	1000	●
TY46MD	7TAG009510R0025	9.5 - 45	0.4 - 1.8	184	7.24	4.8	0.2	1.1	0.04	220 x 2	29.7 x 27.0	1.17 x 1.06	500	●
TY46MT	7TAG009510R0033	9.5 - 45	0.4 - 1.8	184	7.24	4.8	0.2	1.1	0.04	220 x 3	46.0 x 27.0	1.81 x 1.06	500	●
TY46MF	7TAG009510R0031	9.5 - 45	0.4 - 1.8	184	7.24	4.8	0.2	1.1	0.04	220 x 4	63.1 x 27.0	2.48 x 1.06	250	-

\* TY46M and TY48M are cURus certified  
 For other materials and colors contact your Sales Office  
 Description of product code structure: see page 12  
 Description of materials and properties: see pages 150 to 159  
 For tooling specifications: see pages 136 to 143

#### Tooling

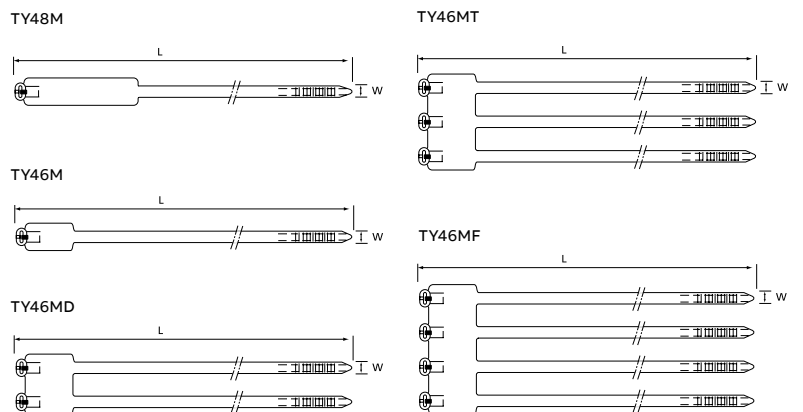


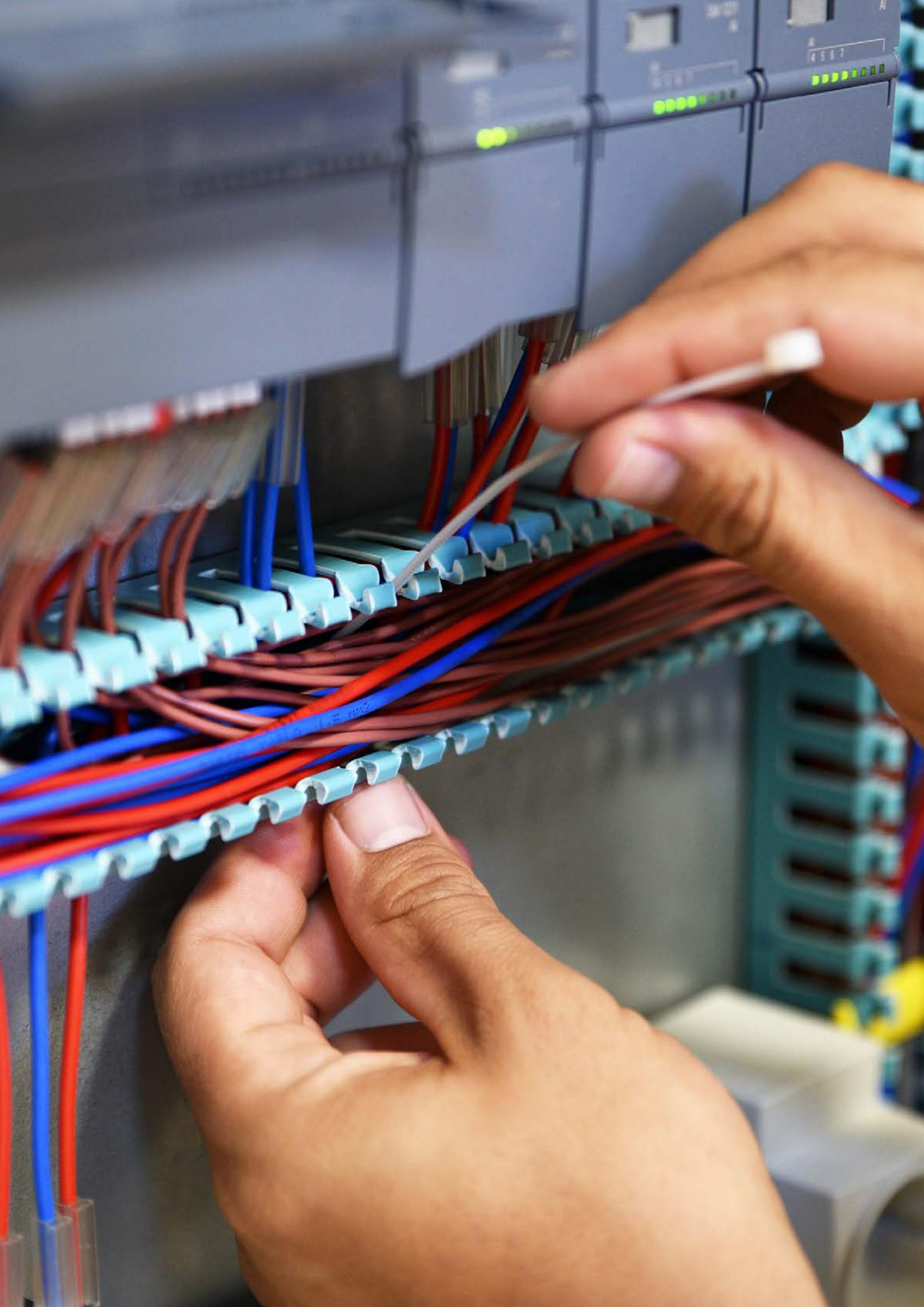
**ERG50**  
 For use with 4.8mm (220N) cable ties.  
 See page 136.



**ERG120**  
 For use with 4.8mm to 7.7mm (220N to 540N) cable ties. See page 136..

#### Dimensions





# Ty-Met™ stainless steel cable ties

## Stainless steel cable ties

Ty-Met™ stainless steel ties are the ultimate solution to install your cables in extreme conditions and hazardous areas, indoor and outdoor, such as the petrochemical and food processing industries, power stations, mining, shipbuilding, offshore and other aggressive environments.

Ty-Met™ stainless steel ties provide a high mechanical strength combined with chemical durability and temperature resistance.

They are available in several different types:

- Ball-lock type: quick and reliable self-locking mechanism
- Ladder type: easy application and strong locking system
- Strap type: either pre-assembled or on reel with separate heads
- Releasable type: can be unfastened for re-use
- Identification system: durable in tough environments and extreme conditions
- Band on reel with separate heads, for a cost saving installation without waste

Ty-Met™ cable ties have international approvals such as UL, Germanischer Lloyd, Lloyd's Register and Det Norske Veritas.

All types are available in 316 grade (marine grade) stainless steel, for extra corrosion resistance.

Available in uncoated version (for high temperature applications) or in fully coated version with non-toxic, halogen free coating, for superior protection of cables and installer's hands and for an improved insulation between dissimilar materials.

A range of dedicated hand tools completes the product offering.



# Ty-Met™ stainless steel cable ties

## Features and benefits

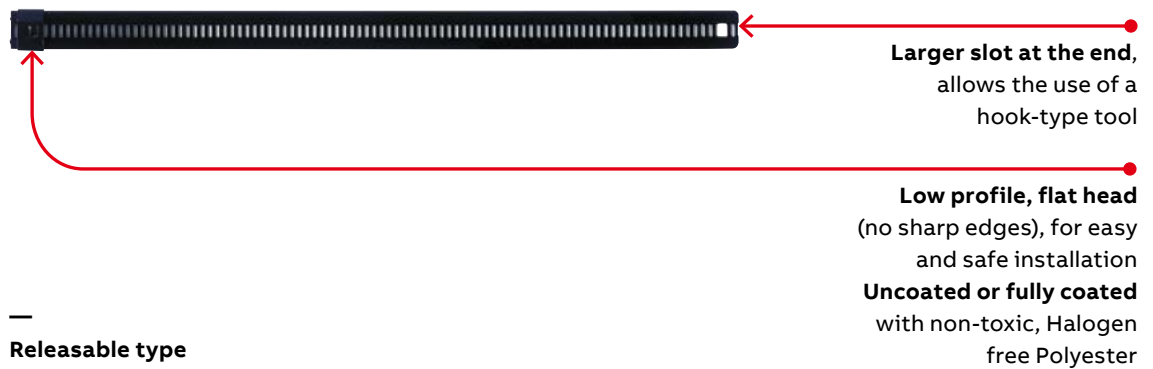
**Ball-lock type**  
 Easy application and strong self-locking mechanism (steel ball), with low insertion force



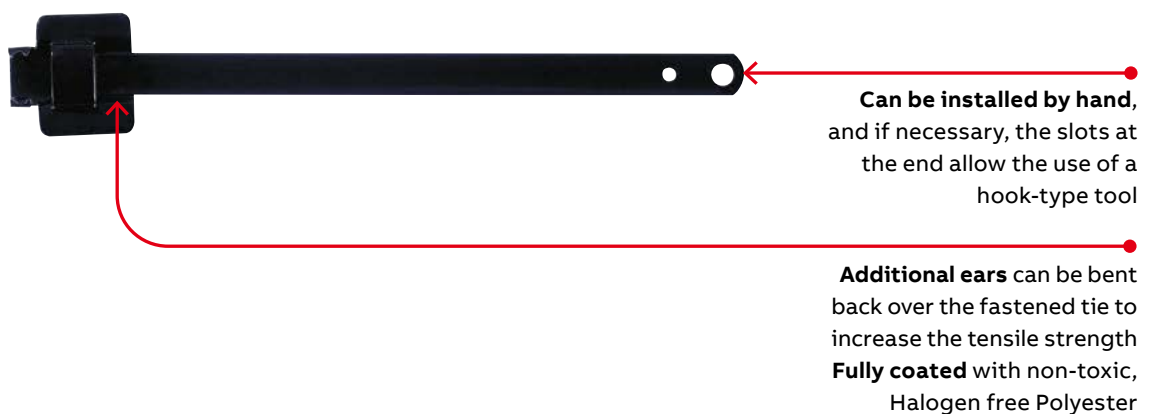
**Ball-Lock retained tension type**  
 Wave-form spring crimp eliminates movement – even in high-vibration applications



**Ladder type**  
 Self-locking mechanism (pawl and ratchet)



**Releasable type**  
 The unique buckle design allows the tie to be unfastened for re-use





**Dual lock ties**

304 & 316 grade stainless steel construction, with two-piece design for fast and easy installation



**Mini ties** (4.5mm/0.18" wide) offer 100 lbs. tensile strength  
**Standard ties** (6.35mm/0.25" wide) offer 200 lbs. tensile strength

**ID system**

Durable identification system for tough environments and extreme conditions, indoor and outdoor



**Dedicated carrier strips** for 6, 10 or 16 characters  
**Carrier strips can be secured with Ty-Met™ stainless steel ties**

**Pre-embossed characters are easy to read**, even when covered with dust, paint or dirt  
**Characters can be mounted on carrier strips or directly onto Ty-Met™ stainless steel ties**

**Characters and carrier strips are made of corrosion resistant 316 grade stainless steel**, for high mechanical and chemical durability

**Bands on reel with separate heads**

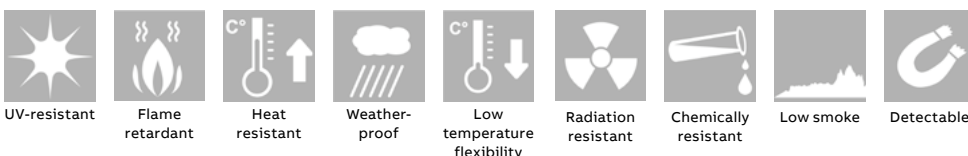
Bands and separate heads are made of corrosion resistant 316 grade stainless steel, for high mechanical and chemical durability



**Available in 5 widths up to 19.1mm (0.75")**, to suit a wide range of applications  
**25-metre (82.02ft) reels for a cost saving and customised installation, around all sizes and shapes of objects**

**Bands are fully covered with non-toxic, halogen free Polypropylene**

**Dedicated heads are easy to install**



UV-resistant Flame retardant Heat resistant Weather-proof Low temperature flexibility Radiation resistant Chemically resistant Low smoke Detectable

## Ty-Met™ stainless steel cable ties

Ball-lock type – Standard widths, fully coated



### Characteristics

The ball-lock type stainless steel ties from ABB are self-locking and require no time consuming crimping or folding operations

- Strong self-locking mechanism (stainless steel ball), with low insertion force
- Fast, easy and reliable installation
- Standard widths (4.6mm & 7.9mm/0.18" & 0.31"), suitable for most applications, indoor and outdoor
- Corrosion resistant 316 grade stainless steel (marine grade) for high mechanical and chemical durability
- Fully coated version with non-toxic, halogen free Polyester coating, for a superior protection of cables and installer's hands and for an improved insulation between dissimilar materials

- Applications: installation of cables and pipes in extreme conditions and hazardous areas, such as: petrochemical and food processing industries, power stations, mining, shipbuilding, offshore and other aggressive environments

### Technical information

- Material: 316 grade non-magnetic stainless steel
- Coating: Polyester
- Temperature range: -40°C to +165°C (-40°F to 329°F)
- Color: Black
- Extremely high flame and UV resistance
- Strap thickness: 0.36mm (0.01")



### Ball-lock type – Standard widths, fully coated

Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
YLS-4.6-100BC	7TCG009410R0012	20 - 25	0.8 - 1	100	3.9	4.6	0.18	778	100
YLS-4.6-125BC	7TCG009420R0089	20 - 25	0.8 - 1	125	4.9	4.6	0.18	778	100
YLS-4.6-150BC	7TCG009410R0034	20 - 35	0.8 - 1.4	150	5.9	4.6	0.18	778	100
YLS-4.6-200BC	7TCG009420R0094	20 - 50	0.8 - 1.97	200	7.9	4.6	0.18	778	100
YLS-4.6-300BC	7TCG009410R0018	20 - 83	0.8 - 3.3	300	11.8	4.6	0.18	778	100
YLS-4.6-360BC	7TCG009420R0098	20 - 100	0.8 - 3.9	360	14.2	4.6	0.18	778	100
YLS-4.6-520BC	7TCG009420R0101	20 - 150	0.8 - 5.9	520	20.7	4.6	0.18	778	100
YLS-4.6-680BC	7TCG009410R0022	20 - 200	0.8 - 7.9	680	26.8	4.6	0.18	778	100
YLS-4.6-840BC	7TCG009420R0104	20 - 250	0.8 - 9.8	840	33.1	4.6	0.18	778	100
YLS-4.6-1000BC	7TCG009420R0085	20 - 300	0.8 - 11.8	1000	39.4	4.6	0.18	778	100
YLS-4.6-1200BC	7TCG009420R0088	20 - 365	0.8 - 14.4	1200	27.2	4.6	0.18	778	100
YLS-4.6-1400BC	7TCG009420R0092	20 - 425	0.8 - 16.7	1400	55.1	4.6	0.18	778	100
YLS-7.9-100BC	7TCG009420R0109	20 - 20	0.8 - 0.8	100	3.9	7.9	0.31	1112	100
YLS-7.9-125BC	7TCG009420R0115	20 - 22	0.8 - 0.9	125	4.9	7.9	0.31	1112	100
YLS-7.9-150BC	7TCG009410R0024	20 - 35	0.8 - 1.4	150	5.9	7.9	0.31	1112	100
YLS-7.9-200BC	7TCG009420R0122	20 - 50	0.8 - 2	200	7.9	7.9	0.31	1112	100
YLS-7.9-300BC	7TCG009410R0028	20 - 83	0.8 - 3.3	300	11.8	7.9	0.31	1112	100
YLS-7.9-360BC	7TCG009410R0030	20 - 100	0.8 - 3.9	360	14.2	7.9	0.31	1112	100
YLS-7.9-520BC	7TCG009420R0124	20 - 150	0.8 - 5.9	520	20.7	7.9	0.31	1112	100
YLS-7.9-680BC	7TCG009420R0126	20 - 200	0.8 - 7.9	680	26.8	7.9	0.31	1112	100
YLS-7.9-840BC	7TCG009420R0128	20 - 250	0.8 - 9.8	840	33.1	7.9	0.31	1112	100
YLS-7.9-1000BC	7TCG009420R0106	20 - 300	0.8 - 11.8	1000	39.4	7.9	0.31	1112	100
YLS-7.9-1200BC	7TCG009420R0112	20 - 365	0.8 - 14.4	1200	27.2	7.9	0.31	1112	100
YLS-7.9-1400BC	7TCG009420R0118	20 - 425	0.8 - 16.7	1400	55.1	7.9	0.31	1112	100

\* Some approvals may not be applicable to all product codes  
Contact your Sales Office for approvals limitations

### Tooling

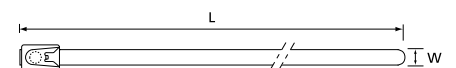


**CT3**  
For use with 4.6mm to 7.9mm (778N to 1112N) cable ties. See page 137.



**DAS250**  
For use with 4.6mm to 7.9mm (778N to 1112N) cable ties. See page 137.

### Dimensions



## Ty-Met™ stainless steel cable ties

Ball-lock type – Standard widths, uncoated



### Characteristics

The ball-lock type stainless steel ties from ABB are self-locking and require no time consuming crimping or folding operations

- Strong self-locking mechanism (stainless steel ball), with low insertion force
- Fast, easy and reliable installation
- Standard widths (4.6mm & 7.9mm/0.18" & 0.31"), suitable for most applications, indoor and outdoor
- Uncoated version, suitable for high temperature environments
- 2 grades of non-magnetic stainless steel: 304 grade for standard applications and 316 grade (marine grade) for extra corrosion resistance

- Applications: installation of cables and pipes in extreme conditions and hazardous areas, such as: petrochemical and food processing industries, power stations, mining, shipbuilding, offshore and other aggressive environments

### Technical information

- Material: A. 304 grade non-magnetic stainless steel; B. 316 grade non-magnetic stainless steel
- Temperature range: -60°C to +300°C (-76°F to 572°F)
- Color: Metallic
- Extremely high flame and UV resistance
- Strap thickness: 0.26mm (0.01")

### Ball-lock type – Standard widths, uncoated



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
<b>Stainless steel 304</b>									
YLS-4.6-100A	7TCG009410R0010	20 - 25	0.8 - 1	100	3.9	4.6	0.18	778	100
YLS-4.6-125A	7TCG009410R0013	20 - 25	0.8 - 1	125	4.9	4.6	0.18	778	100
YLS-4.6-150A	7TCG009410R0015	20 - 35	0.8 - 1.4	150	5.9	4.6	0.18	778	100
YLS4.6-200A	7TCG009410R0035	20 - 50	0.8 - 1.97	200	7.9	4.6	0.18	778	100
YLS-4.6-300A	7TCG009410R0016	20 - 83	0.8 - 3.3	300	11.8	4.6	0.18	778	100
YLS4.6-360A	7TCG009410R0037	20 - 100	0.8 - 3.9	360	14.2	4.6	0.18	778	100
YLS4.6-520A	7TCG009410R0039	20 - 150	0.8 - 5.9	520	20.7	4.6	0.18	778	100
YLS-4.6-680A	7TCG009410R0020	20 - 200	0.8 - 7.9	680	26.8	4.6	0.18	778	100
YLS-4.6-840A	7TCG009420R0102	20 - 250	0.8 - 9.8	840	33.1	4.6	0.18	778	100
YLS-4.6-1000A	7TCG009410R0009	20 - 300	0.8 - 11.8	1000	39.4	4.6	0.18	778	100
YLS-4.6-1200A	7TCG009420R0086	20 - 365	0.8 - 14.4	1200	27.2	4.6	0.18	778	100
YLS-4.6-1400A	7TCG009420R0090	20 - 425	0.8 - 16.7	1400	55.1	4.6	0.18	778	100
<b>Stainless steel 316</b>									
YLS-4.6-100B	7TCG009410R0011	20 - 25	0.8 - 1	100	3.9	4.6	0.18	778	100
YLS-4.6-125B	7TCG009410R0014	20 - 25	0.8 - 1	125	4.9	4.6	0.18	778	100
YLS-4.6-150B	7TCG009420R0093	20 - 35	0.8 - 1.4	150	5.9	4.6	0.18	778	100
YLS4.6-200B	7TCG009410R0036	20 - 50	0.8 - 1.97	200	7.9	4.6	0.18	778	100
YLS-4.6-300B	7TCG009410R0017	20 - 83	0.8 - 3.3	300	11.8	4.6	0.18	778	100
YLS4.6-360B	7TCG009410R0038	20 - 100	0.8 - 3.9	360	14.2	4.6	0.18	778	100
YLS-4.6-520B	7TCG009410R0019	20 - 150	0.8 - 5.9	520	20.7	4.6	0.18	778	100
YLS-4.6-680B	7TCG009410R0021	20 - 200	0.8 - 7.9	680	26.8	4.6	0.18	778	100
YLS-4.6-840B	7TCG009420R0103	20 - 250	0.8 - 9.8	840	33.1	4.6	0.18	778	100
YLS-4.6-1000B	7TCG009420R0084	20 - 300	0.8 - 11.8	1000	39.4	4.6	0.18	778	100
YLS-4.6-1200B	7TCG009420R0087	20 - 365	0.8 - 14.4	1200	27.2	4.6	0.18	778	100
YLS-4.6-1400B	7TCG009420R0091	20 - 425	0.8 - 16.7	1400	55.1	4.6	0.18	778	100

\* Some approvals may not be applicable to all product codes  
Contact your Sales Office for approvals limitations

### Tooling

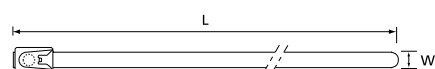


**CT3**  
For use with 4.6mm to 7.9mm (778N to 1112N) cable ties. See page 137.



**DAS250**  
For use with 4.6mm to 7.9mm (778N to 1112N) cable ties. See page 137.

### Dimensions



## Ty-Met™ stainless steel cable ties

Ball-lock type – Standard widths, uncoated



### Characteristics

The ball-lock type stainless steel ties from ABB are self-locking and require no time consuming crimping or folding operations

- Strong self-locking mechanism (stainless steel ball), with low insertion force
- Fast, easy and reliable installation
- Standard widths (4.6mm & 7.9mm/0.18" & 0.31"), suitable for most applications, indoor and outdoor
- Uncoated version, suitable for high temperature environments
- 2 grades of non-magnetic stainless steel: 304 grade for standard applications and 316 grade (marine grade) for extra corrosion resistance

- Applications: installation of cables and pipes in extreme conditions and hazardous areas, such as: petrochemical and food processing industries, power stations, mining, shipbuilding, offshore and other aggressive environments

### Technical information

- Material: A. 304 grade non-magnetic stainless steel; B. 316 grade non-magnetic stainless steel
- Temperature range: -60°C to +300°C (-76°F to 572°F)
- Color: Metallic
- Extremely high flame and UV resistance

### Ball-lock type – Standard widths, uncoated



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
<b>Stainless steel 304</b>									
YLS-7.9-100A	7TCG009420R0107	20 - 20	0.8 - 0.8	100	3.9	7.9	0.31	1112	100
YLS-7.9-125A	7TCG009420R0113	20 - 22	0.8 - 0.9	125	4.9	7.9	0.31	1112	100
YLS-7.9-150A	7TCG009420R0119	20 - 35	0.8 - 1.4	150	5.9	7.9	0.31	1112	100
YLS7.9-200A	7TCG009410R0040	20 - 50	0.8 - 2	200	7.9	7.9	0.31	1112	100
YLS-7.9-300A	7TCG009410R0026	20 - 83	0.8 - 3.3	300	11.8	7.9	0.31	1112	100
YLS7.9-360A	7TCG009410R0041	20 - 100	0.8 - 3.9	360	14.2	7.9	0.31	1112	100
YLS7.9-520A	7TCG009410R0042	20 - 150	0.8 - 5.9	520	20.7	7.9	0.31	1112	100
YLS-7.9-680A	7TCG009420R0125	20 - 200	0.8 - 7.9	680	26.8	7.9	0.31	1112	100
YLS-7.9-840A	7TCG009420R0127	20 - 250	0.8 - 9.8	840	33.1	7.9	0.31	1112	100
YLS-7.9-1000A	7TCG009410R0023	20 - 300	0.8 - 11.8	1000	39.4	7.9	0.31	1112	100
YLS-7.9-1200A	7TCG009420R0110	20 - 365	0.8 - 14.4	1200	27.2	7.9	0.31	1112	100
YLS-7.9-1400A	7TCG009420R0116	20 - 425	0.8 - 16.7	1400	55.1	7.9	0.31	1112	100
<b>Stainless steel 316</b>									
YLS-7.9-100B	7TCG009420R0108	20 - 20	0.8 - 0.8	100	3.9	7.9	0.31	1112	100
YLS-7.9-125B	7TCG009420R0114	20 - 22	0.8 - 0.9	125	4.9	7.9	0.31	1112	100
YLS-7.9-150B	7TCG009420R0120	20 - 35	0.8 - 1.4	150	5.9	7.9	0.31	1112	100
YLS-7.9-200B	7TCG009410R0025	20 - 50	0.8 - 2	200	7.9	7.9	0.31	1112	100
YLS-7.9-300B	7TCG009410R0027	20 - 83	0.8 - 3.3	300	11.8	7.9	0.31	1112	100
YLS-7.9-360B	7TCG009410R0029	20 - 100	0.8 - 3.9	360	14.2	7.9	0.31	1112	100
YLS-7.9-520B	7TCG009410R0031	20 - 150	0.8 - 5.9	520	20.7	7.9	0.31	1112	100
YLS-7.9-680B	7TCG009410R0032	20 - 200	0.8 - 7.9	680	26.8	7.9	0.31	1112	100
YLS-7.9-840B	7TCG009410R0033	20 - 250	0.8 - 9.8	840	33.1	7.9	0.31	1112	100
YLS-7.9-1000B	7TCG009420R0105	20 - 300	0.8 - 11.8	1000	39.4	7.9	0.31	1112	100
YLS-7.9-1200B	7TCG009420R0111	20 - 365	0.8 - 14.4	1200	27.2	7.9	0.31	1112	100
YLS-7.9-1400B	7TCG009420R0117	20 - 425	0.8 - 16.7	1400	55.1	7.9	0.31	1112	100

\* Some approvals may not be applicable to all product codes  
Contact your Sales Office for approvals limitations

### Tooling

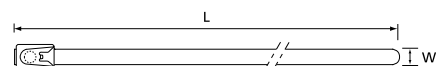


**CT3**  
For use with 4.6mm to 7.9mm (778N to 1112N) cable ties. See page 137.



**DAS250**  
For use with 4.6mm to 7.9mm (778N to 1112N) cable ties. See page 137.

### Dimensions



## Ty-Met™ vibration-resistant stainless steel cable ties

Wave-form spring crimp eliminates movement – even in high-vibration applications



Ty-Met vibration-resistant stainless steel cable ties from ABB combine the convenience of a ball-lock fastening mechanism with a spring crimp that maintains tension after installation. This feature helps to ensure that the ties won't slide down the cable bundle after they're installed – making them the ideal choice for high-vibration applications.

### Features

- Specially formed spring crimp creates consistent tension 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

- Ties available in both type 304 stainless steel and type 316 marine-grade stainless steel for extended life in highly corrosive environments
- Install with ABB DAS-250 application tool

### Applications

- Shipbuilding
- Industrial
- Oil and gas
- Heavy equipment and trucking
- Wind power and solar energy

### Specifications

- 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
- Minimum bundle diameter for all lengths: 26mm (1")

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

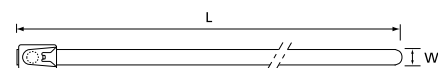
Product code	GID No.	Max. bundle dia.		Length L		Width W		Tensile strength		Std. pkg quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[lbs]	[N]	
<b>Type 304 stainless steel – uncoated</b>										
RS-4.6-200A	7TAG009420R0137	51	2	200	7.9	4.6	0.18	200	890	50
RS-4.6-260A	7TAG009420R0139	70	2.7	260	10.2	4.6	0.18	200	890	50
RS-4.6-360A	7TAG009420R0141	102	4	360	14.2	4.6	0.18	200	890	50
RS-4.6-520A	7TAG009420R0143	152	6	520	20.5	4.6	0.18	200	890	50
RS-4.6-680A	7TAG009420R0145	203	8	680	26.8	4.6	0.18	200	890	50
RS-7.9-200A	7TAG009420R0147	51	2	200	7.9	7.9	0.31	450	2000	50
RS-7.9-360A	7TAG009420R0149	102	4	360	14.2	7.9	0.31	450	2000	50
RS-7.9-520A	7TAG009420R0151	152	6	520	20.5	7.9	0.31	450	2000	50
RS-7.9-680A	7TAG009420R0153	203	8	680	26.8	7.9	0.31	450	2000	50
<b>Type 316 marine-grade</b>										
RS-4.6-200B	7TAG009420R0138	51	2	200	7.9	4.6	0.18	200	890	50
RS-4.6-260B	7TAG009420R0140	70	2.7	260	10.2	4.6	0.18	200	890	50
RS-4.6-360B	7TAG009420R0142	102	4	360	14.2	4.6	0.18	200	890	50
RS-4.6-520B	7TAG009420R0144	152	6	520	20.5	4.6	0.18	200	890	50
RS-4.6-680B	7TAG009420R0146	203	8	680	26.8	4.6	0.18	200	890	50
RS-7.9-200B	7TAG009420R0148	51	2	200	7.9	7.9	0.31	450	2000	50
RS-7.9-360B	7TAG009420R0150	102	4	360	14.2	7.9	0.31	450	2000	50
RS-7.9-520B	7TAG009420R0152	152	6	520	20.5	7.9	0.31	450	2000	50
RS-7.9-680B	7TAG009420R0154	203	8	680	26.8	7.9	0.31	450	2000	50

### Tooling



**DAS250**  
For use with 4.6mm to 7.9mm (778N to 1112N) cable ties. See page 137.

### Dimensions



## Ty-Met™ stainless steel cable ties

### Ball-lock type – Heavy-duty ties, uncoated



#### Characteristics

The ball-lock type stainless steel ties from ABB are self-locking and require no time consuming crimping or folding operations

- Strong self-locking mechanism (stainless steel ball), with low insertion force
- Fast, easy and reliable installation
- Heavy-duty version (12mm & 16mm (0.47" & 0.63") of width), for extreme applications, indoor and outdoor
- Uncoated version, suitable for high temperature environments
- Corrosion resistant 316 grade stainless steel (marine grade) for high mechanical and chemical durability

- Applications: installation of cables and pipes in extreme conditions and hazardous areas, such as: petrochemical and food processing industries, power stations, mining, shipbuilding, offshore and other aggressive environments

#### Technical information

- Material: 316 grade non-magnetic stainless steel
- Temperature range: -40°C to +300°C (-40°F to 572°F)
- Color: Metallic
- Extremely high flame and UV resistance
- Strap thickness: 0.32mm (0.01")



#### Ball-lock type – Heavy-duty ties, uncoated

Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
YLS-12-200B	7TCG009420R0038	20 - 25	0.8 - 1	100	3.9	12.0	0.47	1120	50
YLS-12-300B	7TCG009420R0040	20 - 25	0.8 - 1	125	4.9	12.0	0.47	1120	50
YLS-12-360B	7TCG009420R0042	20 - 35	0.8 - 1.4	150	5.9	12.0	0.47	1120	50
YLS-12-440B	7TCG009420R0044	20 - 50	0.8 - 1.97	200	7.9	12.0	0.47	1120	50
YLS-12-520B	7TCG009420R0046	20 - 83	0.8 - 3.3	300	11.8	12.0	0.47	1120	50
YLS-12-600B	7TCG009420R0048	20 - 100	0.8 - 3.9	360	14.2	12.0	0.47	1120	50
YLS-12-680B	7TCG009420R0050	20 - 150	0.8 - 5.9	520	20.7	12.0	0.47	1120	50
YLS-12-760B	7TCG009420R0052	20 - 200	0.8 - 7.9	680	26.8	12.0	0.47	1120	50
YLS-12-840B	7TCG009420R0054	20 - 250	0.8 - 9.8	840	33.1	12.0	0.47	1120	50
YLS-12-1000B	7TCG009420R0032	20 - 300	0.8 - 11.8	1000	39.4	12.0	0.47	1120	25
YLS-12-1200B	7TCG009420R0034	20 - 365	0.8 - 14.4	1200	27.2	12.0	0.47	1120	25
YLS-12-1400B	7TCG009420R0036	20 - 425	0.8 - 16.7	1400	55.1	12.0	0.47	1120	25
YLS-16-200B	7TCG009420R0064	20 - 20	0.8 - 0.8	100	3.9	16.0	0.63	4000	50
YLS-16-300B	7TCG009420R0066	20 - 22	0.8 - 0.9	125	4.9	16.0	0.63	4000	50
YLS-16-360B	7TCG009420R0068	20 - 35	0.8 - 1.4	150	5.9	16.0	0.63	4000	50
YLS-16-440B	7TCG009420R0070	20 - 50	0.8 - 2	200	7.9	16.0	0.63	4000	50
YLS-16-520B	7TCG009420R0072	20 - 83	0.8 - 3.3	300	11.8	16.0	0.63	4000	50
YLS-16-600B	7TCG009420R0074	20 - 100	0.8 - 3.9	360	14.2	16.0	0.63	4000	50
YLS-16-680B	7TCG009420R0076	20 - 150	0.8 - 5.9	520	20.7	16.0	0.63	4000	50
YLS-16-760B	7TCG009420R0078	20 - 200	0.8 - 7.9	680	26.8	16.0	0.63	4000	50
YLS-16-840B	7TCG009420R0080	20 - 250	0.8 - 9.8	840	33.1	16.0	0.63	4000	50
YLS-16-1000B	7TCG009420R0058	20 - 300	0.8 - 11.8	1000	39.4	16.0	0.63	4000	25
YLS-16-1200B	7TCG009420R0060	20 - 365	0.8 - 14.4	1200	27.2	16.0	0.63	4000	25
YLS-16-1400B	7TCG009420R0062	20 - 425	0.8 - 16.7	1400	55.1	16.0	0.63	4000	25

\* Some approvals may not be applicable to all product codes  
Contact your Sales Office for approvals limitations

#### Tooling

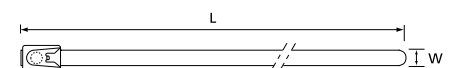


**CT3**  
For use with 12mm (1117N) cable ties. See page 137.



**CT7**  
For use with 12mm to 16mm (1117N to 4005N) cable ties. See page 137.

#### Dimensions



## Ty-Met™ stainless steel cable ties

Ball-lock type – Heavy-duty ties, fully coated



### Characteristics

The ball-lock type stainless steel ties from ABB are self-locking and require no time consuming crimping or folding operations

- Strong self-locking mechanism (stainless steel ball), with low insertion force
- Fast, easy and reliable installation
- Heavy-duty version (12mm & 16mm (0.47" & 0.63") of width), for extreme applications, indoor and outdoor
- Corrosion resistant 316 grade stainless steel (marine grade) for high mechanical and chemical durability
- Fully coated version with non-toxic, halogen free Polyester coating, for a superior protection of cables and installer's hands and for an improved insulation between dissimilar materials

- Applications: installation of cables and pipes in extreme conditions and hazardous areas, such as: petrochemical and food processing industries, power stations, mining, shipbuilding, offshore and other aggressive environments

### Technical information

- Material: 316 grade non-magnetic stainless steel
- Coating: Black Polyester
- Temperature range: -40°C to +165°C (-40°F to 329°F)
- Extremely high flame and UV resistance
- Strap thickness: 0.42mm (0.02")

### Ball-lock type – Heavy-duty ties, uncoated

Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
YLS-12-200BC	7TCG009420R0039	20 - 25	0.8 - 1	100	3.9	12.0	0.47	1335	50
YLS-12-300BC	7TCG009420R0041	20 - 25	0.8 - 1	125	4.9	12.0	0.47	1335	50
YLS-12-360BC	7TCG009420R0043	20 - 35	0.8 - 1.4	150	5.9	12.0	0.47	1335	50
YLS-12-440BC	7TCG009420R0045	20 - 50	0.8 - 1.97	200	7.9	12.0	0.47	1335	50
YLS-12-520BC	7TCG009420R0047	20 - 83	0.8 - 3.3	300	11.8	12.0	0.47	1335	50
YLS-12-600BC	7TCG009420R0049	20 - 100	0.8 - 3.9	360	14.2	12.0	0.47	1335	50
YLS-12-680BC	7TCG009420R0051	20 - 150	0.8 - 5.9	520	20.7	12.0	0.47	1335	50
YLS-12-760BC	7TCG009420R0053	20 - 200	0.8 - 7.9	680	26.8	12.0	0.47	1335	50
YLS-12-840BC	7TCG009420R0055	20 - 250	0.8 - 9.8	840	33.1	12.0	0.47	1335	50
YLS-12-1000BC	7TCG009420R0033	20 - 300	0.8 - 11.8	1000	39.4	12.0	0.47	1335	25
YLS-12-1200BC	7TCG009420R0035	20 - 365	0.8 - 14.4	1200	27.2	12.0	0.47	1335	25
YLS-12-1400BC	7TCG009420R0037	20 - 425	0.8 - 16.7	1400	55.1	12.0	0.47	1335	25
YLS-16-200BC	7TCG009420R0065	20 - 20	0.8 - 0.8	100	3.9	16.0	0.63	2002	50
YLS-16-300BC	7TCG009420R0067	20 - 22	0.8 - 0.9	125	4.9	16.0	0.63	2002	50
YLS-16-360BC	7TCG009420R0069	20 - 35	0.8 - 1.4	150	5.9	16.0	0.63	2002	50
YLS-16-440BC	7TCG009420R0071	20 - 50	0.8 - 2	200	7.9	16.0	0.63	2002	50
YLS-16-520BC	7TCG009420R0073	20 - 83	0.8 - 3.3	300	11.8	16.0	0.63	2002	50
YLS-16-600BC	7TCG009420R0075	20 - 100	0.8 - 3.9	360	14.2	16.0	0.63	2002	50
YLS-16-680BC	7TCG009420R0077	20 - 150	0.8 - 5.9	520	20.7	16.0	0.63	2002	50
YLS-16-760BC	7TCG009420R0079	20 - 200	0.8 - 7.9	680	26.8	16.0	0.63	2002	50
YLS-16-840BC	7TCG009420R0081	20 - 250	0.8 - 9.8	840	33.1	16.0	0.63	2002	50
YLS-16-1000BC	7TCG009420R0059	20 - 300	0.8 - 11.8	1000	39.4	16.0	0.63	2002	25
YLS-16-1200BC	7TCG009420R0061	20 - 365	0.8 - 14.4	1200	27.2	16.0	0.63	2002	25
YLS-16-1400BC	7TCG009420R0063	20 - 425	0.8 - 16.7	1400	55.1	16.0	0.63	2002	25

### Tooling

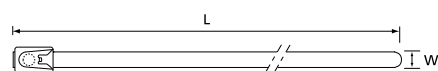


**CT3**  
For use with 12mm (1117N) cable ties. See page 137.



**CT7**  
For use with 12mm to 16mm (1117N to 4005N) cable ties. See page 137.

### Dimensions



# Ty-Met™ stainless steel cable ties

## Ladder type – Uncoated



### Characteristics

The ladder type stainless steel ties from ABB have a flat, low profile head for easy application

- Strong self-locking mechanism (pawl and ratchet), requires no time consuming crimping or folding operations
- Flat and low profile head (no sharp edge), for easy installation
- Corrosion resistant 316 grade stainless steel for high mechanical and chemical durability
- Uncoated version for high temperature applications
- Increased usable length (slots up to the end of the tail), allows larger bundle diameters with the same tie length
- Larger slot at the end, allows the use of a hook-type tool

- Applications: Installation of cables and pipes in extreme conditions and hazardous areas, indoor and outdoor, such as: petrochemical and food processing industries, power stations, mining, shipbuilding, offshore and other aggressive environments

### Technical information

- Material: 316 grade stainless steel
- Coating: Uncoated
- Temperature range: -40°C to +300°C (-40°F to 572°F)
- Color: Metallic
- Extremely high flame and UV resistance



### Ladder type – Uncoated

Product code	GID No.	Bundle ø from ... to		Length L		Width W		Material thickness		Min. tensile strength [N]	Quantity [pieces] Standard
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]		
YLD-7-150-B	7TCG009450R0217	20 - 45	0.8 - 1.8	150	5.9	7.0	0.28	0.30	0.01	529	100
YLD-7-225-B	7TCG009450R0219	20 - 70	0.8 - 2.8	225	8.9	7.0	0.28	0.30	0.01	529	100
YLD-7-300-B	7TCG009450R0221	20 - 95	0.8 - 3.7	300	11.8	7.0	0.28	0.30	0.01	529	100
YLD-7-450-B	7TCG009460R0157	20 - 140	0.8 - 5.5	450	17.7	7.0	0.28	0.30	0.01	529	100
YLD-7-610-B	7TCG009450R0224	20 - 190	0.8 - 7.5	610	24	7.0	0.28	0.30	0.01	529	100
YLD-12-150-B	7TCG009460R0133	20 - 43	0.8 - 1.7	150	5.9	12.0	0.47	0.35	0.01	529	100
YLD-12-225-B	7TCG009460R0136	20 - 60	0.8 - 2.4	225	8.9	12.0	0.47	0.35	0.01	529	100
YLD-12-300-B	7TCG009450R0212	20 - 80	0.8 - 3.2	300	11.8	12.0	0.47	0.35	0.01	529	100
YLD-12-450-B	7TCG009450R0214	20 - 135	0.8 - 5.3	450	17.7	12.0	0.47	0.35	0.01	529	100
YLD-12-610-B	7TCG009460R0143	20 - 185	0.8 - 7.3	610	24	12.0	0.47	0.35	0.01	529	100

\* Some approvals may not be applicable to all product codes  
Contact your Sales Office for approvals limitations

### Tooling



**CT1-TB**  
For use with 7.0mm to 12.0mm (529N) cable ties. See page 137.

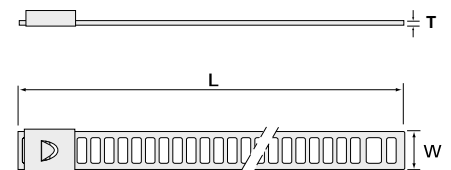


**CT3**  
For use with 7.0mm to 12.0mm (529N) cable ties. See page 137.



**WT35**  
For use with 7.0mm to 12.0mm (529N) cable ties. See page 137.

### Dimensions





## Ty-Met™ stainless steel cable ties

### Ladder type – Fully coated



#### Characteristics

The ladder type stainless steel ties from ABB have a flat, low profile head for easy application

- Strong self-locking mechanism (pawl and ratchet), requires no time consuming crimping or folding operations
- Flat and low profile head (no sharp edge), for easy installation
- Corrosion resistant 316 grade stainless steel for high mechanical and chemical durability
- Fully coated version with non-toxic, Halogen free Polyester coating, for a superior protection of cables and installer’s hands and for an improved insulation between dissimilar materials
- Increased usable length (slots up to the end of the tail), allows larger bundle diameters with the same tie length

- Larger slot at the end, allows the use of a hook-type tool
- Applications: Installation of cables and pipes in extreme conditions and hazardous areas, indoor and outdoor, such as: petrochemical and food processing industries, power stations, mining, shipbuilding, offshore and other aggressive environments

#### Technical information

- Material: 316 grade stainless steel
- Coating: Polyester
- Temperature range: -60°C to +165°C (-75°F to 329°F)
- Color: Black
- Extremely high flame and UV resistance

#### Ladder type – Fully coated



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Material thickness		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]		
YLD-7-150-BC	7TCG009450R0218	20 - 45	0.8 - 1.8	150	5.9	7.0	0.28	0.41	0.02	778	100
YLD-7-225-BC	7TCG009450R0220	20 - 70	0.8 - 2.8	225	8.9	7.0	0.28	0.41	0.02	778	100
YLD-7-300-BC	7TCG009450R0222	20 - 95	0.8 - 3.7	300	11.8	7.0	0.28	0.41	0.02	778	100
YLD-7-450-BC	7TCG009450R0223	20 - 140	0.8 - 5.5	450	17.7	7.0	0.28	0.41	0.02	778	100
YLD-7-610-BC	7TCG009450R0225	20 - 190	0.8 - 7.5	610	24	7.0	0.28	0.41	0.02	778	100
YLD-12-150-BC	7TCG009450R0210	20 - 43	0.8 - 1.7	150	5.9	12.0	0.47	0.46	0.24	778	100
YLD-12-225-BC	7TCG009450R0211	20 - 60	0.8 - 2.4	225	8.9	12.0	0.47	0.46	0.24	778	100
YLD-12-300-BC	7TCG009450R0213	20 - 80	0.8 - 3.2	300	11.8	12.0	0.47	0.46	0.24	778	100
YLD-12-450-BC	7TCG009450R0215	20 - 135	0.8 - 5.3	450	17.7	12.0	0.47	0.46	0.24	778	100
YLD-12-610-BC	7TCG009460R0144	20 - 185	0.8 - 7.3	610	24	12.0	0.47	0.46	0.24	778	100

\* Some approvals may not be applicable to all product codes  
Contact your Sales Office for approvals limitations

#### Tooling



**CT1-TB**  
For use with 7.0mm to 12.0mm (778N) cable ties. See page 137.

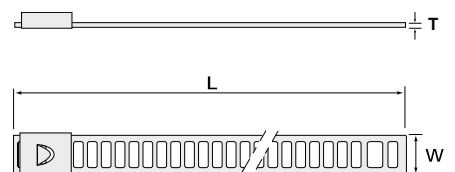


**CT3**  
For use with 7.0mm to 12.0mm (778N) cable ties. See page 137.



**WT3S**  
For use with 7.0mm to 12.0mm (778N) cable ties. See page 137.

#### Dimensions



## Ty-Met™ stainless steel cable ties

### Releasable type



#### Characteristics

The releasable type stainless steel ties from ABB have a unique buckle design that allows the ties to be unfastened for re-use

- Releasable and re-usable
- Corrosion resistant 316 grade stainless steel for high mechanical and chemical durability
- Fully coated version with non-toxic, Halogen free Polyester coating, for a superior protection of cables and installer's hands and for an improved insulation between dissimilar materials
- Fast, easy and reliable installation - can be installed by hand and if necessary, the slots at the end of the tie allow the use of a hook-type tool
- The additional ears can be bent back over the fastened tie to increase the tensile strength

- Applications: Installation of cables and pipes in extreme conditions and hazardous areas, indoor and outdoor, such as: petrochemical and food processing industries, power stations, mining, ship-building, offshore and other aggressive environments

#### Technical information

- Material: 316 grade stainless steel
- Coating: Polyester
- Temperature range: -60°C to +165°C (-76°F to 329°F)
- Color: Black
- Extremely high flame and UV resistance
- Strap thickness: 0.61mm (0.02")

### Releasable type



Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
YRL-5-150-BC	7TCG009210R0075	30 - 36	1.2 - 1.4	150	5.9	5.0	0.20	1300	100
YRL-5-230-BC	7TCG009210R0077	30 - 60	1.2 - 2.4	230	9.1	5.0	0.20	1300	100
YRL-5-330-BC	7TCG009210R0079	30 - 95	1.2 - 3.7	330	13	5.0	0.20	1300	100
YRL-5-450-BC	7TCG009210R0081	30 - 130	1.2 - 5.1	450	17.7	5.0	0.20	1300	100
YRL-5-650-BC	7TCG009210R0083	30 - 190	1.2 - 7.5	650	25.6	5.0	0.20	1300	100
YRL-10-150-BC	7TCG009210R0062	40 - 40	1.6 - 1.6	150	5.9	10.0	0.39	2200	100
YRL-10-230-BC	7TCG009210R0064	40 - 60	1.6 - 2.4	230	9.1	10.0	0.39	2200	100
YRL-10-330-BC	7TCG009210R0066	40 - 95	1.6 - 3.7	330	13	10.0	0.39	2200	100
YRL-10-450-BC	7TCG009210R0068	40 - 130	1.6 - 5.1	450	17.7	10.0	0.39	2200	100
YRL-10-650-BC	7TCG009210R0070	40 - 190	1.6 - 7.5	650	25.6	10.0	0.39	2200	100
YRL-10-750-BC	7TCG009210R0072	40 - 230	1.6 - 9	750	29.5	10.0	0.39	2200	100
YRL-10-900-BC	7TCG009210R0074	40 - 275	1.6 - 10.9	900	35.4	10.0	0.39	2200	100

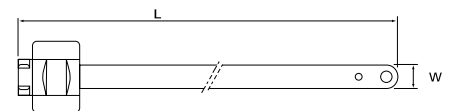
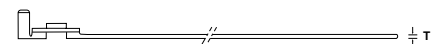
\* Some approvals may not be applicable to all product codes  
Contact your Sales Office for approvals limitations

### Tooling



**CT3**  
For use with 7.0mm to 12.0mm (778N) cable ties. See page 137.

### Dimensions



# Ty-Met™ stainless steel cable ties

## Stainless steel ID system



### Characteristics

A new durable identification system, ideally suited for tough environments and extreme conditions, indoor and outdoor

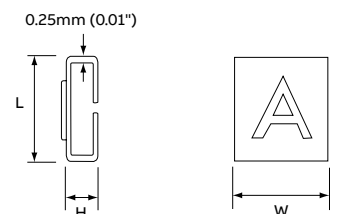
- Sleeves with pre-embossed characters (letters, digits and symbols)
- Pre-embossed characters are raised above the surface of the sleeve, which makes them easy to read even when covered with dust, paint or dirt

- Dedicated strips can carry 6, 10 or 16 sleeves
- Sleeves and strips are made of corrosion resistant 316 grade stainless steel (marine grade), for high mechanical and chemical durability
- The sleeves can be mounted onto the carrier strips (which will be secured by Ty-Met™ stainless steel ties) or directly onto Ty-Met™ stainless steel ties having a width up to 7.9mm (0.31")

### Stainless steel ID system - Sleeves with pre-embossed characters, uncoated

Product code	GID No.	Description	L		W		H		Packaging [pieces]
			[mm]	[in]	[mm]	[in]	[mm]	[in]	
YID-CHAR-A	7TCG009470R0074	Letter "A"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-B	7TCG009470R0075	Letter "B"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-C	7TCG009470R0078	Letter "C"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-D	7TCG009470R0079	Letter "D"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-E	7TCG009470R0080	Letter "E"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-F	7TCG009470R0082	Letter "F"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-G	7TCG009470R0083	Letter "G"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-H	7TCG009470R0084	Letter "H"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-I	7TCG009470R0085	Letter "I"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-J	7TCG009470R0086	Letter "J"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-K	7TCG009470R0087	Letter "K"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-L	7TCG009470R0088	Letter "L"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-M	7TCG009470R0089	Letter "M"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-N	7TCG009470R0091	Letter "N"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-O	7TCG009470R0092	Letter "O"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-P	7TCG009470R0093	Letter "P"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-Q	7TCG009470R0095	Letter "Q"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-R	7TCG009470R0096	Letter "R"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-S	7TCG009470R0097	Letter "S"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-T	7TCG009470R0100	Letter "T"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-U	7TCG009470R0101	Letter "U"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-V	7TCG009470R0102	Letter "V"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-W	7TCG009470R0103	Letter "W"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-X	7TCG009470R0104	Letter "X"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-Y	7TCG009470R0105	Letter "Y"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-Z	7TCG009470R0106	Letter "Z"	9.2	0.4	8	0.31	2.5	0.10	100

### Dimensions



## Ty-Met™ stainless steel cable ties

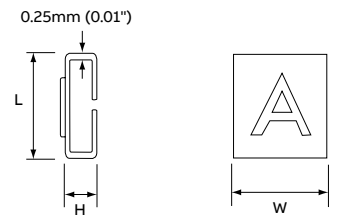
### Stainless steel ID system (continued)

#### Stainless steel ID system - Sleeves with pre-embossed characters, uncoated

Product code	GID No.	Description	L		W		H		Packaging [pieces]
			[mm]	[in]	[mm]	[in]	[mm]	[in]	
YID-CHAR-1	7TCG009470R0065	Digit "1"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-2	7TCG009470R0066	Digit "2"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-3	7TCG009470R0067	Digit "3"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-4	7TCG009470R0068	Digit "4"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-5	7TCG009470R0068	Digit "5"	9.2	0.4	8	0.31	2.5 <td 0.10	100	
YID-CHAR-6	7TCG009470R0068	Digit "6" or "9"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-7	7TCG009470R0068	Digit "7"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-8	7TCG009470R0068	Digit "8"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-BLANK	7TCG009470R0068	Blank filler	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-PLUS	7TCG009470R0068	Symbol "+"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-MINUS	7TCG009470R0068	Symbol "-"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-SLASH	7TCG009470R0068	Symbol "/"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-EARTH	7TCG009470R0081	Symbol "⌚"	9.2	0.4	8	0.31	2.5	0.10	100
YID-CHAR-SINE	7TCG009470R0098	Symbol "∞"	9.2	0.4	8	0.31	2.5	0.10	100

For digit 9 (nine) use digit 6 (six) upside down, for digit 0 (zero) use letter "O"

#### Dimensions

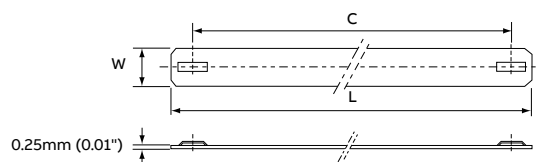


#### Stainless steel ID system - Carrier strips, uncoated

Product code	GID No.	Description	L		W		C		Packaging [pieces]
			[mm]	[in]	[mm]	[in]	[mm]	[in]	
YID-STRIP-6	7TCG009470R0111	Carrier strip for 6 sleeves	93	3.7	7.9	0.31	75	2.95	100
YID-STRIP-10	7TCG009470R0107	Carrier strip for 10 sleeves	133	5.2	7.9	0.31	115	4.53	100
YID-STRIP-16	7TCG009470R0108	Carrier strip for 16 sleeves	188	7.4	7.9	0.31	170	6.69	100
YID-STRIP-20	7TCG009470R0109	Carrier strip for 20 sleeves	upon request		7.9	0.31	upon request		100
YID-STRIP-30	7TCG009470R0110	Carrier strip for 30 sleeves	upon request		7.9	0.31	upon request		100

Strips can be secured with Ty-Met™ stainless steel ties having a width up to 7.9mm (0.31")

#### Dimensions



## Ty-Met™ stainless steel cable ties

Bands on reel with separate heads



### Characteristics

A new range of stainless steel band on reel with separate heads, for a cost saving installation without waste

- Bands and heads are made of corrosion resistant 316 grade stainless steel, for high mechanical and chemical durability
- Bands are fully covered with a non-toxic, halogen free black Polypropylene sheath, for a superior protection of cables and installer's hands, and for an improved insulation between dissimilar materials

- Cost saving and flexible: the 25-metre (82.02ft) reels allow a customized installation (no waste) around all sizes and shapes of objects
- Dedicated separate heads are easy to install
- Available in 5 widths up to 19.1mm (0.75"), to suit a wide range of applications

### Technical information

- Material: 316 grade non-magnetic stainless steel
- Coating: Polypropylene
- Temperature range: -25°C to +90°C (-13°F to 194°F)
- Color: Bands & Heads: metallic; Coating: black
- Other properties: UV-resistant, Halogen free, non-toxic

### Bands on reel with separate heads - Bands on reels, fully covered with Polypropylene sheath

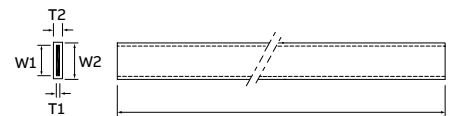
Product code	GID No.	Tensile strength		W1		W2		T2		Length	
		[lbs]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[m]	[ft]	
YBR-6.4-25BC	7TCG009460R0129	335	6.4	0.25	7.2	0.28	1.25	0.05	25	82	
YBR-9.5-25BC	7TCG009460R0130	505	9.5	0.37	10.3	0.41	1.25	0.05	25	82	
YBR-12.7-25BC	7TCG009460R0126	670	12.7	0.5	13.5	0.53	1.25	0.05	25	82	
YBR-15.9-25BC	7TCG009460R0127	840	15.9	0.63	16.7	0.66	1.25	0.05	25	82	
YBR-19.1-25BC	7TCG009460R0128	1000	19.1	0.75	18.9	0.74	1.25	0.05	25	82	

### Tooling



**CT8**  
For use with 6.4mm to 19.1mm cable ties. See page 137.

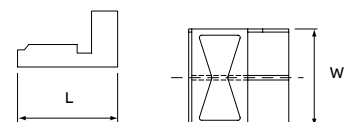
### Dimensions



### Bands on reel with separate heads - Separate heads, uncoated

Product code	GID No.	Length L		Width W		Quantity [pieces]
		[mm]	[in]	[mm]	[in]	
YBRH-6.4	7TCG009470R0062	9.3	0.4	15.9	0.63	100
YBRH-9.5	7TCG009470R0063	12.0	0.7	15.9	0.63	100
YBRH-12.7	7TCG009470R0059	16.5	0.5	22.3	0.88	100
YBRH-15.9	7TCG009470R0060	19.4	0.8	22.3	0.88	100
YBRH-19.1	7TCG009470R0061	21.7	0.9	22.3	0.88	100

### Dimensions



# Ty-Met™ stainless steel cable ties

## Dual-lock stainless steel cable ties



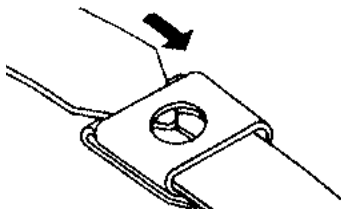
### Characteristics

- Proprietary installation system provides a positive crimp lock for precise installation
- Tool provides a customizable tension, automatic crimp and cuts the remaining tail
- Standard offering is 304 grade stainless steel
- Also available in 316 grade stainless steel (See local sales representative for MOQ, pricing and lead time)

### Dual-lock stainless steel cable ties

Product code	GID No.	Bundle ø from ... to		Length L		Width W		Tensile strength		Std. pkg quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[lbs.]	[N]	
<b>Mini stainless steel cable ties</b>										
SS7-180	7TAG009430R0006	25.0	1.0	165.0	6.5	4.5	0.18	100	444.8	100
SS10-180	7TAG009430R0001	51.0	2.0	254.0	10.0	4.5	0.18	100	444.8	100
SS16-180	7TAG009440R0008	102.0	4.0	406.0	16.0	4.5	0.18	100	444.8	100
SS23-180	7TAG009440R0009	152.0	6.0	572.0	22.5	4.5	0.18	100	444.8	100
SS29-180	7TAG009440R0010	203.0	8.0	737.0	29.0	4.5	0.18	100	444.8	100
<b>Standard stainless steel cable ties</b>										
SS10-250	7TAG009430R0002	51.0	2.0	254.0	10.0	6.35	0.25	200	890	100
SS17-250	7TAG009430R0003	102.0	4.0	419.0	16.5	6.35	0.25	200	890	100
SS23-250	7TAG009430R0005	152.0	6.0	572.0	22.5	6.35	0.25	200	890	100
SS29-250	7TAG009440R0011	203.0	8.0	737.0	29.0	6.35	0.25	200	890	100
SS35-250	7TAG009440R0012	254.0	10.0	889.0	35.0	6.35	0.25	200	890	100

304 Stainless Steel  
 0.015" (0.38mm) Thickness  
 Note: Other lengths available on special request  
 Add suffix -316 for 316 Stainless Steel



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



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.



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.

### Tooling



**WTA250**  
 For use with 180 mini series Dual Lock cable ties. See page 137.



**WTA290**  
 For use with 250 series Dual Lock cable ties. See page 137.

## Ty-Met™ stainless steel cable ties

### Mounting bases

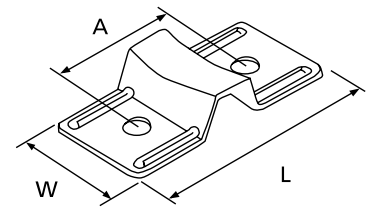
#### Characteristics

- Mounting bases in corrosion resistant 316 grade stainless steel
- Uncoated, for high temperature applications (-80°C to +300°C/-112°F to 572°F)

#### Mounting bases

Product code	GID No.	Length L		Width W		Dimension A		Mounting hole diameter		For stainless steel ties width up to		Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
TCS25	7TAG009470R0057	57.1	2.3	25.4	1	31.8	1.25	6.7 (x2)	0.26 (x2)	8.7	0.34	50

#### Dimensions



## Ty-Met™ stainless steel cable ties

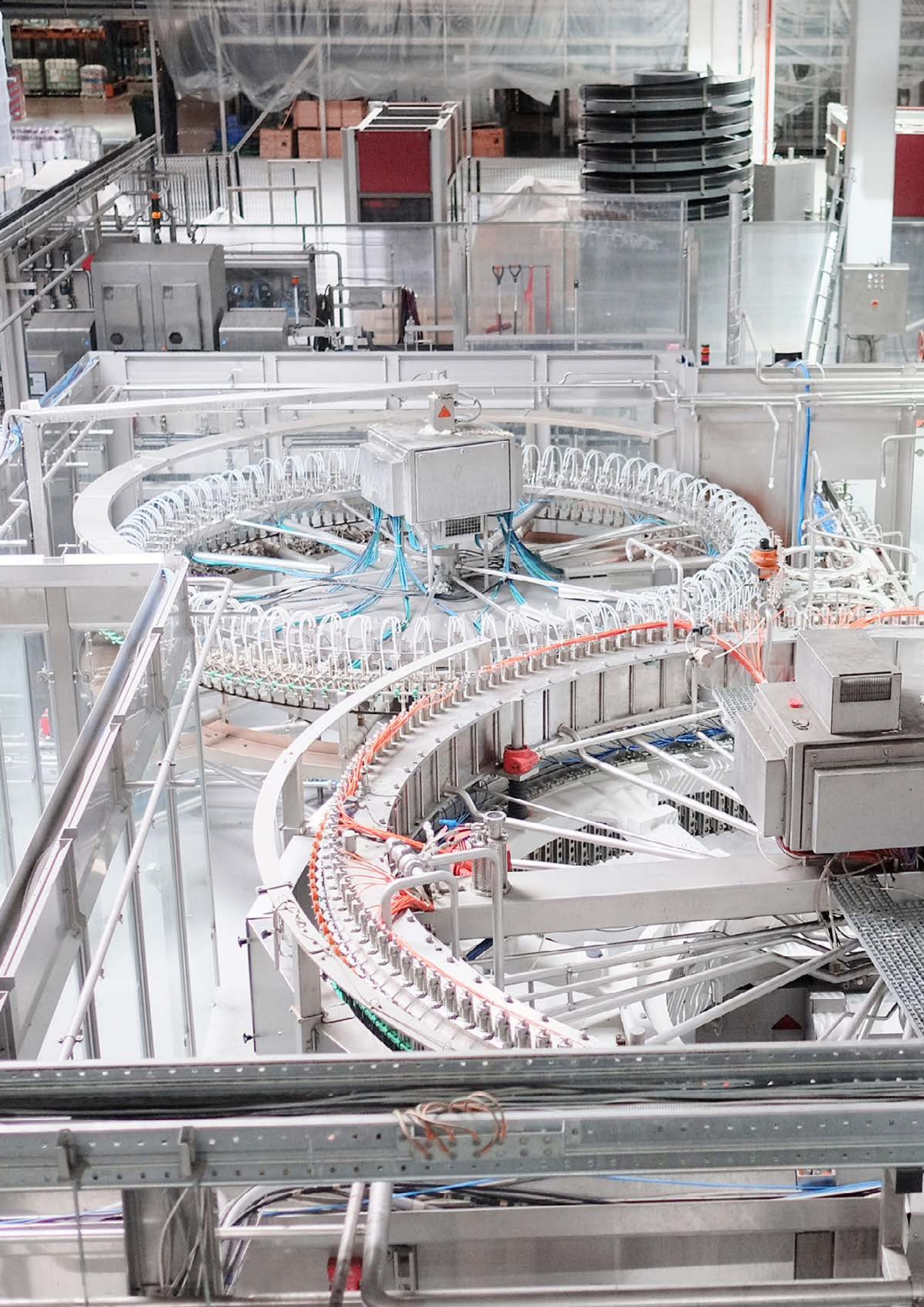
### Selection chart & specifications

#### Selection chart & specifications

Type	Material	Coating	Series	Shape	Width		Range		Packaging	Quantity
					[mm]	[in]	Length			
							[mm]	[in]		
Ball-lock type	304 Grade stainless steel	Uncoated	YLS-4.6-...A		4.6	0.18	125 - 1400	4.92 - 55.12	Bag	100 ties per bag
			YLS-7.9-...A		7.9	0.31	125 - 1400	4.92 - 55.12	Bag	100 ties per bag
	316 Grade stainless steel	Uncoated	YLS-4.6-...B		4.6	0.18	125 - 1400	4.92 - 55.12	Bag	100 ties per bag
			YLS-7.9-...B		7.9	0.31	125 - 1400	4.92 - 55.12	Bag	100 ties per bag
	Polyester	YLS-4.6-...BC		4.6	0.18	125 - 1400	4.92 - 55.12	Bag	100 ties per bag	
			YLS-7.9-...BC		7.9	0.31	125 - 1400	4.92 - 55.12	Bag	100 ties per bag
Ty-Met retained-tension type	304 or 316 Grade stainless steel	Uncoated	RS-...		4.6 - 7.9	0.18 - 0.31	200 - 680	7.9 - 26.8	Bag	50 ties per bag
Ball-lock type, heavy-duty	316 Grade stainless steel	Uncoated	YLS-12-...B		12.0	0.47	200 - 1400	7.87 - 55.12	Bag	50 / 25 ties per bag
			YLS-16-...B		16.0	0.63	200 - 1400	7.87 - 55.12	Bag	50 / 25 ties per bag
	Polyester	YLS-12-...BC		12.0	0.47	200 - 1400	7.87 - 55.12	Bag	50 / 25 ties per bag	
			YLS-16-...BC		16.0	0.63	200 - 1400	7.87 - 55.12	Bag	50 / 25 ties per bag
Ladder type	316 Grade stainless steel	Uncoated	YLD-7-...-B		7.0	0.28	150 - 610	5.91 - 24.02	Bag	100 ties per bag
			YLD-12-...-B		12.0	0.47	150 - 610	5.91 - 24.02	Bag	100 ties per bag
	Polyester	YLD-7-...-BC		7.0	0.28	150 - 610	5.91 - 24.02	Bag	100 ties per bag	
			YLD-12-...-BC		12.0	0.47	150 - 610	5.91 - 24.02	Bag	100 ties per bag
Strap type	316 Grade stainless steel	Uncoated	TYS8 to YYS28	Preassembled strap	7.9	0.31	271 - 728	10.67 - 28.66	Bag	50 ties per bag
			TYS1000	Strap	7.9	0.31	152.4 m	500ft	Reel (1)	304.8m (2x152.4m) 1000ft (2x500ft)
			TYS5200H	Heads	7.9	0.31			Bag	50 pieces per bag
Releasable type	316 Grade stainless steel	Polyester	YRL-5-...-BC		5.0	0.20	150 - 650	5.91 - 25.59	Bag	100 ties per bag
			YRL-10-...-BC		10.0	0.39	150 - 900	5.91 - 35.43	Bag	100 ties per bag
Identification system	316 Grade stainless steel	Uncoated	YID-CHAR-...	Characters all letters & digits + 6 symbols					Bag	100 pieces per bag
			YID-STRIP-...	Strips			93 - 188	3.66 - 7.40	Bag	100 pieces per bag
Bands on reel & separate heads	316 Grade stainless steel	Polypropylene	YBR-...-BC	Bands	6.4 - 9.5 - 12.7 - 15.9 - 19.1	0.25 - 0.37 - 0.5 - 0.63 - 0.75			Reel (1)	25 metres per reel
		Uncoated	YBRH-...	Heads	6.4 - 9.5 - 12.7 -	0.25 - 0.37 - 0.5			Bag	100 pieces per bag
Dual-lock type	304 Grade stainless steel	Uncoated	SS...		4.5 - 6.35	0.18 - 0.25	165.0 - 889.0	6.5 - 35.0	Bag	100 ties per bag

Reel (1): Reel in cardboard box





# All plastic cable ties

## Ty-Fast<sup>®</sup>, Col-Ty<sup>™</sup> and Ty-Grip<sup>™</sup>

ABB offers a complete range of all plastic cable ties to cover even the most demanding applications.

### **Ty-Fast<sup>®</sup> all plastic ties**

The all-plastic cable ties are available in lengths from 112mm to 1214mm (4.41" to 47.80") and widths from 2.4mm to 13.2mm (0.09" x 0.52"), offering a loop tensile strength up to 1120 N. These cable ties will satisfy bundling requirements up to 381mm (15"). Made of halogen and silicone free Polyamide 6.6, these cable ties are available in 12 different colors.

Ty-Fast<sup>®</sup> cable ties meet shipbuilding classification such as Germanischer Lloyd/ DNV-GL, Lloyd's Register of Shipping, Bureau Veritas and are also Mil Specification and QPL. Ty-Fast<sup>®</sup> cable ties have a CE declaration, supported by compliance to the low voltage directive and EN/IEC 62275 and UL 62275.

State-of-the-art robotic and raw material handling equipment assures product and material integrity throughout the manufacturing process. The integrally formed Polyamide pawl combines low insertion and high locking strength.

A rounded, low-profile head makes for less snags. Tails have improved two-sided finger grip design that helps the operator grasp and pull ties snug. The Sure Grip tab keeps the tail from popping out while being threaded, then holds it securely for final tightening by hand or tool.

### **Heavy duty installation ties**

Col-Ty<sup>™</sup> - the heavy installation tie - is mainly used for securing and bundling of cables in the utility and construction industries.

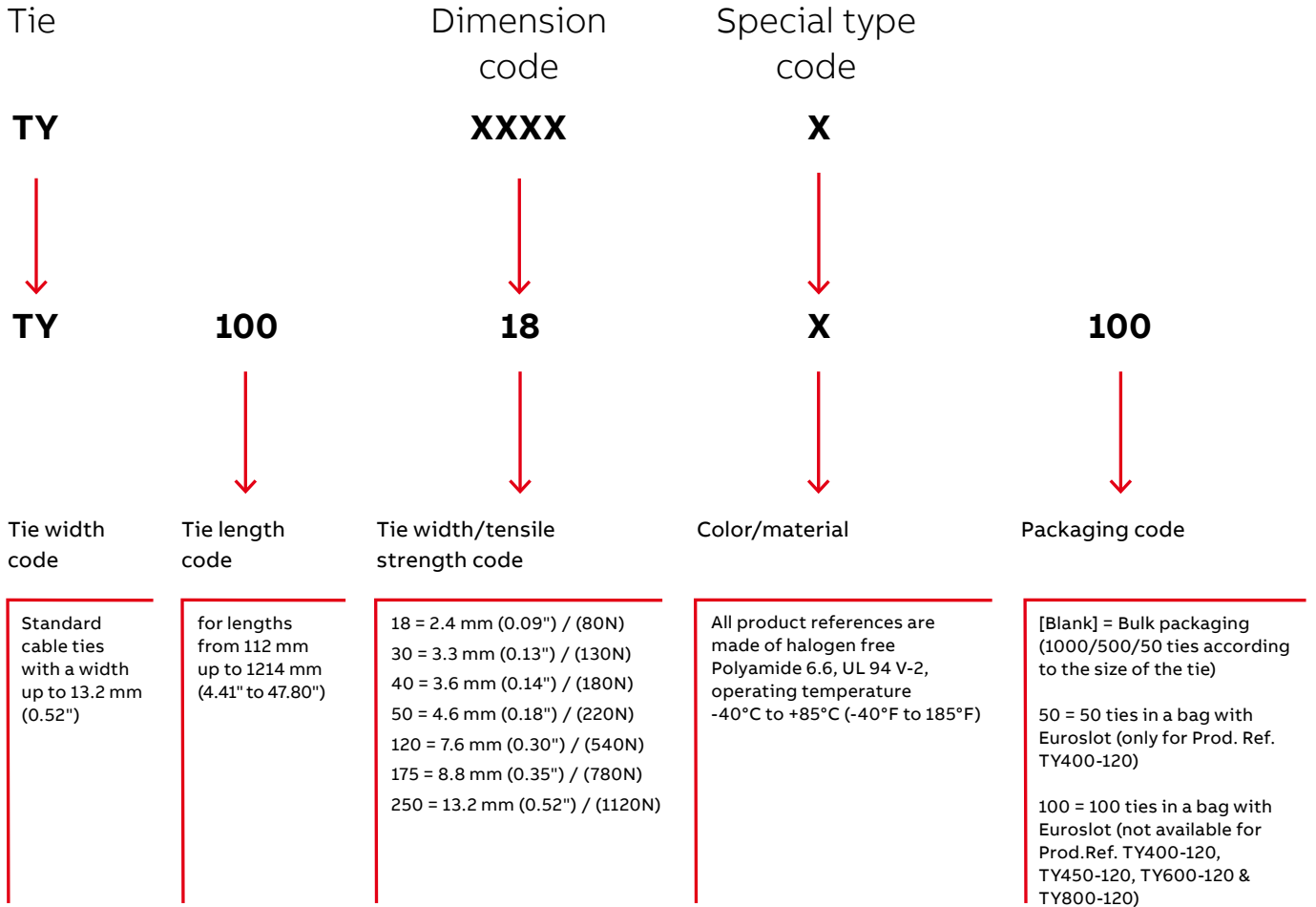
Col-Ty<sup>™</sup> is ideal for hazardous environments, low temperatures and humidity. Col-Ty<sup>™</sup> has a low profile double locking head with serration on the outer side of the tie, which eliminates the risk of damage to the cable.

### **Hook & loop fasteners**

Ty-Grip<sup>™</sup> cable ties are very easy to release and re-use, making them ideal for applications where changes are anticipated or continuous access is required. There is no risk of over-tightening the cables, which makes the Ty-Grip<sup>™</sup> hook & loop fasteners ideal for specific applications in fiber optics, computer network wiring, telecom cables, etc.

**All plastic cable ties**

Ty-Fast® product code structure



Note: Nylon (Polyamide) is inherently susceptible to environmental conditions. Ty-Rap® 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.

\*This color is only available in select countries. Please contact your local sales office for details.

## Polyamide 6.6 Twist Tail® cable tie

All plastic cable tie – no tool needed



### Characteristics

- Quick and easy to install, no tools required
- Strong, made of Polyamide 6.6, with 130N minimum tensile strength
- Safe, tail breaks off neat and clean, with no sharp edges
- General purpose applications, indoor and outdoor
- Available in 3 different lengths and 2 colors (white and UV-resistant black)

### Technical information

- Material: Polyamide 6.6
- Min. Installation Temp.: 0°C (32°F)
- Max. Installation Temp.: +85°C (185°F)
- Color: White or UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

All plastic cable tie – no tool needed

Product code	GID No.	Color	Bundle diameter		Length		Width		Thickness		Quantity [pieces]
			[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
TT-7-30-9-L	7TAG054780R0023	white	45	1.8	181	7.1	4.7	0.19	1.4	0.06	50
TT-7-30-0-L	7TAG054780R0020	black	45	1.8	181	7.1	4.7	0.19	1.4	0.06	50
TT-11-30-9-L	7TAG054780R0012	white	76	0.3	282	11.1	4.7	0.19	1.4	0.06	50
TT-11-30-0-L	7TAG054780R0009	black	76	0.3	282	11.1	4.7	0.19	1.4	0.06	50
TT-14-30-9-L	7TAG054780R0017	white	102	4	358	14.1	4.7	0.19	1.4	0.06	50
TT-14-30-0-L	7TAG054780R0015	black	102	4	358	14.1	4.7	0.19	1.4	0.06	50

For international packaging, add "-EU" to product code

## All plastic cable ties

### Standard cable ties – Natural



#### Characteristics

- The integrally formed Polyamide pawl combines low insertion and high locking strength
- A rounded, low-profile head makes for less snags
- Tails have improved two-sided finger grip design that helps the operator grasp and pull ties snug
- Sure Grip tab keeps the tail from popping out while being threaded, then holds it securely for final tightening by hand or tool
- Quick and easy pull through increases productivity, reduces operator fatigue

#### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (natural and colors, excl. UV-resistant black), -40°C to +105°C (black)
- Min. Installation Temp.: -20°C
- Approvals: MIL: MS 3367-x (see table)
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free



#### Standard cable ties – Natural

Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]	MIL spec.
		[mm]	[in]	[mm]	[in]	[mm]	[in]			
<b>Standard pack size</b>										
TY100-18-100	7TCG054360R0073	1.5 - 25	0.06 - 0.98	115	4.53	2.4	0.09	80	1000	●
TY125-18-100	7TCG054360R0104	1.5 - 32	0.06 - 1.26	140	5.51	2.4	0.09	80	1000	-
TY150-18-100	7TAG054360R0149	1.5 - 38	0.06 - 1.50	157	6.18	2.4	0.09	80	1000	-
TY125-40-100*	7TAG054360R0123	1.5 - 32	0.06 - 1.26	143	5.63	3.6	0.14	180	1000	●
TY200-40-100	7TAG054360R0213	1.5 - 50	0.06 - 1.97	205	8.07	3.6	0.14	180	1000	-
TY300-40-100	7TCG054360R0240	1.5 - 76	0.06 - 2.99	292	11.50	3.6	0.14	180	1000	-
TY400-40-100	7TAG054360R0311	6.35 - 102	0.25 - 4.02	370	14.57	3.6	0.14	180	1000	-
TY125-50-100	7TAG054360R0144	1.5 - 32	0.06 - 1.26	163	6.42	4.8	0.19	220	1000	-
TY175-50-100	7TAG054360R0153	3.17 - 44	0.12 - 1.73	188	7.40	4.8	0.19	220	1000	●
TY225-50-100	7TCG054360R0230	3.17 - 57	0.12 - 2.24	228	8.98	4.8	0.19	220	1000	-
TY300-50-100	7TAG054360R0259	3.17 - 76	0.12 - 2.99	304	11.97	4.8	0.19	220	1000	●
TY400-50-100	7TAG054360R0315	3.17 - 102	0.12 - 4.02	365	14.37	4.8	0.19	220	1000	●
TY200-120-100	7TCG054360R0182	15 - 50	0.59 - 1.97	220	8.66	7.6	0.30	540	500	-
TY300-120-100	7TAG054360R0238	15 - 76	0.59 - 2.99	288	11.34	7.6	0.30	540	100	-
TY400-120-100	7TAG054360R0282	15 - 102	0.59 - 4.02	374	14.72	7.6	0.30	540	100	●
TY450-120-100	7TAG054360R0341	15 - 124	0.59 - 4.88	456	17.95	7.6	0.30	540	50	-
TY600-120-100	7TAG054360R0343	15 - 184	0.59 - 7.24	634	24.96	7.6	0.30	540	50	-
TY800-120-100	7TAG054360R0347	6.35 - 204	0.25 - 8.03	718	28.27	7.6	0.30	540	50	●

\* Operation temperature: -30°C to +85°C  
 Description of product code structure: see page 67  
 Description of materials and properties: see pages 150 to 159  
 For tooling specifications: see pages 136 to 143

#### Tooling



**ERG50**  
 For use with 2.4mm to 4.8mm (80N to 220N) cable ties. See page 136.

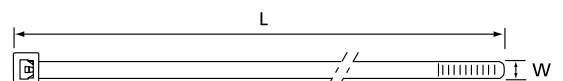


**ERG120**  
 For use with 4.8mm to 7.6mm (220N to 540N) cable ties. See page 136.



**WT3D**  
 For use with 7.6mm (540N) cable ties. See page 136.

#### Dimensions



## All plastic cable ties

### Standard cable ties – Natural (continued)



#### Standard cable ties – Natural

Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]	MIL spec.
		[mm]	[in]	[mm]	[in]	[mm]	[in]			
<b>Bulk pack size</b>										
TY100-18	7TCG054360R0073	1.5 - 25	0.06 - 0.98	115	4.53	2.4	0.09	80	1000	
TY125-18	7TCG054360R0104	1.5 - 32	0.06 - 1.26	140	5.51	2.4	0.09	80	1000	-
TY150-18	7TAG054360R0149	1.5 - 38	0.06 - 1.50	157	6.18	2.4	0.09	80	1000	-
TY125-40*	7TAG054360R0123	1.5 - 32	0.06 - 1.26	143	5.63	3.6	0.14	180	1000	
TY200-40	7TAG054360R0213	1.5 - 50	0.06 - 1.97	205	8.07	3.6	0.14	180	1000	-
TY300-40	7TCG054360R0240	1.5 - 76	0.06 - 2.99	292	11.50	3.6	0.14	180	1000	-
TY400-40	7TAG054360R0311	6.35 - 102	0.25 - 4.02	370	14.57	3.6	0.14	180	1000	-
TY125-50	7TAG054360R0144	1.5 - 32	0.06 - 1.26	163	6.42	4.8	0.19	220	1000	-
TY175-50	7TAG054360R0153	3.17 - 44	0.12 - 1.73	188	7.40	4.8	0.19	220	1000	
TY225-50	7TCG054360R0230	3.17 - 57	0.12 - 2.24	228	8.98	4.8	0.19	220	1000	-
TY300-50	7TAG054360R0259	3.17 - 76	0.12 - 2.99	304	11.97	4.8	0.19	220	1000	
TY400-50	7TAG054360R0315	3.17 - 102	0.12 - 4.02	365	14.37	4.8	0.19	220	1000	
TY200-120	7TCG054360R0182	15 - 50	0.59 - 1.97	220	8.66	7.6	0.30	540	500	-
TY400-120	7TAG054360R0282	15 - 102	0.59 - 4.02	374	14.72	7.6	0.30	540	500	

\* Operation temperature: -30°C to +85°C

Description of product code structure: see page 67

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

#### Tooling



##### ERG50

For use with 2.4mm to 4.8mm (80N to 220N) cable ties. See page 136.



##### ERG120

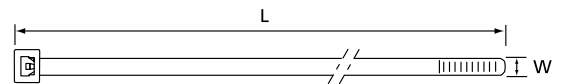
For use with 4.8mm to 7.6mm (220N to 540N) cable ties. See page 136.



##### WT3D

For use with 7.6mm (540N) cable ties. See page 136.

#### Dimensions



## All plastic cable ties

### Standard cable ties – UV-resistant black



#### Characteristics

- The integrally formed Polyamide pawl combines low insertion and high locking strength
- A rounded, low-profile head makes for less snags
- Tails have improved two-sided finger grip design that helps the operator grasp and pull ties snug
- Sure Grip tab keeps the tail from popping out while being threaded, then holds it securely for final tightening by hand or tool
- Quick and easy pull through increases productivity, reduces operator fatigue

#### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (natural and colors, excl. UV-resistant black), -40°C to +105°C (black)
- Min. Installation Temp.: -20°C
- Approvals: MIL: MS 3367-x (see table)
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free



#### Standard cable ties – UV-resistant black

Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]	MIL spec.
		[mm]	[in]	[mm]	[in]	[mm]	[in]			
<b>Standard pack size</b>										
TY100-18X-100	7TCG054360R0073	1.5 - 25	0.06 - 0.98	115	4.53	2.4	0.09	80	1000	●
TY125-18X-100	7TCG054360R0104	1.5 - 32	0.06 - 1.26	140	5.51	2.4	0.09	80	1000	-
TY150-18X-100	7TAG054360R0149	1.5 - 38	0.06 - 1.50	157	6.18	2.4	0.09	80	1000	-
TY125-40X-100*	7TAG054360R0123	1.5 - 32	0.06 - 1.26	143	5.63	3.6	0.14	180	1000	●
TY200-40X-100	7TAG054360R0213	1.5 - 50	0.06 - 1.97	205	8.07	3.6	0.14	180	1000	-
TY300-40X-100	7TCG054360R0240	1.5 - 76	0.06 - 2.99	292	11.50	3.6	0.14	180	1000	-
TY400-40X-100	7TAG054360R0311	6.35 - 102	0.25 - 4.02	370	14.57	3.6	0.14	180	1000	-
TY125-50X-100	7TAG054360R0144	1.5 - 32	0.06 - 1.26	163	6.42	4.8	0.19	220	1000	-
TY175-50X-100	7TAG054360R0153	3.17 - 44	0.12 - 1.73	188	7.40	4.8	0.19	220	1000	●
TY225-50X-100	7TCG054360R0230	3.17 - 57	0.12 - 2.24	228	8.98	4.8	0.19	220	1000	-
TY300-50X-100	7TAG054360R0259	3.17 - 76	0.12 - 2.99	304	11.97	4.8	0.19	220	1000	●
TY400-50X-100	7TAG054360R0315	3.17 - 102	0.12 - 4.02	365	14.37	4.8	0.19	220	1000	●
TY200-120X-100	7TCG054360R0182	15 - 50	0.59 - 1.97	220	8.66	7.6	0.30	540	500	-
TY300-120X-100	7TAG054360R0238	15 - 76	0.59 - 2.99	288	11.34	7.6	0.30	540	100	-
TY400-120X-100	7TAG054360R0282	15 - 102	0.59 - 4.02	374	14.72	7.6	0.30	540	100	●
TY450-120X-100	7TAG054360R0341	15 - 124	0.59 - 4.88	456	17.95	7.6	0.30	540	50	-
TY600-120X-100	7TAG054360R0343	15 - 184	0.59 - 7.24	634	24.96	7.6	0.30	540	50	-
TY800-120X-100	7TAG054360R0347	6.35 - 204	0.25 - 8.03	718	28.27	7.6	0.30	540	50	●

\* Operation temperature: -30°C to +85°C

Description of product code structure: see page 67

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

#### Tooling



##### ERG50

For use with 2.4mm to 4.8mm (80N to 220N) cable ties. See page 136.



##### ERG120

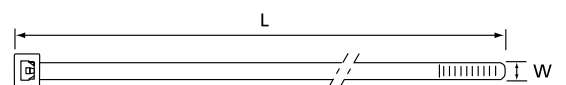
For use with 4.8mm to 7.6mm (220N to 540N) cable ties. See page 136.



##### WT3D

For use with 7.6mm (540N) cable ties. See page 136.

#### Dimensions



## All plastic cable ties

### Standard cable ties – UV-resistant black (continued)



#### Standard cable ties – UV-resistant black

Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]	MIL spec.
		[mm]	[in]	[mm]	[in]	[mm]	[in]			
<b>Bulk pack size</b>										
TY100-18X	7TCG054360R0096	1.5 - 25	0.06 - 0.98	115	4.53	2.4	0.09	80	1000	●
TY125-18X	7TCG054360R0148	1.5 - 32	0.06 - 1.26	140	5.51	2.4	0.09	80	1000	–
TY150-18X	7TAG054360R0151	1.5 - 38	0.06 - 1.50	157	6.18	2.4	0.09	80	1000	–
TY125-40X*	7TAG054360R0141	1.5 - 32	0.06 - 1.26	143	5.63	3.6	0.14	180	1000	●
TY200-40X	7TAG054360R0228	1.5 - 50	0.06 - 1.97	205	8.07	3.6	0.14	180	1000	–
TY300-40X	7TCG054360R0256	1.5 - 76	0.06 - 2.99	292	11.50	3.6	0.14	180	1000	–
TY400-40X	7TAG054360R0313	6.35 - 102	0.25 - 4.02	370	14.57	3.6	0.14	180	1000	–
TY125-50X	7TAG054360R0146	1.5 - 32	0.06 - 1.26	163	6.42	4.8	0.19	220	1000	–
TY175-50X	7TAG054360R0178	3.17 - 44	0.12 - 1.73	188	7.40	4.8	0.19	220	1000	●
TY225-50X	7TCG054360R0236	3.17 - 57	0.12 - 2.24	228	8.98	4.8	0.19	220	1000	–
TY300-50X	7TAG054360R0278	3.17 - 76	0.12 - 2.99	304	11.97	4.8	0.19	220	1000	●
TY400-50X	7TAG054360R0336	3.17 - 102	0.12 - 4.02	365	14.37	4.8	0.19	220	1000	●
TY200-120X	7TCG054360R0188	15 - 50	0.59 - 1.97	220	8.66	7.6	0.30	540	500	–
TY400-120X	7TAG054360R0307	15 - 102	0.59 - 4.02	374	14.72	7.6	0.30	540	500	●

\* Operation temperature: -30°C to +85°C

Description of product code structure: see page 67

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

#### Tooling



##### ERG50

For use with 2.4mm to 4.8mm (80N to 220N) cable ties. See page 136.



##### ERG120

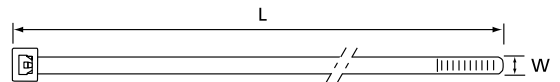
For use with 4.8mm to 7.6mm (220N to 540N) cable ties. See page 136.



##### WT3D

For use with 7.6mm (540N) cable ties. See page 136.

#### Dimensions





## All plastic cable ties

### Standard cable ties – Jar



#### Characteristics

- Ty-Fast® cable ties packed in a convenient plastic jar
- Ideal product for distribution market
- Different dimensions in the same packaging: 112mm x 2.4mm (4.41" x 0.09"), 141mm x 3.6mm (5.55" x 0.14") and 186mm x 4.7mm (7.32" x 0.19")
- Tensile strength from 80N to 220N
- Available in 3 different packaging configurations: 1 in natural cable ties and 2 in black cable ties
- Ideal product when small volumes are needed for various applications

#### Technical information

- Material: Polyamide 6.6
- Temperature range:
  - 40°C to +85°C (-40°F to 185°F) (natural)
  - 40°C to +105°C (-40°F to 221°F) (black)
- Min. Installation Temp.: -20°C (-4°F)
- Color: Natural or UV-resistant black (see table)
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant (black)  
Halogen free, Silicone free



#### Standard cable ties – Jar

Product code	GID No.	Color	Bundle ø from ... to		Quantity [pieces]	Length L		Width W		Min. tensile strength [N]
			[mm]	[in]		[mm]	[in]	[mm]	[in]	
JTN-500	7TCG054830R0020	Natural	1.6 - 25	0.06 - 0.98	2 x 100	112	4.41	2.4	0.09	80
		Natural	1.6 - 32	0.06 - 1.26	1 x 100	141	5.55	3.6	0.14	180
		Natural	1.6 - 44	0.06 - 1.73	2 x 100	186	7.32	4.6	0.18	220
JTB-500	7TCG054830R0018	UV-resistant black	1.6 - 25	0.06 - 0.98	2 x 100	112	4.41	2.4	0.09	80
		UV-resistant black	1.6 - 32	0.06 - 1.26	1 x 100	141	5.55	3.6	0.14	180
		UV-resistant black	1.6 - 44	0.06 - 1.73	2 x 100	186	7.32	4.6	0.18	220
JTB1-500	7TCG054830R0019	UV-resistant black	1.6 - 25	0.06 - 0.98	2 x 100	112	4.41	2.4	0.09	80
		UV-resistant black	1.6 - 32	0.06 - 1.26	2 x 100	141	5.55	3.6	0.14	180
		UV-resistant black	1.6 - 44	0.06 - 1.73	1 x 100	186	1.86	4.6	0.18	220

Some approvals may not be applicable to all product codes

Contact your Sales Office for approvals limitations

\* Operation temperature: -30°C to +85°C (-22°F to 185°F)

Description of product code structure: see page 67

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

#### Tooling



##### ERG50

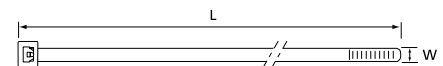
For use with 2.4mm to 4.6mm (80N to 220N) cable ties. See page 136.



##### ERG120

For use with 4.6mm (220N) cable ties. See page 136.

#### Dimensions



## All plastic cable ties

### Heavy duty cable ties



#### Characteristics

- Extremely long ties (up to 1214mm/47.80")
- Robust construction (778N - 1120N), for demanding applications where superior tensile strength is required
- The extra long Ty-Fast® ties are available in natural color for indoor applications and in UV-resistant black for outdoor applications
- Heavy duty cable ties are available in natural color for indoor applications and in UV-resistant black for outdoor applications

#### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural or UV-resistant black (see table)
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant (black), Halogen free, Silicone free



#### Heavy duty cable ties

Product code	GID No.	Color	Bundle ø		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
			[mm]	[in]	[mm]	[in]	[mm]	[in]		
<b>Extra-long cable ties</b>										
TY600-175X	7TAG054360R0346	UV-resistant black	7 - 187	0.28 - 7.36	631	24.84	9.0	0.35	778	50
TY600-175	7TAG054360R0345	Natural	7 - 187	0.28 - 7.36	631	24.84	9.0	0.35	778	50
TY900-175X	7TAG054360R0351	UV-resistant black	7 - 263	0.28 - 10.35	916	36.06	8.8	0.35	778	50
TY900-175	7TAG054360R0350	Natural	7 - 263	0.28 - 10.35	916	36.06	8.8	0.35	778	50
TY1000-175X	7TAG054360R0101	UV-resistant black	7 - 305	0.28 - 12	1041	40.98	8.8	0.35	778	50
TY1000-175	7TAG054360R0100	Natural	7 - 305	0.28 - 12	1041	40.98	8.8	0.35	778	50
TY1200-175X	7TAG054360R0103	UV-resistant black	38 - 368	1.50 - 14.49	1233	48.54	8.6	0.34	778	50
TY1200-175	7TAG054360R0102	Natural	38 - 368	1.50 - 14.49	1233	48.54	8.6	0.34	778	50
<b>Heavy-duty cable ties</b>										
TYL300M	7TCG054360R0353	Natural	75	2.95	300	11.81	13.2	0.52	1120	50
TYL300MX	7TCG054360R0354	UV-resistant black	75	2.95	300	11.81	13.2	0.52	1120	50
TYL546M	7TCG054360R0355	Natural	140	5.51	546	21.50	13.2	0.52	1120	50
TYL546MX	7TCG054360R0356	UV-resistant black	140	5.51	546	21.50	13.2	0.52	1120	50

Some approvals may not be applicable to all product codes  
 Contact your Sales Office for approvals limitations  
 Description of product code structure: see page 67  
 Description of materials and properties: see pages 150 to 159  
 For tooling specifications: see pages 136 to 143

#### Tooling

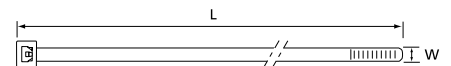


**WT3D**  
 For use with 8.6mm to 9.0mm (778N) cable ties. See page 136.



**L-500-EU**  
 For use with 8.6mm to 9.0mm (778N) cable ties. See page 136.

#### Dimensions



## All plastic cable ties

### UL 94 V-0 flame retardant cable ties



#### Characteristics

- Similar to our Ty-Rap® range of flame retardant ties, these all-plastic ties are made from low smoke flame retardant Polyamide 6.6 and meet the requirements of UL 94 V-0
- Ideal for use where low flammability and low smoke are needed such as public transport / buildings, tunnels etc.

#### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Milky white
- Flammability rating: UL 94 V-0
- Other properties: Limited fire hazard (low smoke), Halogen free, Silicone free

#### UL 94 V-0 flame retardant cable ties

Product code	GID No.	Bundle ø from ... to		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
TS1025HF	7TCG054360R0062	2 - 22	0.08 - 0.87	100	3.94	2.5	0.10	80	100
TS1435HF	7TCG054360R0063	2.5 - 33	0.10 - 1.30	140	5.51	3.6	0.14	180	100
TS2045HF	7TCG054360R0064	3 - 50	0.12 - 1.97	200	7.84	4.8	0.19	220	100
TS2845HF	7TCG054360R0065	5 - 70	0.20 - 2.76	280	11.02	4.8	0.19	220	100
TS3645HF	7TCG054360R0066	5 - 102	0.20 - 4.02	370	14.57	4.8	0.19	220	100
TS3675HF	7TCG054360R0067	5 - 102	0.20 - 4.02	370	14.57	7.6	0.30	540	100

Description of materials and properties: see pages 150 to 159  
For tooling specifications: see pages 136 to 143

#### Tooling

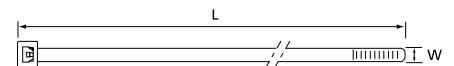


**ERG50**  
For use with 2.5mm to 4.8mm (80N to 220N) cable ties. See page 136.



**ERG120**  
For use with 7.6mm (540N) cable ties. See page 136.

#### Dimensions



## Special all-plastic cable ties

### Integrated mounting hole cable ties



#### Characteristics

- Cable tie can be directly mounted onto a support with screws, bolts or rivets
- Mounting and bundling in one maintenance-friendly assembly
- Cable harness manufacture and pre- and end-mounting of bundles and parts
- UV-resistant version, especially recommended for outdoor applications
- Offered in Europe only

#### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural or UV-resistant black (see table)
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant (black), Halogen free, Silicone free



#### Integrated mounting hole cable ties

Product code	GID No.	Bundle ø from ... to		Color	Length L		Width W		Fixing screw size	Min. tensile strength		Quantity [pieces]
		[mm]	[in]		[mm]	[in]	[mm]	[in]		[lbs]	[N]	
L-5-30MH-0-C*	7TAG054680R0014	2 - 32	0.08 - 1.26	black	152	5.98	3.3	0.13	M4	30	130	100
L-5-30MH-9-C*	7TAG054670R0008	2 - 32	0.08 - 1.26	natural	152	5.98	3.3	0.13	M4	30	130	100
L-7-50MH-0-C	7TAG054670R0009	2 - 44	0.08 - 1.73	black	208	8.23	4.7	0.19	M5	50	220	100
L-7-50MH-9-C	7TAG054660R0000	2 - 44	0.08 - 1.73	natural	208	8.23	4.7	0.19	M5	50	220	100
L-11-50MH-0-C*	7TAG054670R0001	2 - 76	0.08 - 2.99	black	314	12.36	4.7	0.19	M5	50	220	100
L-11-50MH-9-C*	7TAG054670R0003	2 - 76	0.08 - 2.99	natural	314	12.36	4.7	0.19	M5	50	220	100
L-14-50MH-0-C	7TAG054680R0012	2 - 102	0.08 - 4.02	black	382	15.04	4.7	0.19	M5	50	220	100
L-14-50MH-9-C	7TAG054670R0006	2 - 102	0.08 - 4.02	natural	382	15.04	4.7	0.19	M5	50	220	100
L-14-120MH-0-C*	7TAG054670R0004	5 - 102	0.08 - 4.02	black	382	15.04	7.6	0.30	M6	122	540	100
L-14-120MH-9-C*	7TAG054670R0005	5 - 102	0.08 - 4.02	natural	382	15.04	7.6	0.30	M6	122	540	100

\* Not UL listed

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

#### Tooling



##### ERG50

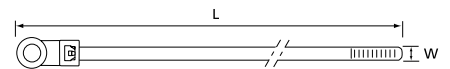
For use with 3.3mm to 4.7mm (130N to 220N) cable ties. See page 136.



##### ERG120

For use with 4.7mm to 7.6mm (220N to 540N) cable ties. See page 136.

#### Dimensions



## Special all-plastic cable ties

### Releasable panel mounting cable ties



#### Characteristics

- Fastening and clip-mounting in one, both fastens and clip mounts
- Fast pre- or on-site-assembly for a range of panel thickness up to 2.7mm (0.11")
- Fast and secure clip-mounting
- For use in 6.35mm (0.25") mounting hole
- Product codes containing xxx-PMR-xxx are releasable
- Offered in Europe only

#### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural or UV-resistant black (see table)
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant (black), Halogen free, Silicone free



#### Releasable panel mounting cable ties

Product code	GID No.	Bundle ø from ... to		Color	Length L		Width W		Min. tensile strength		Quantity [pieces]
		[mm]	[in]		[mm]	[in]	[mm]	[in]	[lbs]	[N]	
<b>Standard panel mounting ties</b>											
L-5-50PM-0-C*	7TAG054980R0640	2 - 25	0.08 - 0.98	UV-resistant black	147	5.79	4.8	0.19	50	220	100
L-5-50PM-9-D*	7TAG054710R0001	2 - 25	0.08 - 0.98	natural	147	5.79	4.8	0.19	50	220	500
L-7-50PM-0-C	7TAG054710R0004	2 - 44	0.08 - 1.73	UV-resistant black	208	8.19	4.8	0.19	50	220	100
L-7-50PM-9-C	7TAG054710R0005	2 - 44	0.08 - 1.73	natural	208	8.19	4.8	0.19	50	220	100
<b>Releasable panel mounting ties</b>											
L-5-50PMR-0-C*	7TAG054710R0002	2 - 25	0.08 - 0.98	UV-resistant black	147	5.79	4.8	0.19	50	220	100
L-5-50PMR-9-C*	7TAG054980R0642	2 - 25	0.08 - 0.98	natural	147	5.79	4.8	0.19	50	220	100
L-7-50PMR-9-C*	7TAG054980R0648	2 - 44	0.08 - 1.73	natural	208	8.19	4.8	0.19	50	220	100

\* Not UL listed

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

#### Tooling

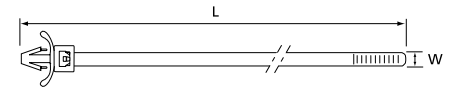


**ERG50**  
For use with 4.8mm (220N) cable ties.  
See page 136.



**ERG120**  
For use with 4.8mm (220N) cable ties.  
See page 136.

#### Dimensions



## Special all-plastic cable ties

### Releasable cable ties



#### Characteristics

- Easy releasable and re-usable. UV-resistant version, especially suited for outdoor applications

#### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural or UV-resistant black (see table)
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant (black), Halogen free, Silicone free

### Releasable cable ties



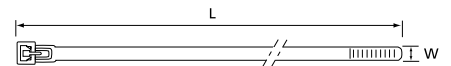
Product code	GID No.	Bundle ø from ... to		Color	Length L		Width W		Min. tensile strength		Quantity [pieces]
		[mm]	[in]		[mm]	[in]	[mm]	[in]	[lbs]	[N]	
L-5-50R-0-C*	7TAG054750R0012	3 - 32	0.12 - 1.26	UV-resistant black	150	5.91	7.5	0.30	50	220	100
L-8-50R-0-C*	7TAG054750R0016	3 - 51	0.12 - 2.01	UV-resistant black	198	7.80	7.5	0.30	50	220	100
L-8-50R-9-C*	7TAG054750R0018	3 - 51	0.12 - 2.01	natural	198	7.80	7.5	0.30	50	220	100
L-10-50R-0-C	7TAG054750R0009	3 - 76	0.12 - 2.99	UV-resistant black	298	11.73	7.5	0.30	50	220	100
L-10-50R-9-C	7TAG054750R0011	3 - 76	0.12 - 2.99	natural	298	11.73	7.5	0.30	50	220	100

\* Not UL listed

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

### Dimensions



## Special all-plastic cable ties

### Cable ties with identification tag



#### Characteristics

- Identification ties with incorporated label for durable marking and tying
- Simple marking on the roughened writing surface

#### Technical information

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

#### Cable ties with identification tag



Product code	GID No.	Bundle ø max.		Length L		Width W		Label dimensions		Min. tensile strength		Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[lbs]	[N]	
<b>Standard pack size</b>												
L-4-18ID-9-C	7TAG054640R0001	19	0.75	102	4.02	2.5	0.10	7.9 x 24.7	0.31 x 0.92	18	80	100
L-7-50ID-9-C	7TAG054640R0003	44	1.73	200	7.87	4.7	0.19	30 x 13.3	1.18 x 0.52	50	220	100
<b>Bulk pack size</b>												
L-4-18ID-9-M	7TAG054640R0002	19	0.75	102	4.02	2.5	0.10	7.9 x 24.7	0.31 x 0.92	18	80	1000
L-7-50ID-9-M	7TAG054640R0004	44	1.73	200	7.87	4.7	0.19	30 x 13.3	1.18 x 0.52	50	220	1000

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

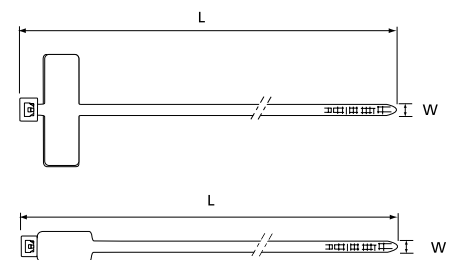
#### Tooling



#### ERG50

For use with 2.5mm to 4.7mm (80N to 220N) cable ties. See page 136.

#### Dimensions



## Special all-plastic cable ties

### Special double-headed ties



#### Characteristics

- The double-headed ties allow the parallel routing of two bundles of cable with one single tie
- Available in 3 different lengths

#### Technical information

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

#### Special double-headed ties

Product code	GID No.	Bundle diameter				Length L		Width W		Min. tensile strength		Quantity [pieces]
		Loop 1 from ... to		Loop 2 from ... to		[mm]	[in]	[mm]	[in]	[lbs]	[N]	
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]			
TB-50RLDH	7TCG054360R0061	2.5 - 47	0.10 - 1.86	2.0 - 45	0.08 - 1.77	200	7.87	4.8	0.19	50	220	1000
TB-12-50RLDH	7TCG054360R0057	2.5 - 72	0.10 - 2.83	2.0 - 70	0.08 - 2.76	300	11.81	4.8	0.19	50	220	1000
TB-15-50RLDH	7TCG054360R0059	2.5 - 100	0.10 - 3.94	2.0 - 97	0.08 - 3.82	370	14.57	4.8	0.19	50	220	1000

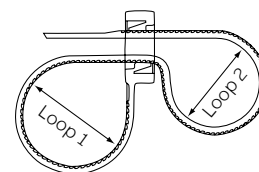
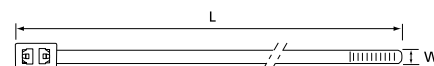
Description of materials and properties: see pages 150 to 159  
 For tooling specifications: see pages 136 to 143

#### Tooling



**ERG50**  
 For use with 4.8mm (220N) cable ties.  
 See page 136.

#### Dimensions





## Special ties

### Blind mounting cable ties



#### Characteristics

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

#### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, Halogen free, Silicone free

#### Blind mounting cable ties

Product code	GID No.	Bundle ø from ... to		Diameter of mounting hole		Length L		Width W		Min. tensile strength		Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[lbs]	[N]	
<b>Standard pack size</b>												
TY541M	7TAG009520R0072	5 - 60	0.2 - 2.4	8.1 - 17.3	0.32 - 0.68	244	9.6	5.7	0.22	67	300	50
<b>Bulk pack size</b>												
TY41M	7TAG009520R0061	5 - 60	0.2 - 2.4	8.1 - 17.3	0.32 - 0.68	244	9.6	5.7	0.22	67	300	500

Description of product code structure: see page 12

Description of materials and properties: see pages 150 to 159

For tooling specifications: see pages 136 to 143

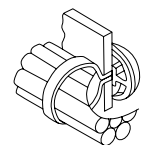
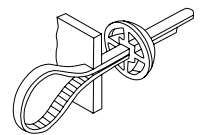
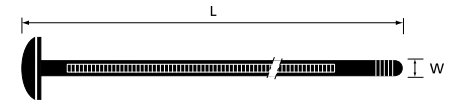
#### Tooling



##### ERG120

For use with 5.7mm (300N) cable ties.  
See page 136.

#### Dimensions



## Special ties

Releasable lashing ties with incorporated fastener



### Characteristics

- For temporary but strong bundling, such as during control box wiring
- Very simple application
- Available in 2 lengths for different applications
- May be re-used many times
- No tooling necessary

### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

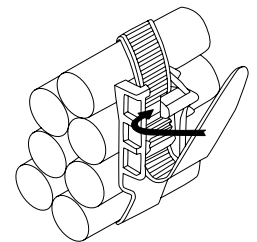
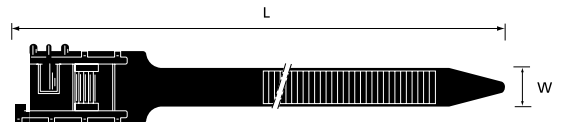
### Releasable lashing ties with incorporated fastener

Product code	GID No.	Bundle ø		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
<b>Standard pack size</b>									
TY5409	7TAG009550R0020	45 - 121	1.8 - 4.8	483	19	12.7	0.5	890	25
<b>Bulk pack size</b>									
TY409	7TAG009550R0018	45 - 121	1.8 - 4.8	483	19	12.7	0.5	890	100

Description of product code structure: see page 12

Description of materials and properties: see pages 150 to 159

### Dimensions



Insert 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.

## Special cable ties

### Col-Ty™ Heavy-duty double headed installation ties



#### Characteristics

- For securing and bundling of cables in the utility and construction industries
- Low profile double locking head\*
- Serrations on the outer side of the tie eliminate the risk of damage to the cable
- Ideal for hazardous environments, low temperatures and humidity

#### Technical information

- Material: Polyester
- Temperature range: -40°C to +80°C (-40°F to 176°F)
- Color: Black
- Flammability rating: UL 94 HB
- Other properties: UV-resistant

#### Heavy-duty installation ties

Product code	GID No.	Bundle ø		Length L		Width W		Thickness		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]		
CTP-9-180-0-C*	7TCG009910R0048	10 - 42	0.39 - 1.65	180	7.07	9	0.35	1.8	0.70	320	100
CTP-9-260-0-C	7TCG009910R0049	15 - 62	0.59 - 2.44	260	10.24	9	0.35	2.0	0.79	500	100
CTP-9-360-0-C	7TCG009910R0050	25 - 92	0.98 - 3.62	360	10.24	9	0.35	2.0	0.79	500	100
CTP-9-500-0-C	7TCG009910R0051	74 - 140	2.91 - 5.51	510	20.08	9	0.35	2.4	0.09	600	100
CTP-9-750-0-C	7TCG009910R0052	74 - 220	2.91 - 8.66	760	29.92	9	0.35	2.4	0.09	600	100

\* Product code CTP-9-180-0-C has a single locking head  
Description of materials and properties: see pages 150 to 159  
For tooling specifications: see pages 136 to 143

#### Accessories



See page 109 for compatible accessories

#### Tooling



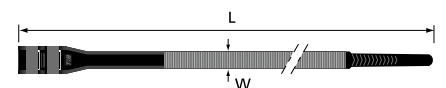
**L-300-FR**  
For use with 9mm (320N - 600N) cable ties. See page 136.



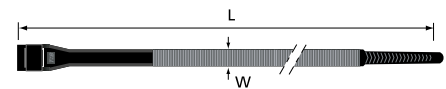
**WT3D**  
For use with 9mm (320N - 600N) cable ties. See page 136.

#### Dimensions

Double locking head



Single locking head



## Special cable ties

### Ty-Grip™ hook & loop fasteners



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



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

#### 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
- Ideal for specific applications in fibre optics, computer network wiring, telecom cables, etc.
- Available in buckle straps, overlap straps and headless strips to suit many applications
- Screw-mount and self-adhesive mounting bases provide multiple mounting options
- Multiple colors available for identifying specific bundles
- Additional colors available through special order. See sales representative for pricing, lead time and MOQ.

#### Technical information FO Series

- Material hook side: Polyamide
- Material loop side: Low density Polyethylene
- Temperature range: -20°C to +104°C (-4°F to 219.2°F)
- Color: Standard color: black
- Flammability rating: UL 94 HB\*
- Peel-off strength: 0.8N/cm

#### Technical information FOL Series

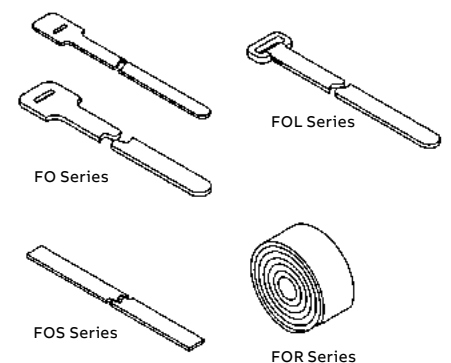
- Material hook side: Polyamide
- Temperature range: -20°C to +93°C (-4°F to 199.4°F)
- Color: Standard color: black - see note after table
- Flammability rating: UL 94 HB
- Peel-off strength: 0.8N/cm
- Other properties: Halogen-free, Silicone free

### Ty-Grip™ hook & loop fasteners

Product code	GID No.	Maximum bundle diameter		Length L		Width W		Tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
<b>FO Series loop ties</b>									
FO200-40-0	7TAG009630R0018	50.8	2	228.6	9	12.7	0.5	180	10
FO200-50-0	7TAG009630R0026	50.8	2	228.6	9	19.1	0.75	220	10
FO350-40-0	7TAG009630R0031	88.9	3.5	330.2	13	12.7	0.5	180	10
FO350-50-0	7TAG009630R0033	88.9	3.5	330.2	13	19.1	0.75	220	10
FO350-50-0-FR*	7TAG009000R0104	88.9	3.5	330.2	13	19.1	0.75	220	10
<b>FOL Series buckle ties</b>									
FOL300-50-0	7TAG009630R0036	76.2	3	304.8	12	19.1	0.75	220	10
FOL500-50-0	7TAG009630R0040	127.0	5	457.2	10.13	19.1	0.75	220	10

\* Suffix FR is Flame Retardant version  
For use with mounting bases TC368 and TC368A. See page 90 for details

#### Dimensions



## Special cable ties

### Ty-Grip™ hook & loop fasteners



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.

#### 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
- Hook and loop fasteners are gentle on cables making them ideal for specific applications in fibre optics, computer network wiring, telecom cables, etc.
- Available in pre-cut strips and rolls for a variety of applications
- Screw-mount and self-adhesive mounting bases provide multiple mounting options

#### Technical information FOS and FOR Series

- Material hook side: Polyamide
- Material loop side: Low density Polyethylene
- Temperature range: -20°C to +104°C (-4°F to 219.2°F)
- Color: Standard color: black\*
- Flammability rating: UL 94 HB
- Peel-off strength: 0.8N/cm
- Other properties: Halogen-free, Silicone free

#### Ty-Grip™ hook & loop fasteners

Product code	GID No.	Maximum bundle diameter		Length L		Width W		Tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
<b>FOS Series strip ties</b>									
FOS150-50-0	7TAG009630R0046	38.1	1.5	152.4	6	19.1	0.75	220	10
FOS320-50-0	7TAG009630R0048	81.3	3.20	304.8	12	19.1	0.75	220	10
FOS500-50-0	7TAG009630R0050	127.0	5	457.2	18	19.1	0.75	220	10
<b>FOR Series rolled strip</b>									
FOR180-50-0	7TAG009630R0041		Various	4572.0	180	19.1	0.75	220	1
FOR180-50-0-FR**	7TAG009370R0000		Various	4572.0	180	19.1	0.75	220	1

\* Standard color: black

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

Contact your Sales Office for product availability in the other colors

# Ty-Rap® and Ty-Fast® Accessories

To complement the range of premium cable ties, ABB has developed an extensive range of mounting bases, cable clamps and other fastening accessories, to provide a professional solution to the most demanding applications in cable management.

A wide range of material is offered, from the classic Polyamide 6.6 to the high performance Fluoropolymer ETFE for applications in tough conditions.

To better suit each kind of applications, these products exist in a wide selection of shapes & designs, and with different mounting methods, from self-adhesive to glue and / or screw mounting.

In particular, with the new high performance mounting bases (TC345 series), ABB is now offering a base that leads the industry with more features and better performance:

- new design & materials, for increased performance
- special adhesive formulation, specifically for Nylon mounting bases

Typical applications include wiring in:

- control boxes & machine control devices
- office equipment & home appliances
- military & medical equipment
- lighting & electronic equipment



## Mounting bases

### 2-way / 4-way entry



#### Characteristics

- Versatile design allows one mount to be used for heavy duty ties up to 7.6mm (0.30") width in a two-way style or tie up to 4.8mm (0.19") width in a four-way 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 on either 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 and 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

- Color: (see table)
- Other properties: 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
- Color: Natural
- Other properties: Halogen free, Silicone free

##### TCZ347 (Fluoropolymer)

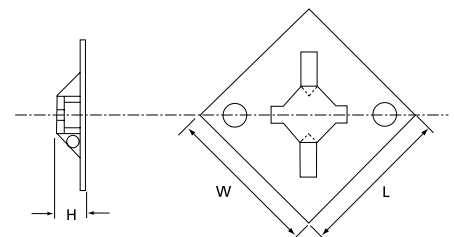
- Material: ETFE Fluoropolymer
- Temperature range: -46°C to +150°C (-50.8°F to 302°F)
- Flammability rating: UL 94 V-0
- Color: Aquamarine
- Other properties: Silicone free, inert to most solvents and chemicals, hydrolytically stable, radiation resistant

### 4-way and 2-way entry

Product code	GID No.	Color	Mounting method	Dimensions						For tie width up to		Mounting hole diameter		Quantity [pieces]
				L		W		H		[mm]	[in]	[mm]	[in]	
				[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
<b>Standard pack size</b>														
TC5347A	7TAG009800R0007	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
<b>Bulk pack size</b>														
TC347	7TAG009820R0050	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)	1000
TC347X	7TAG009820R0054	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)	1000
TC347FR	7TAG009820R0053	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)	1000
TCZ347	7TAG009820R0055	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
TC347A	7TAG009820R0051	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)	1000
TC5347AX	7TCG009800R0008	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

\* Glue = Product code TC2PA (see page 151 for specifications)

#### Dimensions





## Mounting bases

### 4-way entry - high performance



#### Characteristics

- Design & materials, for increased performance
- Low profile shape (height: 5.1mm/0.20"), to save space and reduce the torque forces on the mounting base
- Ramped cable tie entries, for easier insertion of the cable tie
- Longer struts (up to the edges of the base), for better adhesion
- Special adhesive formulation (specifically for Nylon mounting bases) for high pull-off strength
- 2 kinds of self-adhesive material:
  - rubber-based, for immediate adhesion (15 minutes set-up time)
  - acrylic based, to have the possibility of repositioning the mounting base initially (set-up time: 24 to 72 hours)

- Two holes to have the ability or potential to use additional screws, for even stronger installations when required
- Supplied on two-up lining, for easy removal of the lining

#### Technical information

- Material - Molding: Polyamide or UV-resistant Polyamide
- Material - Self-adhesive: Rubber based
- Temperature range: -60°C to +85°C (-76°F to 185°F)  
Self-adhesive version: 0°C to +70°C (32°F to 158°F)
- Flammability rating: UL 94 V-2
- Colors: Natural or UV-resistant black (see table)
- Other properties: UV-resistant black, Halogen free, Silicone free

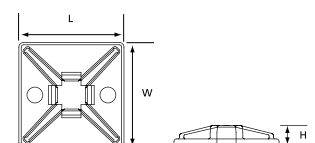


#### 4-way entry - high performance

Product code	GID No.	Color	Mounting method	Dimensions						For tie width up to		Mounting hole diameter		Qty [pcs]
				L [mm]	L [in]	W [mm]	W [in]	H [mm]	H [in]	[mm]	[in]	[mm]	[in]	
<b>For tie width up to 5.2mm (0.20")</b>														
<b>Standard pack size</b>														
TC5345A	7TAG009800R0002	Natural	Self-adhesive (rubber based)/screws	28.6	1.13	28.6	1.13	5.1	0.20	5.2	0.20	4.0	0.16	100
TC5345AX	7TAG009800R0005	UV Black	Self-adhesive (rubber based)/screws	28.6	1.13	28.6	1.13	5.1	0.20	5.2	0.20	4.0	0.16	100
<b>Bulk pack size</b>														
TC345	7TAG009820R0041	Natural	Glue*/screws	28.6	1.13	28.6	1.13	5.1	0.20	5.2	0.20	4.0	0.16	1000
TC5345A	7TAG009800R0002	Natural	Self-adhesive (rubber based)/screws	28.6	1.13	28.6	1.13	5.1	0.20	5.2	0.20	4.0	0.16	1000
TC5345AX	7TAG009800R0005	UV Black	Self-adhesive (rubber based)/screws	28.6	1.13	28.6	1.13	5.1	0.20	5.2	0.20	4.0	0.16	1000
<b>For tie width up to 3.6mm (0.14")</b>														
<b>Standard pack size</b>														
TC5344	7TAG009790R0010	Natural	Screw/glue*	19.1	0.75	19.1	0.75	4.9	0.19	3.6	0.14	3.0	0.12	100
TC5344AR	7TCG009500R0039	Natural	Self-adhesive/screw	19.1	0.75	19.1	0.75	4.9	0.19	3.6	0.14	3.0	0.12	100
TC5344AX	7TCG009790R0012	UV Black	Self-adhesive/screw	19.1	0.75	19.1	0.75	4.9	0.19	3.6	0.14	3.0	0.12	100
<b>Bulk pack size</b>														
TC344	7TAG009810R0008	Natural	Screw/glue*	19.1	0.75	19.1	0.75	4.9	0.19	3.6	0.14	3.0	0.12	1000
TC344A	7TAG009810R0010	Natural	Self-adhesive/screw	19.1	0.75	19.1	0.75	4.9	0.19	3.6	0.14	3.0	0.12	1000
TC344AX	7TAG009810R0012	UV Black	Self-adhesive/screw	19.1	0.75	19.1	0.75	4.9	0.19	3.6	0.14	3.0	0.12	1000
<b>For tie width up to 3.0mm (0.12")</b>														
<b>Standard pack size</b>														
TC050x050A-C	7TAG009830R0000	Natural	Self-adhesive	12.7	0.5	12.7	0.5	4.5	0.18	3.0	0.12	-	-	100
TC050x050AX-C	7TAG009830R0001	UV Black	Self-adhesive	12.7	0.5	12.7	0.5	4.5	0.18	3.0	0.12	-	-	100
<b>Bulk pack size</b>														
TC050x050A	7TAG009840R0003	Natural	Self-adhesive	12.7	0.5	12.7	0.5	4.5	0.18	3.0	0.12	-	-	1000
TC050x050AX	7TAG009840R0004	UV Black	Self-adhesive	12.7	0.5	12.7	0.5	4.5	0.18	3.0	0.12	-	-	1000

\* Glue = Product code TC2PA (see page 151 for specifications)

#### Dimensions



## Mounting bases

### 4-way entry - extra large



#### Characteristics

- Supplied on either a rubber based (synthetic polymer) closed cell foam adhesive or without self adhesive (installation: screw and/or 2 component glue\*)
- Available in standard Polyamide 6.6 (natural)
- For use with wide cable ties such as hook and loop ties and lashing ties

#### Technical information

- Material: Polyamide 6.6
- Temperature range:
  - 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)
- Flammability rating: UL 94 V-2
- Colors: Natural
- Other properties: Halogen free, Silicone free

#### 4-way entry

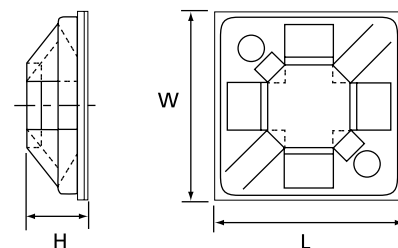


Product code	GID No.	Color	Mounting method	Dimensions						For tie width up to	Mounting hole diameter		Quantity [pieces]	
				L		W		H			[mm]	[in]		
				[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
<b>For tie width up to 19.1mm (0.75") (50.8mm x 50.8mm (2" x 2") base)</b>														
TC368**	7TAG009840R0015	Natural	screw / glue*	50.8	2	50.8	2	6.6	0.26	19.1	0.75	4.3	0.17	500
TC368A**	7TAG009840R0016	Natural	self-adhesive / screw	50.8	2	50.8	2	6.6	0.26	19.1	0.75	4.3	0.17	500

\* Glue = Product code TC2PA (see page 151 for specifications)

\*\* Not UL Listed

#### Dimensions



## Mounting bases

4-way entry - for wide cable ties



### Characteristics

- Supplied on either a rubber based (synthetic polymer) closed cell foam adhesive or without self adhesive (installation: screw and/or 2 component glue\*)
- Available in standard Polyamide 6.6 (natural) or UV-resistant Polyamide 6.6 (black)

### Technical information

- Material: Polyamide 6.6
- Temperature range:  
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)
- Flammability rating: UL 94 V-2
- Colors: Natural or UV-resistant black (see table)
- Other properties: UV-resistant black, Halogen free, Silicone free

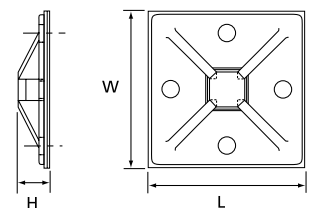
4-way entry - for wide cable ties



Product code	GID No.	Color	Mounting method	Dimensions						For tie width up to	Mounting hole diameter		Quantity [pieces]	
				L		W		H			[mm]	[in]		
				[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]			
<b>For tie width up to 7.9mm (0.31") (38.1mm x 38.1mm (1.5" x 1.5") base)</b>														
<b>Standard pack size</b>														
TC150x150L	7TAG009830R0004	Natural	Screw / glue*	38.1	1.5	38.1	1.5	7.4	0.29	7.9	0.31	4.3	0.17	50
TC150x150A-L	7TAG009830R0002	Natural	Self-adhesive / screw	38.1	1.5	38.1	1.5	7.4	0.29	7.9	0.31	4.3	0.17	50
TC150x150AX-L	7TAG009830R0003	UV-resistant black	Self-adhesive / screw	38.1	1.5	38.1	1.5	7.4	0.29	7.9	0.31	4.3	0.17	50
<b>Bulk pack size</b>														
TC150x150	7TAG009840R0008	Natural	Screw / glue*	38.1	1.5	38.1	1.5	7.4	0.29	7.9	0.31	4.3	0.17	500
TC150x150A	7TAG009840R0009	Natural	Self-adhesive / screw	38.1	1.5	38.1	1.5	7.4	0.29	7.9	0.31	4.3	0.17	500
TC150x150AX	7TAG009840R0010	UV-resistant black	Self-adhesive / screw	38.1	1.5	38.1	1.5	7.4	0.29	7.9	0.31	4.3	0.17	500
<b>For tie width up to 7.9mm (0.31") (50.8mm x 50.8mm (2" x 2") base)</b>														
<b>Standard pack size</b>														
TC200x200L	7TAG009830R0006	Natural	Screw / glue*	50.8	2.0	50.8	2.0	7.4	0.29	7.9	0.31	4.3	0.17	50
TC200x200A-L	7TAG009830R0005	Natural	Self-adhesive / screw	50.8	2.0	50.8	2.0	7.4	0.29	7.9	0.31	4.3	0.17	50
<b>Bulk pack size</b>														
TC200x200	7TAG009840R0011	Natural	Screw / glue*	50.8	2.0	50.8	2.0	7.4	0.29	7.9	0.31	4.3	0.17	500
TC200x200A	7TAG009840R0012	Natural	Self-adhesive / screw	50.8	2.0	50.8	2.0	7.4	0.29	7.9	0.31	4.3	0.17	500
TC200x200AX	7TAG009840R0013	UV-resistant black	Self-adhesive / screw	50.8	2.0	50.8	2.0	7.4	0.29	7.9	0.31	4.3	0.17	500

\* Glue = Product code TC2PA (see page 151 for specifications)

### Dimensions



## Mounting bases

### Low profile plates



#### Characteristics

- Low profile
- Easy to use
- Self-adhesive or to be glued with 2-component glue\*

#### Technical information

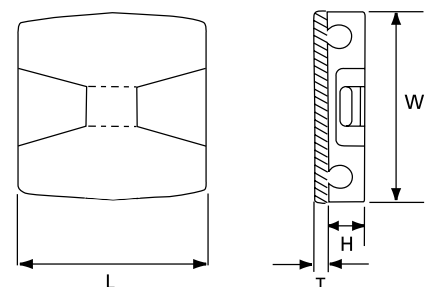
- Material: Polyamide 6.6
- Temperature range:
  - 40°C to +85°C (-40°F to 185°F)
  - Self-adhesive version: 0°C to +65°C (32°F to 149°F)
- Color: Natural or UV-resistant black (see table)
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free, UV-resistant black

#### Low profile plates

Product code	GID No.	Color	Mounting method	Dimensions								For tie width up to		Quantity [pieces]
				H		T		W		L		[mm]	[in]	
				[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
<b>Standard pack size</b>														
TC5342A	7TAG009800R0000	Natural	Self-adhesive	5.7	0.22	0.8	0.31	29.0	1.41	29.0	1.41	4.8	0.19	100
<b>Bulk pack size</b>														
TC817-TB	7TAG009840R0020	Natural	Glue*	4.8	0.19	-	-	11.0	0.43	11.0	0.43	4.8	0.19	1000
TC342	7TAG009820R0036	Natural	Glue*	5.7	0.22	-	-	29.0	1.41	29.0	1.41	4.8	0.19	1000
TC342X	7TAG009820R0040	UV-resistant black	Glue*	5.7	0.22	-	-	29.0	1.41	29.0	1.41	4.8	0.19	1000
TC342A	7TAG009820R0037	Natural	Self-adhesive	5.7	0.22	0.8	0.31	29.0	1.41	29.0	1.41	4.8	0.19	1000
TC342A-X	7TAG009820R0038	UV-resistant black	Self-adhesive	5.7	0.22	0.8	0.31	29.0	1.41	29.0	1.41	4.8	0.19	1000

\* Glue = Product code TC2PA (see page 151 for specifications)

#### Dimensions



## Mounting bases

### Self-adhesive mounting cradle



#### Characteristics

- Accepts cable ties to 7.6mm (0.30") width
- Supplied "two-up" on closed cell foam with synthetic polymer "rubber" based adhesive
- Use M3.5 self-tapping screw for added strength if desired

#### Technical information

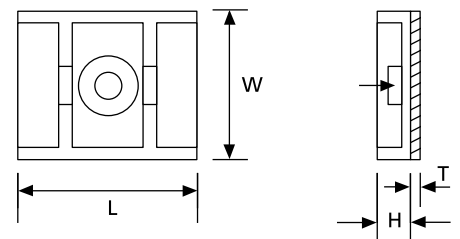
- Material: Polyamide 6.6
- Temperature range: 0°C to +65°C (32°F to 149°F)
- Color: Natural or UV-resistant black (see table)
- Mounting method: Self adhesive and/or screw
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant black, Halogen free, Silicone free

#### Self-adhesive mounting cradle

Product code	GID No.	Color	Dimensions								For tie width up to		Quantity [pieces]
			H		T		L		W		[mm]	[in]	
			[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
<b>Standard pack size</b>													
MCNY-1250-9-L	7TAG009990R0009	Natural	7.2	0.28	0.8	0.03	31.7	1.25	25.4	1.0	7.6	0.30	50
<b>Bulk pack size</b>													
MCNY-1250-9-C	7TAG009990R0007	Natural	7.2	0.28	0.8	0.03	31.7	1.25	25.4	1.0	7.6	0.30	100
MCNY-1250-9-D	7TAG009990R0008	Natural	7.2	0.28	0.8	0.03	31.7	1.25	25.4	1.0	7.6	0.30	500
MCNY-1250-0-C	7TAG009990R0006	UV-resistant black	7.2	0.28	0.8	0.03	31.7	1.25	25.4	1.0	7.6	0.30	100

For other colors and quantities, please contact your Sales Office

#### Dimensions



## 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 stabilized black version

#### Technical information

- Material: Polyamide 6.6 or heat stabilized Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 186°F)
- Color: Natural or UV-resistant black (see table)
- Mounting method: Screw
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free, UV-resistant black

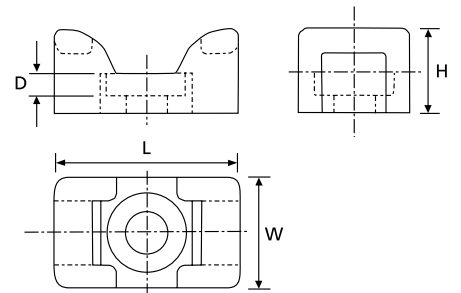
#### Saddle support



Product code	GID No.	Color	Dimensions								For tie width up to		Mounting hole diameter		Quantity [pieces]
			H		W		L		D		[mm]	[in]	[mm]	[in]	
			[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
<b>Standard pack size</b>															
TC5140	7TAG009840R0017	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
TC5141	7TAG009870R0002	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
TC5142	7TAG009870R0003	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
TC5142X*	7TAG009840R0018	UV-resistant black / heat stabilized	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
<b>Bulk pack size</b>															
TC140	7TAG009880R0005	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	500
TC141	7TAG009880R0006	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	500
TC142	7TAG009880R0007	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	500
TC142X*	7TAG009840R0007	UV-resistant black / heat stabilized	10.7	0.42	14.2	0.56	23.4	0.92	2.9	0.11	7.6	0.30	5.2	0.20	500

\* Are not UL recognised  
For other colors and quantities, please contact your Sales Office

#### Dimensions



## 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 UV-resistant, heat stabilized black version

#### Technical information

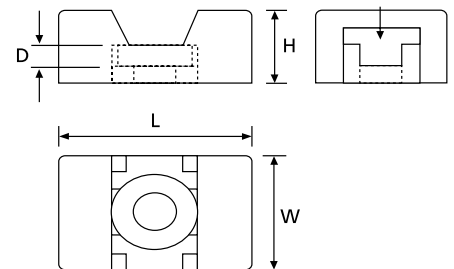
- Material: Polyamide 6.6 or heat stabilized Polyamide 6.6
- Temperature range:  
Natural: -40°C to +85°C (-40°F to 185°F),  
UV-resistant black: -40°C to +105°C (-40°F to 221°F)
- Color: Natural or UV-resistant black
- Mounting method: Screw or rivet
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free, UV-resistant black

#### Saddle support

Product code	GID No.	Color	Dimensions						For tie width up to		Mounting hole diameter		Quantity [pieces]		
			H		W		L		D		[mm]	[in]			
			[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]			
SMNY-001-9-D	7TAG009990R0019	Natural	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
SMNY-001-0-D	7TAG009990R0018	UV-resistant black / heat stabilized	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

For other colors and quantities, please contact your Sales Office

#### Dimensions



## Mounting bases

### Weather resistant - Heavy-duty



#### Characteristics

- Tie mounting base for outdoor installation
- A strong, weatherproof and durable outdoor fastening solution for pipes, hoses, cables, etc.
- For screw-fastening
- Ergonomically shaped for ease of installation

#### Technical information

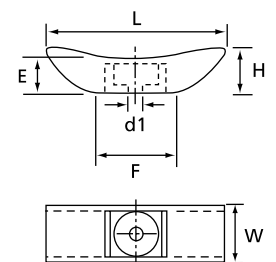
- Material: UV-stabilized Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Black
- Mounting method: Screw (for product code TC5355 to TC5357 only)
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, Halogen free, Silicone free

### Weather resistant - Heavy-duty



Product code	GID No.	Dimensions										For tie width up to	Mounting hole diameter		Quantity [pieces]	
		H		W		L		E		F			[mm]	[in]		
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
<b>Mounting cradle</b>																
TC5355	7TAG009870R0004	15.9	0.63	19.1	0.75	44.5	1.75	11.1	0.44	28.6	1.13	12.7	0.5	4.6	0.18	25
TC5356	7TAG009870R0005	15.9	0.63	19.1	0.75	44.5	1.75	11.1	0.44	28.6	1.13	12.7	0.5	5.2	0.20	25
TC5357	7TAG009870R0006	15.9	0.63	19.1	0.75	44.5	1.75	11.1	0.44	28.6	1.13	12.7	0.5	6.7	0.26	25

#### Dimensions





## Mounting bases

### Saddle-type mounting base



#### 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

Can also be used for the mounting of cylindrical objects having a diameter between 12.7mm and 31.8mm (0.5" and 1.25")

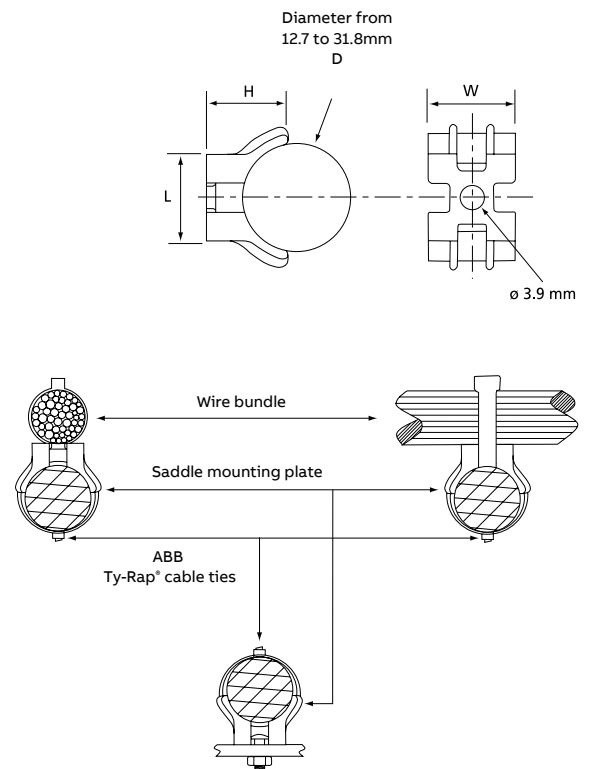
#### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural
- Mounting method: Screw
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

#### Saddle-type mounting base

Product code	GID No.	Dimensions								For tie width up to		Mounting hole diameter		Quantity [pieces]
		H		W		L		D		[mm]	[in]	[mm]	[in]	
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]					
TC92	7TAG009910R0088	14.3	0.56	15.1	0.59	15.1	0.59	12.7 - 31.8	0.5 - 1.25	4.8	0.19	3.9	0.15	100

#### Dimensions



## Mounting bases

Screw-mounted miniature bases & bases for crosswise fastening



### Characteristics

- Low profile mounting base
- For screw- or rivet-mounting
- Easy to use due to the cable tie insertion guide
- Two ties can be fastened crosswise to securely fix cable intersections (for crosswise fastening only)

### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural
- Mounting method: Fillister-head screw (miniature base), screw or rivet (for crosswise fastening)
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

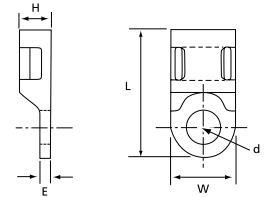


### Screw-mounted miniature bases

Product code	GID No.	Dimensions								For tie width up to		Mounting hole diameter		Quantity [pieces]
		H		W		L		D		[mm]	[in]	[mm]	[in]	
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
TC814-TB	7TAG009880R0011	4.8	0.19	9.5	0.37	19.1	0.75	2.0	0.08	4.8	0.19	3.3	0.13	1000
TC112-TB	7TAG009880R0004	4.8	0.19	9.5	0.37	19.1	0.75	2.0	0.08	4.8	0.19	4.4	0.17	1000
TC812-TB	7TAG009880R0009	4.8	0.19	9.5	0.37	19.1	0.75	2.0	0.08	4.8	0.19	5.1	0.20	1000

For other colors and quantities, please contact your Sales Office

### Dimensions



### Characteristics

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

### Technical information

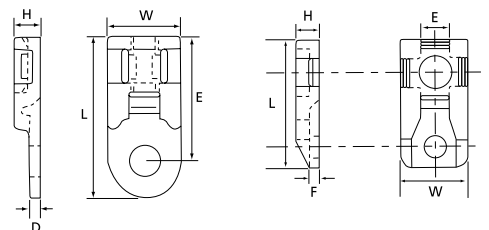
- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural
- Mounting method: Screw or rivet
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

### Screw-mounted - for crosswise fastening

Product code	GID No.	Dimensions								For tie width up to		Mounting hole diameter		Quantity [pieces]
		H		W		L		D		[mm]	[in]	[mm]	[in]	
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
TC5828	7TAG009870R0007	3.8	0.15	10.1	0.40	22.5	0.89	1.5	0.06	17.4	0.68	4.8	0.19	100
TC828-TB	7TAG009880R0015	3.8	0.15	10.1	0.40	22.5	0.89	1.5	0.06	17.4	0.68	4.8	0.19	1000
TC826-TB	7TAG009880R0014	5.7	0.22	12.7	0.50	23.8	0.94	5.3	0.21	2.0	0.08	4.4	0.17	1000

For other colors and quantities, please contact your Sales Office

### Dimensions



TC5828 / TC828-TB

TC826-TB

## Mounting bases

### Screw-mounted miniature bases



#### Characteristics

- Extremely low profile
- For screw- or rivet-mounting
- Easy to use due to the cable tie insertion guide

#### Technical information

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

#### Screw-mounted miniature bases



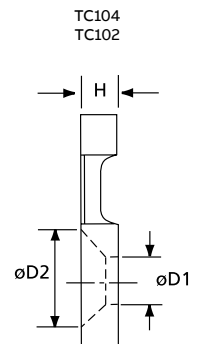
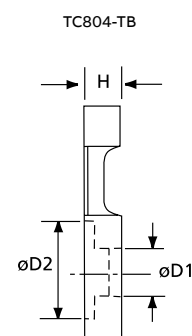
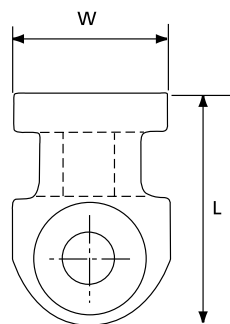
Product code	GID No.	Dimensions						For tie		Mounting hole diameter				Quantity [pieces]
		H		W		L		width up to		Diameter D1		Diameter D2		
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
<b>Small pack size</b>														
TC502***	7TAG009870R0000	3.2	0.13	12.7	0.5	19.1	0.75	4.8	0.19	4.4	0.17	8.7	0.34	100
<b>Standard pack size</b>														
TC804-TB**	7TAG009880R0008	2.4	0.09	7.9	0.31	10.2	0.41	2.4	0.09	2.3	0.09	4.7	0.19	1000
TC104*	7TAG009880R0003	2.4	0.09	7.9	0.31	10.3	0.41	2.4	0.09	3.4	0.09	6.5	0.26	1000
TC102*	7TAG009880R0001	3.2	0.13	12.7	0.5	19.1	0.75	4.8	0.19	4.4	0.17	8.7	0.34	1000

\* UL listed only

\*\* cURus certified only

\*\*\* not UL certified

#### Dimensions



## Mounting bases

Screw-mounted - for wide cable ties



### Characteristics

- Extremely low profile
- For screw- or rivet-mounting
- Easy to use due 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)
- Color: Natural
- Mounting method: 2 screws
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

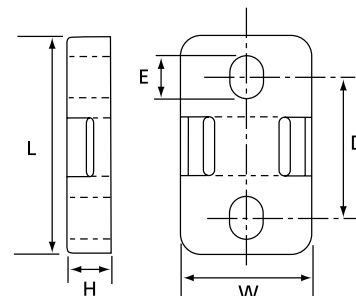
Screw-mounted - for wide cable ties



Product code	GID No.	Dimensions										For tie width up to		Mounting hole diameter		Quantity [pieces]
		H		W		L		D		E						
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
TC815-TB	7TAG009880R0012	6.4	0.25	19.1	0.75	31.2	1.23	19.9	0.78	6.4	0.25	7.6	0.30	5.3	0.21	500

For other colors and quantities, please contact your Sales Office

### Dimensions



## Mounting bases

### Aluminium plates & mounting base adhesive



#### Characteristics

- Very strong mounting base for gluing or screw mounting or self-adhesive mounting
- Low profile
- Soft material can be shaped onto any support
- Lightweight
- Does not age under extreme temperatures

#### Technical information

- Material: Aluminium (3003, ASTM-B-209)
- Temperature range: -100°C to +450°C (212°F to 842°F)  
Self-adhesive version: 0°C to +65°C (32°F to 149°F)
- Color: Metallic
- Mounting method: Glue\* and / or screw or self-adhesive
- Flammability rating: Fire proof
- Other properties: UV-resistant

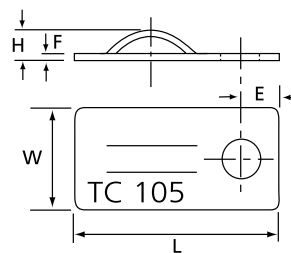
#### Aluminium plates

Product code	GID No.	Mounting method	Dimensions								For tie width up to		Mounting hole diameter		Quantity [pieces]		
			H [mm]	H [in]	W [mm]	W [in]	L [mm]	L [in]	E [mm]	E [in]	F [mm]	F [in]	[mm]	[in]			
<b>Standard pack size</b>																	
TC5105	7TAG009680R0006	Screw	3.8	0.15	13.2	0.52	25.4	1.0	4.8	0.89	0.8	0.03	4.8	0.89	4.9	0.19	100
<b>Bulk pack size</b>																	
TC105AP	7TCG009500R0034	Self-adhesive / screw	3.8	0.15	13.2	0.52	25.4	1.0	4.8	0.89	0.8	0.03	4.8	0.89	4.9	0.19	1000
TC105	7TAG009840R0005	Screw	3.8	0.15	13.2	0.52	25.4	1.0	4.8	0.89	0.8	0.03	4.8	0.89	4.9	0.19	1000
TC824-TB	7TAG009840R0021	2-component glue*	3.8	0.15	9.5	0.37	34.9	1.37	-	-	0.8	0.03	4.8	0.89	-	-	1000

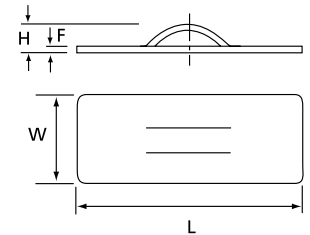
\* Glue = Product code TC2PA (see below/page 151 for specifications)

#### Dimensions

TC824-TB



TC105 and TC105AP



#### Mounting base adhesive

Product code	GID No.	Description	Quantity [pieces]
TC2PA	7TAG009910R0083	Consists of one tube of adhesive and activator	1

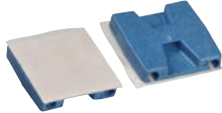
Note: See product expiration date on package. Periodically check product for adhesion and replace as needed. Product is for wire management only and is not intended for use as a primary support of wire, cable, etc. (see page 151 for specifications)

# Mounting bases

## Detectable mounts



2-way and 4-way entry mounting bases



Low profile plates

### Characteristics

#### 2-way and 4-way entry mounting bases

- Detectable with metal and X-ray detection equipment
- Limits errors in premounting the base with respect to its orientation to wire bundle direction

#### Low profile plates

- Detectable with metal and X-ray detection equipment
- One-piece molding - no lost parts
- Low profile

- Easy to use
- Self-adhesive or to be glued with 2-component glue\*

### Technical information

- Material: Detectable Nylon/Polyamide 6.6
- Temperature range: 0°C to +65°C (32°F to 150°F)
- Color: Blue
- Mounting method: 2 screws, 2 rivets or self-adhesive
- Other properties: Detectable with metal and X-ray detection equipment

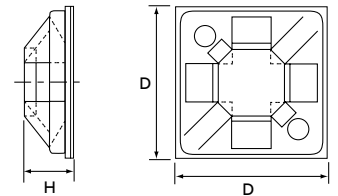


### 2-way and 4-way entry mounting bases

Product code	GID No.	Mounting method	Width H		Length D		For tie width up to		Mounting hole (2x) diameter		Quantity [pieces]
			[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
TC5344A-NDT	7TAG009660R0023	Self-adhesive*/screw	19.1	0.75	19.1	0.75	3.6	0.14	3.0	0.12	100
TC344A-NDT	7TAG009660R0013	Self-adhesive*/screw	19.1	0.75	19.1	0.75	3.6	0.14	3.0	0.12	1000
TC5344A-PDT	7TAG009660R0024	Self-adhesive*/screw	19.1	0.75	19.1	0.75	3.6	0.14	3.0	0.12	100
TC5347A-NDT	7TAG009660R0025	Self-adhesive*/screw	29.0	1.14	29.0	1.14	7.6	0.30	4.4	0.17	100
TC347A-NDT	7TAG009660R0014	Self-adhesive*/screw	29.0	1.14	29.0	1.14	7.6	0.30	4.4	0.17	1000
TC5347A-PDT	7TAG009660R0026	Self-adhesive*/screw	29.0	1.14	29.0	1.14	7.6	0.30	4.4	0.17	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)

### Dimensions

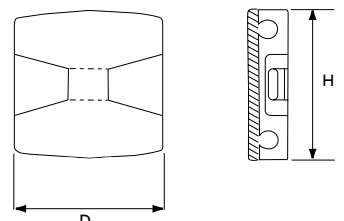


### Low profile plates

Product code	GID No.	Mounting method	Width H		Length D		For tie width up to		Quantity [pieces]
			[mm]	[in]	[mm]	[in]	[mm]	[in]	
TC5342A-NDT	7TAG009660R0021	Self-adhesive*	29	1.14	29	1.14	4.8	0.19	100
TC342A-NDT	7TAG009660R0012	Self-adhesive*	29	1.14	29	1.14	4.8	0.19	1000
TC5342A-PDT	7TAG009660R0022	Self-adhesive*	29	1.14	29	1.14	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)

### Dimensions



# Mounting bases

## Detectable mounts



Saddle support



Screw-mounted miniature bases

### Characteristics

- Detectable with metal and X-ray detection equipment
- Saddle support mounting base provides a saddle for the wire run. Ty-Rap tie is threaded under bundle and tied in a usual manner

### Technical information

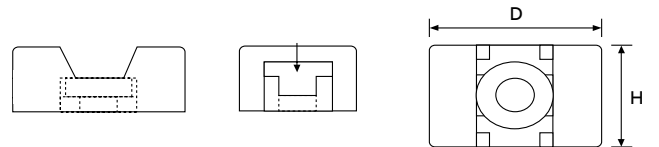
- Material: Detectable Nylon/Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Blue
- Mounting method: 2 screws or 2 rivets
- Other properties: Detectable with metal and X-ray detection equipment

### Saddle support



Product code	GID No.	Mounting method	Width H		Length D		For tie width up to		Mounting hole diameter		Quantity [pieces]
			[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
TC141-NDT	7TAG009660R0010	Screw	11.1	0.44	17	0.67	4.8	0.19	3.8	0.15	100
TC5141-NDT	7TAG009660R0017	Screw	11.1	0.44	17	0.67	4.8	0.19	3.8	0.15	500
TC5141-PDT	7TAG009660R0018	Screw	11.1	0.44	17	0.67	4.8	0.19	3.8	0.15	100
TC5142-NDT	7TAG009660R0019	Screw	14.2	0.56	23.4	0.92	7.6	0.30	5.2	0.20	100
TC142-NDT	7TAG009660R0011	Screw	14.2	0.56	23.4	0.92	7.6	0.30	5.2	0.20	500
TC5142-PDT	7TAG009660R0020	Screw	14.2	0.56	23.4	0.92	7.6	0.30	5.2	0.20	100

### Dimensions

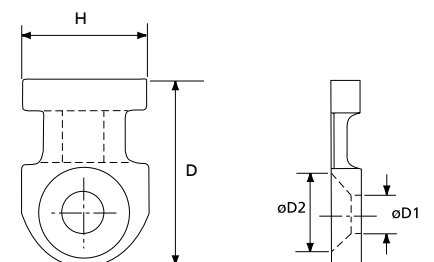


### Screw-mounted miniature bases



Product code	GID No.	Mounting method	Width H		Length D		For tie width up to		Mounting hole				Quantity [pieces]
			[mm]	[in]	[mm]	[in]	[mm]	[in]	Diameter D1		Diameter D2		
									[mm]	[in]	[mm]	[in]	
TC5102-NDT	7TAG009660R0015	Screw	12.7	0.5	19.1	0.75	4.8	0.19	4.4	0.17	8.7	0.32	100
TC102-NDT	7TAG009660R0008	Screw	12.7	0.5	19.1	0.75	4.8	0.19	4.4	0.17	8.7	0.32	1000
TC102-PDT	7TAG009660R0009	Screw	12.7	0.5	19.1	0.75	4.8	0.19	4.4	0.17	8.7	0.32	1000

### Dimensions



## Mounting bases

### Screw-mounted supporting bases



#### Characteristics

- Supporting mounting base with strong hold due 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

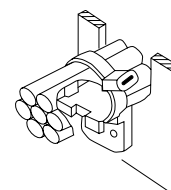
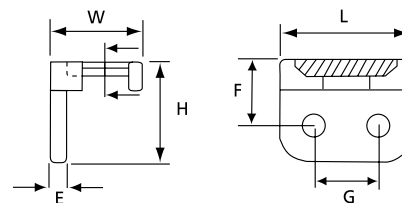
#### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural
- Mounting method: 2 screws or 2 rivets
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

### Screw-mounted supporting bases

Product code	GID No.	Dimensions										For tie width up to		Mounting hole diameter (x2)		Quantity [pieces]		
		H		W		L		G		E		F		[mm]	[in]			
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]			
TC106	7TAG009910R0071	25.4	1.0	19.1	0.75	25.4	1.0	12.7	0.5	4.6	0.18	16.5	0.65	7.6	0.30	3.3	0.13	200
TC109	7TAG009920R0001	11.1	0.44	9.9	0.39	14.3	0.56	7.1	0.28	1.7	0.07	7.0	0.28	4.8	0.19	2.4	0.09	1000

#### Dimensions





## 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

#### Product code TC1101 to TC1117

- Simple and strong flat mounting beams for fixing multiple cables, bundles or components

#### Product code TC375 and TC376

- For vertical and double-side mounting

#### Product code TC101 and TC103

- Elongated fastening hole on one end allows greater flexibility during mounting

#### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural
- Mounting method: 2 screws (1 screw for product code. TC376 & TC375)
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free



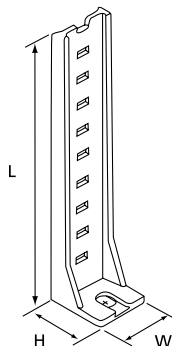
### Screw-mounted strips for multiple bundling

Product code	GID No.	Dimensions										Max. number of bundles		For tie width up to		Mounting hole diameter		Quantity [pieces]
		H		W		L		D		E								
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
TC101	7TAG009880R0000	3.2	0.13	12.7	0.5	50.0	1.97	35.6	1.40	9.5	0.37	1.0	0.04	4.8	0.19	5.2	0.20	1000
TC103	7TAG009880R0002	5.1	0.20	15.8	0.62	79.0	3.11	59.6	2.35	18.6	0.73	1.0	0.04	7.6	0.30	6.9	0.27	500
TC1101	7TAG009910R0072	3.2	0.13	12.7	0.5	44.0	1.73	31.8	1.25	9.5	0.37	1.0	0.04	4.8	0.19	3.7	0.15	100
TC1102	7TAG009910R0073	3.2	0.13	12.7	0.5	76.0	2.99	31.8	1.25	9.5	0.37	2.0	0.08	4.8	0.19	3.7	0.15	100
TC1103	7TAG009910R0074	3.2	0.13	12.7	0.5	108.0	4.25	31.8	1.25	9.5	0.37	3.0	0.12	4.8	0.19	3.7	0.15	100
TC1104	7TAG009910R0075	3.2	0.13	12.7	0.5	140.0	5.51	31.8	1.25	9.5	0.37	4.0	0.16	4.8	0.19	3.7	0.15	100
TC1105	7TAG009910R0076	3.2	0.13	12.7	0.5	171.0	6.73	31.8	1.25	9.5	0.37	5.0	0.20	4.8	0.19	3.7	0.15	100
TC1112	7TAG009910R0077	5.2	0.20	15.9	0.63	244.0	9.61	38.1	1.5	14.3	0.56	6.0	0.24	7.6	0.30	3.7	0.15	100
TC1113	7TAG009910R0078	5.2	0.20	15.9	0.63	53.3	2.10	38.1	1.5	14.3	0.56	1.0	0.04	7.6	0.30	3.7	0.15	100
TC1114	7TAG009910R0079	5.2	0.20	15.9	0.63	91.4	3.60	38.1	1.5	14.3	0.56	2.0	0.08	7.6	0.30	3.7	0.15	100
TC1115	7TAG009910R0080	5.2	0.20	15.9	0.63	130.0	5.12	38.1	1.5	14.3	0.56	3.0	0.12	7.6	0.30	3.7	0.15	100
TC1116	7TAG009910R0081	5.2	0.20	15.9	0.63	168.0	6.61	38.1	1.5	14.3	0.56	4.0	0.16	7.6	0.30	3.7	0.15	100
TC1117	7TAG009910R0082	5.2	0.20	15.9	0.63	206.0	8.11	38.1	1.5	14.3	0.56	5.0	0.20	7.6	0.30	3.7	0.15	100
TC375	7TAG009910R0084	19.1	0.75	17.5	0.69	93.0	3.66	-	-	6.4	0.25	5.0	0.20	4.8	0.19	4.8	0.19	100
TC376	7TAG009910R0086	17.0	0.67	17.5	0.69	44.0	1.73	-	-	6.4	0.25	2.0	0.08	4.8	0.19	4.8	0.19	100

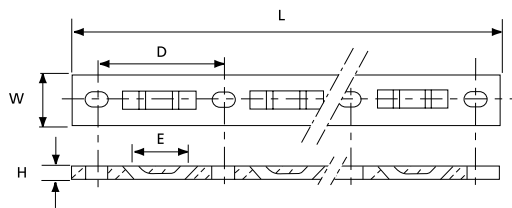
For other colors and quantities, please contact your Sales Office

### Dimensions

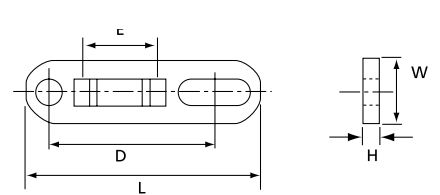
TC375 & TC376



TC1101 ... TC1117



TC101 & TC103



## Mounting bases

Weather resistant - Heavy-duty



### Characteristics

- Tie mounting base for outdoor installation
- A strong, weatherproof and durable outdoor fastening solution for pipes, hoses, cables, etc.
- For screw-fastening
- Ergonomically shaped for trouble-free installation

### Technical information

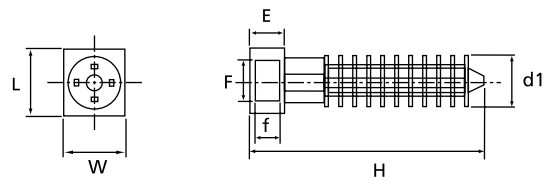
- Material: UV-stabilized Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Black
- Mounting method: Screw (for product code TC5355 to TC5357 only)
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, Halogen free, Silicone free

Weather resistant - Heavy-duty



Product code	GID No.	Dimensions								For tie width up to		Mounting hole diameter		Quantity [pieces]				
		H		W		L		E		F	f	[mm]	[in]					
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]					
<b>Wall plug</b>																		
TC5358	7TAG009850R0001	31.8	1.25	9.9	0.39	9.9	0.39	7.1	0.28	5.6	0.22	2.3	0.09	4.8	0.19	6.4	0.25	100
																(in wall)	(in wall)	
TC5359	7TAG009850R0002	38.4	1.51	19.1	0.75	19.1	0.75	8.1	0.32	14.0	0.55	3.1	0.12	12.7	0.5	9.5	0.37	50
																(in wall)	(in wall)	

### Dimensions



## Special cable ties

### Col-Ty™ Accessories



#### Characteristics

- Use 5mm (0.20") screw
- Cradle for ties up to 9mm (0.35") wide

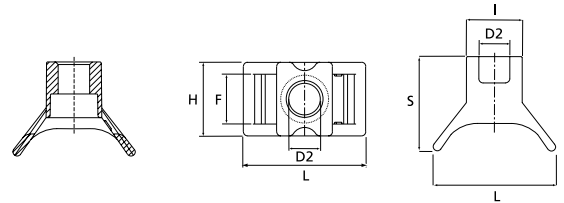
#### Technical information

- Material: Polyamide 11/12
- Temperature range: -40°C to +80°C (-40°F to 176°F)
- Color: Black
- Flammability rating: UL 94 HB
- Other properties: UV-resistant

### Heavy-duty installation ties

Product code	GID No.	Dimensions												Quantity [pieces]
		L		I		S		H		F		d2		
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
CT-3401	7TCG009750R0009	22.9	0.90	10.5	0.41	17.6	0.69	13.8	0.54	9.4	0.37	5.9	0.23	100

#### Dimensions



#### Characteristics

- Wall plug suitable for  $\varnothing$  8mm (0.31") hole
- Simply drill hole and hammer the plug in

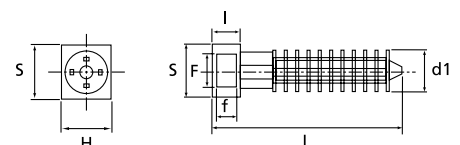
#### Technical information

- Material: Polyamide 11/12
- Temperature range: -40°C to +80°C (-40°F to 176°F)
- Color: Black
- Flammability rating: UL 94 HB
- Other properties: UV-resistant

### Heavy-duty installation ties

Product code	GID No.	Dimensions												Quantity [pieces]		
		L		Ød1		S		H		I		F			f	
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
CT-5359	7TCG009750R0010	43.1	1.70	9.6	0.38	13.2	0.52	16.0	0.63	6.3	0.25	9.5	0.37	2.4	0.09	100

#### Dimensions



## 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

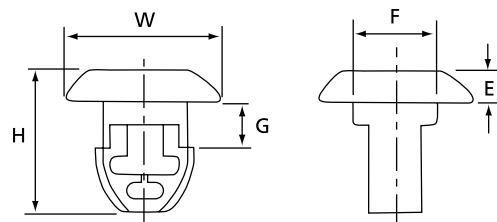
- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural
- Mounting method: Clip in
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Clip-in mounting bases for blind mounting



Product code	GID No.	Dimensions						Panel thickness		For tie width up to		Mounting hole diameter		Quantity [pieces]
		H		W		E		from...to						
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
TC121-TB	7TAG009860R0006	10.4	0.41	11.2	0.44	2.0	0.08	0.1 to 3.2	0.003 to 0.13	2.4 or 4.8	0.09 or 0.19	6.3	0.25	1000

### Dimensions



## Mounting bases

### Clip-in mounting bases for surface mounting



#### Characteristics

- Clip-in tie mounting bases for housings, faceplates etc
- With fastening clip for surface mounting
- Low profile

#### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural (TC823-TB & TC5823), UV-resistant black (TC823X)
- Mounting method: Clip in
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant (black), Halogen free, Silicone free
- For tie width up to 4.8 mm (0.19")

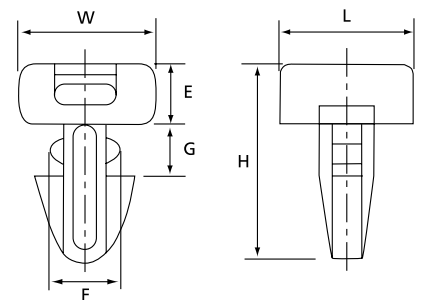
#### Clip-in mounting bases for surface mounting

Product code	GID No.	Dimensions						Panel thickness from ... to		Mounting hole diameter		Quantity [pieces]				
		H		W		L		E		F						
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]					
<b>Small pack size</b>																
TC5823	7TAG009850R0003	16.8	0.66	11.1	0.44	11.1	0.44	5.1	0.20	5.8	0.23	0.1 to 3.2	0.004 to 0.13	6.2 to 6.5	0.24 to 0.26	100
<b>Standard pack size</b>																
TC823-TB	7TAG009860R0007	16.8	0.66	11.1	0.44	11.1	0.44	5.1	0.20	5.8	0.23	0.1 to 3.2	0.004 to 0.13	6.2 to 6.5	0.24 to 0.26	1000
TC823X*	7TAG009860R0008	16.8	0.66	11.1	0.44	11.1	0.44	5.1	0.20	5.8	0.23	0.1 to 3.2	0.004 to 0.13	6.2 to 6.5	0.24 to 0.26	1000

\* Are not UL recognised

For other colors and quantities, please contact your Sales Office

#### Dimensions



## Mounting bases

### Rivet-mounted bases



#### Characteristics

- Low profile mounting base with integrated rivet
- Easy to install into normal or blind holes: just hammer in the expanding harbour
- Parts are color-coded according to hole diameter to avoid confusion

#### Technical information

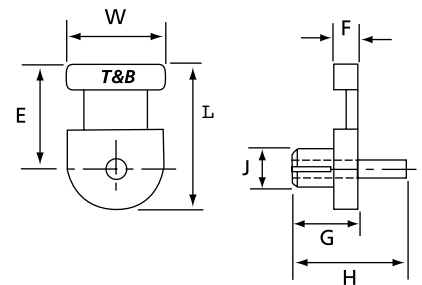
- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: See table
- Mounting method: Rivet mounted
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free
- For tie width up to 4.8mm (0.19")

### Rivet-mounted bases



Product code	GID No.	Color	Dimensions								Mounting hole diameter		Quantity [pieces]
			W		L		F		G		[mm]	[in]	
			[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
TC116-TB	7TAG009860R0003	Red	12.7	0.5	19.1	0.75	3.2	0.13	8.6	0.34	3.7	0.15	1000
TC118-TB	7TAG009860R0004	Blue	12.7	0.5	19.1	0.75	3.2	0.13	8.6	0.34	4.4	0.17	1000
TC120	7TAG009860R0005	Yellow	12.7	0.5	19.1	0.75	3.2	0.13	8.6	0.34	4.9	0.19	1000

#### Dimensions



## Mounting bases

### Mounting blocks



#### Characteristics

- Mounting blocks permit vertical stacking and can be used in any direction

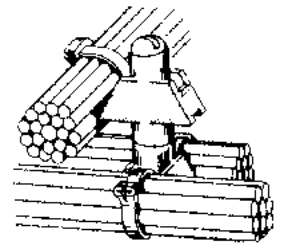
#### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Natural

#### Ty-Rap® mounting blocks



Product code	GID No.	Mounting hole size	For tie width		Maximum width		Length		Quantity [pieces]
			[mm]	[in]	[mm]	[in]	[mm]	[in]	
TC115-TB	7TAG009920R0002	#10	4.83	0.190	11.91	0.47	25.40	1.00	1000



## Mounting bases

### Stud mounting system



#### Characteristics

- A fast and simple harnessing method for neat, versatile wire management
- Great for harnessing wires, cables and hoses to truck and trailer chassis
- Fast, easy installation, using standard  $\frac{3}{8}$ " power drill and application tool or simply hammer on
- Unlimited harnessing flexibility using conventional T&B cable ties
- Custom drill bit quickly installs base to proper torque – won't crack or break mounting base as a result of being overtightened
- Unique 4-way multi-directional design

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

#### Technical information

- Material: Nylon 6.6, UV stabilized
- Color: Black
- Weather resistant
- Flammability rating: UL94-V2
- Halogen and silicon free

#### Stud mounting system

Product code	GID No.	Description	Stud size		Color	Quantity [pieces]
			[mm]	[in]		
XMNY-375-0-D	7TAG009770R0001	Mount fastener	9.5	0.38	Black	500
XMNY-500-0-D	7TAG009770R0002	Mount fastener	12.7	0.50	Black	500
XMNY-625-0-D	7TAG009770R0003	Mount fastener	15.9	0.63	Black	500
XMNY-750-0-D	7TAG009770R0004	Mount fastener	19.1	0.75	Black	500
WTXM	7TAG009770R0000	Application tool	-	-	-	1

The stud mount cable fastening system includes a range of bases and the custom drill bit that mounts all sizes



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.



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



## Mounting bases

### Aluminum siding clip



#### Characteristics

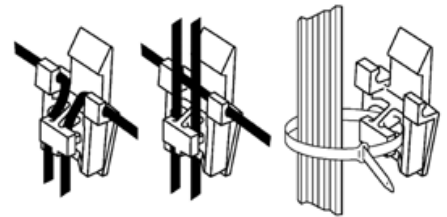
- Weather resistant and transparent
- Designed to accommodate PITTSBURG INTERLOCK metal siding
- Accommodates wires both vertically and/or horizontally
- Provision for utilizing Ty-Rap® cable ties to secure large diameter bundles

#### Technical information

- Material: Weather-resistant grade polycarbonate
- Color: Transparent

#### Aluminum siding clip

Product code	GID No.	Wire accomodation	Quantity [pieces]
TC201	7TAG009890R0000	1/8" Diameter Wire (2-pair station wire)	50



## Mounting bases

### Framing channel clamp



#### Characteristics

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

When fastening wire bundles, cables or hoses to framing channels, costs can be cut considerably by using the Ty-Rap® cable clamp. It's made of smooth, weather-resistant nylon and designed to

protect cable insulation and hoses from wear or damage, which can occur with metal clamps. The clamp may be used for both indoor or outdoor applications. It quickly installs in the framing channel with a simple push and twist. It requires no screws, nuts or tools. The clamp fits all 1½" and 1⅝" channels regardless of channel depth.

#### Technical information

- Material: High-impact weather-resistant nylon
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Black

#### Framing channel clamp

Product code	GID No.	Channel size [in]	Maximum tie width accom.		Quantity [pieces]
			[mm]	[in]	
TC5363X	7TAG009890R0003	1½ & 1⅝	7.65	0.301	50

## Cable clamps

### Plain edge cable clamps



#### Characteristics

- 18 diameters and 2 widths with mounting holes for M4 and M5 screws
- Indoor application

#### Technical information

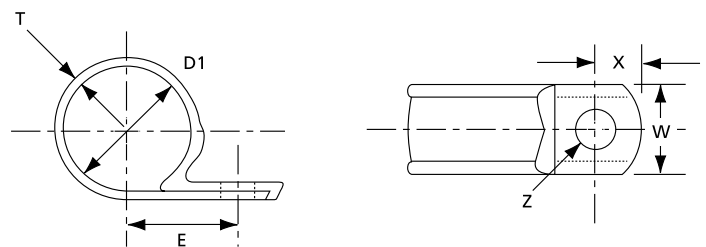
- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)
- Color: Black
- Mounting method: Screw
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

### Plain edge cable clamps

Product code	GID No	D1 closed diameter				E	T		W		Z		Dimensions		Quantity [pieces]
		[mm]	[in]	[mm]	[in]		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
N4NY-002-0-M	7TAG009970R0050	3.20	0.13	8.71	0.34	1.27	0.05	9.53	0.38	5.54	0.22	4.30	0.17	1000	
N4NY-003-0-M	7TAG009970R0056	4.70	0.19	9.60	0.38	1.27	0.05	9.53	0.38	5.54	0.22	4.30	0.17	1000	
N4NY-004-0-M	7TAG009970R0063	6.30	0.25	10.70	0.42	1.27	0.05	9.53	0.38	5.54	0.22	4.30	0.17	1000	
N4NY-005-0-M	7TAG009970R0070	7.90	0.31	11.20	0.44	1.27	0.05	9.53	0.38	5.54	0.22	4.30	0.17	1000	
N4NY-006-0-M	7TAG009970R0075	9.50	0.37	11.79	0.46	1.27	0.05	9.53	0.38	5.54	0.22	4.30	0.17	1000	
N4NY-008-0-M	7TAG009970R0089	12.70	0.5	13.46	0.53	1.27	0.05	9.53	0.38	5.54	0.22	4.30	0.17	1000	
N6NY-004C-0-M	7TAG009970R0096	6.35	0.25	11.10	0.44	1.52	0.06	12.71	0.5	5.54	0.22	5.16	0.20	1000	
N6NY-005C-0-M	7TAG009970R0099	7.92	0.31	12.24	0.48	1.52	0.06	12.71	0.5	5.54	0.22	5.16	0.20	1000	
N6NY-006C-0-M	7TAG009970R0102	9.53	2.09	12.70	0.5	1.52	0.06	12.71	0.50	5.54	0.22	5.16	0.20	1000	
N6NY-008C-0-M	7TAG009970R0107	12.70	0.5	14.05	0.55	1.52	0.06	12.71	0.50	5.54	0.22	5.16	0.20	1000	
N6NY-009-0-M	7TAG009970R0110	14.27	0.56	15.32	0.60	1.52	0.06	12.71	0.50	5.54	0.22	5.16	0.20	1000	
N6NY-010-0-M	7TAG009970R0113	15.88	0.63	15.88	0.63	1.52	0.06	12.71	0.50	5.54	0.22	5.16	0.20	1000	
N6NY-011-0-M	7TAG009970R0116	17.48	0.69	16.89	0.66	1.52	0.06	12.71	0.50	5.54	0.22	5.16	0.20	1000	
N6NY-012-0-M	7TAG009970R0119	19.05	0.75	17.75	0.70	1.52	0.06	12.71	0.50	5.54	0.22	5.16	0.20	1000	
N6NY-013-0-M	7TAG009970R0122	20.62	0.81	19.43	0.76	1.52	0.06	12.71	0.50	5.54	0.22	5.16	0.20	1000	
N6NY-014-0-M	7TAG009970R0125	22.23	0.88	20.19	0.79	1.52	0.06	12.71	0.50	5.54	0.22	5.16	0.20	1000	
N6NY-016-0-M	7TAG009970R0129	25.40	1.0	21.00	0.83	1.52	0.06	12.71	0.50	5.54	0.22	5.16	0.20	1000	

Also available in quantities of 100 pieces. For other colors, please contact your Sales Office

#### Dimensions



## Cable clamps

### Self-adhesive press clips



#### Characteristics

- Available in “full clip” version (PCNY series) or “half clip” version (HCNY series)
- 4 sizes to accommodate bundles up to 12mm (0.47")
- Clips are provided “two-up” on a rubber based closed cell foam adhesive

#### Technical information

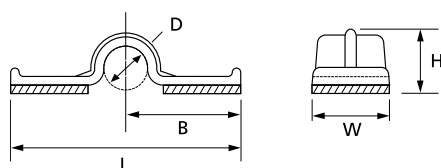
- Material: Polyamide 6.6 (clip)
- Temperature range: 0°C to +65°C (32°F to 149°F)
- Color: Natural
- Mounting method: Self-adhesive
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

#### Self-adhesive press clips

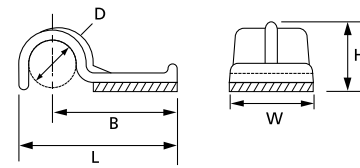
Product code	GID No.	Dimensions										Quantity [pieces]
		D		L		B		H		W		
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
<b>Full clip</b>												
<b>Standard pack size</b>												
PCNY-250-9-C	7TAG009970R0144	6.35	0.25	35.05	1.38	17.52	0.69	8.23	0.32	12.69	0.50	100
PCNY-375-9-C	7TAG009970R0146	9.52	0.74	37.32	1.47	18.61	0.73	11.29	0.44	15.87	0.62	100
PCNY-500-9-C	7TAG054010R0233	12.69	0.50	40.57	1.60	20.19	0.79	14.85	0.58	19.05	0.75	100
<b>Bulk pack size</b>												
PCNY-125-9-D	7TAG009970R0143	3.17	0.12	19.30	0.76	9.65	0.38	5.36	0.21	9.52	0.37	500
PCNY-250-9-D	7TAG009970R0145	6.35	0.25	35.05	1.38	17.52	0.69	8.23	0.32	12.69	0.50	500
PCNY-375-9-D	7TAG009970R0147	9.52	0.74	37.32	1.47	18.61	0.73	11.29	0.44	15.87	0.62	500
PCNY-500-9-D	7TAG009970R0148	12.69	0.50	40.57	1.60	20.19	0.79	14.85	0.58	19.05	0.75	500
<b>Half clip</b>												
<b>Standard pack size</b>												
HCNY-125-9-C	7TAG054010R0111	3.17	0.12	12.52	0.49	9.65	0.38	4.57	0.18	9.52	0.37	100
HCNY-250-9-C	7TAG009970R0045	6.35	0.25	21.97	0.86	17.52	0.69	8.25	0.32	12.69	0.50	100
HCNY-375-9-C	7TAG054980R0536	9.52	0.74	24.88	0.98	19.05	0.75	10.54	0.41	15.87	0.62	100
HCNY-500-9-C	7TAG054980R0538	12.69	0.50	28.19	1.11	20.83	0.82	14.22	0.56	19.05	0.75	100
<b>Bulk pack size</b>												
HCNY-125-9-M	7TAG009970R0044	3.17	0.12	12.52	0.49	9.65	0.38	4.57	0.18	9.52	0.37	1000
HCNY-250-9-M	7TAG009970R0046	6.35	0.25	21.97	0.86	17.52	0.69	8.25	0.32	12.69	0.50	1000
HCNY-375-9-M	7TAG009970R0047	9.52	0.74	24.88	0.98	19.05	0.75	10.54	0.41	15.87	0.62	1000
HCNY-500-9-M	7TAG009970R0048	12.69	0.50	28.19	1.11	20.83	0.82	14.22	0.56	19.05	0.75	1000

#### Dimensions

PCNY



HCNY



## Cable clamps

Self-adhesive clips for round cable



### Characteristics

- Diverse cable clamps for bundle diameters from 4mm (0.16") to 13.5mm (0.53")
- Clips are provided two-up on a rubber based closed cell foam adhesive
- Flexible centre tongue for removal or addition of cables

### Technical information

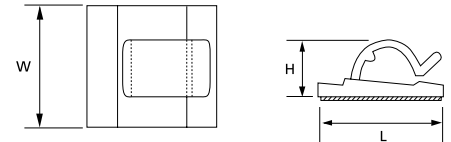
- Material: Polyamide 6.6 (clip)
- Temperature range: 0°C to +65°C (32°F to 149°F)
- Color: Natural or black
- Mounting method: Self-adhesive
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

### Self-adhesive clips for round cable

Product code	GID No.	Color	Max. bundle diameter		H	W		Dimensions		Quantity [pieces]	
			[mm]	[in]		[mm]	[in]	[mm]	[in]		
RANY-160-9-D	7TAG009970R0149	Natural	4.0	0.16	6.4	0.25	16.0	0.63	14.8	0.58	500
RANY-280-9-D	7TAG009970R0150	Natural	7.1	0.28	10.4	0.41	25.4	1.0	25.4	1.0	500
RANY-280-0-D	7TAG054980R1267	Black	7.1	0.28	10.4	0.41	25.4	1.0	25.4	1.0	500
RANY-530-9-D	7TAG009970R0151	Natural	13.5	0.53	15.8	0.62	25.4	1.0	25.4	1.0	500
RANY-620-9-D	7TAG009970R0152	Natural	13.5	0.53	14.2	0.56	31.8	1.25	28.5	1.12	500

For other colors and quantities, please contact your Sales Office

### Dimensions



## Accessories for flat cables

### Clips with flexible leg



#### 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
- FANY supplied “two-up” on a rubber based closed cell foam adhesive
- FSNY type has an additional mounting hole for screw mounting (M4 screw)

#### Technical information

- Material: Polyamide 6.6 (clip)
- 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)
- Color: Natural
- Mounting method: Self-adhesive or screw
- Flammability rating: UL 94 V-2 (clip)
- Other properties: Halogen free, Silicone free

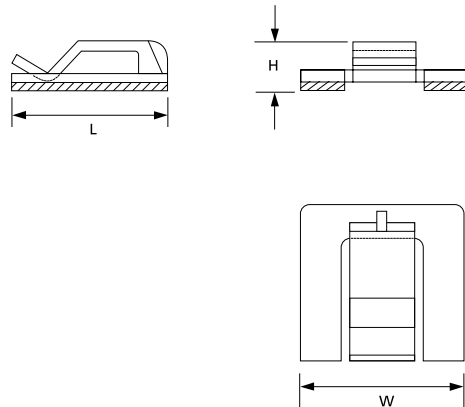
#### Clips with flexible leg

Product code	GID No.	Mounting method	Dimensions						Quantity [pieces]
			[mm]	[in]	[mm]	[in]	[mm]	[in]	
<b>Standard pack size</b>									
FANY-812-9-C	7TAG009970R0025	Self-adhesive	7.14	0.28	25.40	1.00	25.40	1.00	100
FSNY-812-9-C	7TAG009970R0030	M4 screw	3.17	0.12	30.15	1.19	25.40	1.00	100
<b>Bulk pack size</b>									
FANY-812-9-D	7TAG009970R0026	Self-adhesive	7.14	0.28	25.40	1.00	25.40	1.00	500

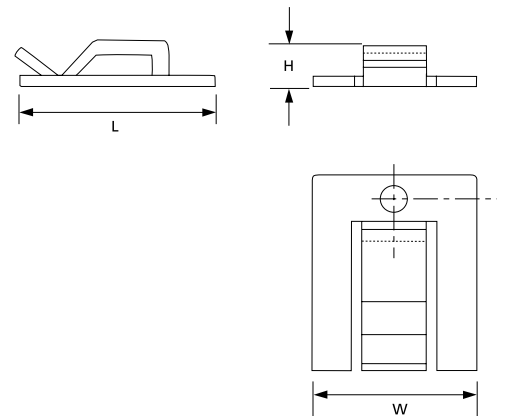
For other colors and quantities, please contact your Sales Office

#### Dimensions

FANY



FSNY



## Cable clamps

Adjustable, ladder style clamps



### Characteristics

- Ladder style fastener is easily released and refastened
- Supplied “single-cut” on a rubber based closed cell foam adhesive
- Can also be mounted with a screw, for improved pull off or out strength

### Technical information

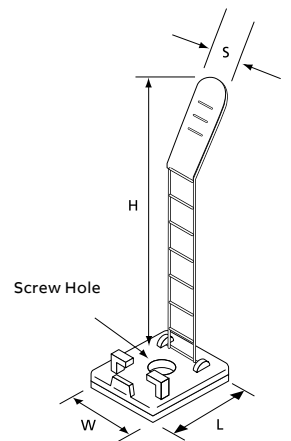
- Material: Polyamide 6.6
- Temperature range: 0°C to +65°C (32°F to 149°F)
- Color: Grey
- Mounting method: Self adhesive and / or screw-mounting
- Flammability rating: UL 94 V-2 (clamp)
- Other properties: Halogen free, Silicone free

### Adjustable, ladder style clamps

Product code	GID No.	Bundle diameter range		H		W		L		Dimensions		Screw hole diameter		Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
ULNY-013-8-C	7TAG009970R0153	3 - 12.7	0.12 - 0.5	59.5	2.34	18.0	0.71	25.0	0.99	8.0	0.31	2.79	0.11	100
ULNY-018-8-C	7TAG009970R0155	5 - 21.0	0.20 - 0.83	79.4	3.13	21.0	0.83	30.0	1.18	12.0	0.47	2.79	0.11	100
ULNY-023-8-C	7TAG009970R0156	7 - 25.0	0.28 - 0.98	85.5	3.37	25.0	0.98	35.0	1.38	14.0	0.55	3.43	0.14	100

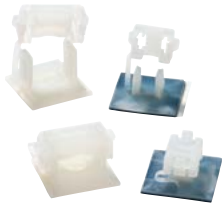
For other quantities, please contact your Sales Office

### Dimensions



## Cable clamps

### Latching clamps



#### Characteristics

- Re-usable tie mounting clamps
- For self-adhesive and / or screw- or rivet mounting
- One-piece design with integrated releasable lock
- The inner profile protects sensitive cables, fibre optics etc
- Desired height can be set in 3 or 6 ratchet steps
- The large base surface area and the strong adhesive film guarantee a high adhesive strength
- The self-adhesive film is foam backed (0.8mm/0.03") which allows durable fixing on a variety of materials

#### Technical information

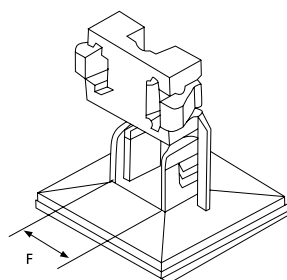
- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (-40°F to 185°F)  
Self-adhesive version: 0°C to +65°C (32°F to 149°F)
- Color: Natural
- Mounting method: Self adhesive or screw-mounting
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

### Latching clamps

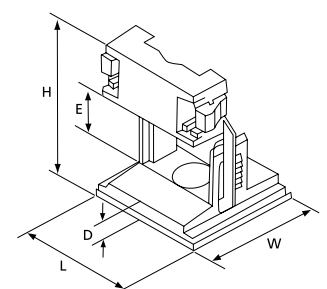
Product code	GID No.	Dimensions														Quantity [pieces]
		W		L		max.		min.		E Height of clamping area from ... to		F Width of clamping area		Mounting hole diameter		
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
<b>Small pack size</b>																
TC5349A-TB	7TCG009890R0001	25.0	0.98	25.0	0.98	14.5	0.57	11.5	0.45	6.0 to 8.5	0.24 to 0.33	6.0	0.24	-	-	100
TC5350A-TB	7TCG009890R0002	25.0	0.98	25.0	0.98	22.0	0.87	18.0	0.71	6 to 12.5	0.24 to 0.49	15.0	0.59	4.3	0.17	100
TC5350	7TCG009500R0042	25.0	0.98	25.0	0.98	21.3	0.84	17.2	0.68	6.0 to 12.5	0.24 to 0.49	15.0	0.59	4.3	0.17	100
<b>Standard pack size</b>																
TC349A-TB	7TCG009900R0001	25.0	0.98	25.0	0.98	14.5	0.57	11.5	0.45	6.0 to 8.5	0.24 to 0.33	6.0	0.24	-	-	1000
TC349AN	7TCG009500R0035	25.0	0.98	25.0	0.98	14.5	0.57	11.5	0.45	6.0 to 8.5	0.24 to 0.33	6.0	0.24	-	-	1000
TC350A-TB	7TCG009900R0003	25.0	0.98	25.0	0.98	22.0	0.87	18.0	0.71	6.0 to 12.5	0.24 to 0.49	15.0	0.59	4.3	0.17	1000
TC350AN	7TCG009500R0036	25.0	0.98	25.0	0.98	22.0	0.87	18.0	0.71	6.0 to 12.5	0.24 to 0.49	15.0	0.59	4.3	0.17	1000
TC350	7TCG009900R0002	25.0	0.98	25.0	0.98	21.3	0.84	17.2	0.68	6.0 to 12.5	0.24 to 0.49	15.0	0.59	4.3	0.17	1000

#### Dimensions

TC349A-TB  
TC349AN  
TC5349A-TB



TC350  
TC350AN  
TC5350  
TC350A-TB  
TC5350A-TB





## Cable clamps

### Re-openable clamps



#### Characteristics

- Simple installation
- Can be mounted by clipping-in or gluing
- For series production or as a temporary support during wiring installation
- Clip ends are rounded for comfortable re-opening
- Product code TC95 features 2-stage lock

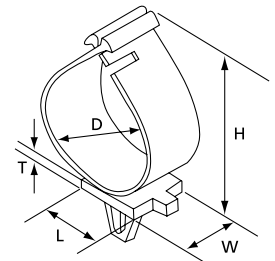
#### Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C (40°F to 185°F)
- Color: Natural
- Mounting method: Clip in
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

### Re-openable clamps

Product code	GID No.	Dimensions								Panel thickness from ... to		Mounting hole diameter		Quantity [pieces]
		H		W		L		D		[mm]	[in]	[mm]	[in]	
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
TC88	7TAG009710R0008	22.6	0.89	12.7	0.5	19.1	0.75	12.7	0.5	2.5 - 3.6	0.10 - 0.14	5.7 - 7	0.22 - 0.28	100
TC95	7TAG009910R0088	40.5	1.59	12.7	0.5	19.1	0.75	25.4	1.0	2.5 - 3.6	0.10 - 0.14	5.7 - 7	0.22 - 0.28	100

#### Dimensions



## Harness board clamps

Re-openable clamps with springs



### Characteristics

- Holding clips with rubberized 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

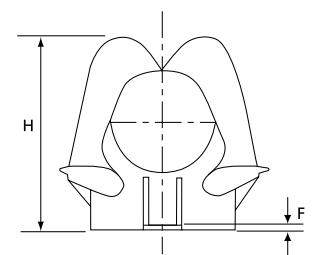
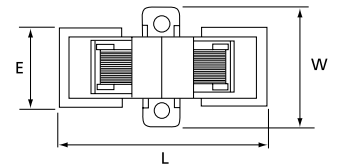
### Technical information

- 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)
- Color: Natural
- Mounting method: 2 screws
- Flammability rating: UL 94 V-2 (body)
- Other properties: Halogen free

### Re-openable clamps with springs

Product code	GID No.	Max. bundle diameter		H		L		W		Dimensions		Mounting hole diameter		Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	
TC86	7TAG009710R0006	19.0	0.75	46.0	1.81	44.5	1.75	31.8	1.25	22.2	0.87	3.9	0.15	25
TC87	7TAG009710R0007	32.0	1.26	58.0	2.28	62.7	2.47	38.1	1.5	25.4	1.0	3.9	0.15	25

### Dimensions



## Cable clamps

### Accessories for flat cables



#### Characteristics

- This system allows the secure and neat fixing of between 1 and 25 ribbon cables
- Clamp height adapts accurately to the desired number of ribbon cables
- Suitable for ribbon cables up to 60 conductors with a pitch of 1.27mm (76.2mm wide) (0.05" pitch/3" wide)
- Can be re-opened for later addition or removal of a cable
- Very strong hold
- All versions can be mounted with countersunk-head screws or rivets
- Some versions have an additional self-adhesive foam to aid fast mounting

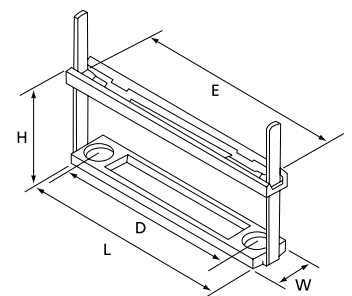
#### Technical information

- Material: Polyamide 6.6 (clip)
- 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)
- Color: Natural
- Mounting method: Self-adhesive and / or for screw- or rivet-mounting
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

### Accessories for flat cables

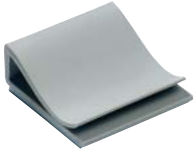
Product code	GID No.	Mounting method	Dimensions														Adhesive strength on steel/ fastening hole [g/100]	Weight [g/100]	Quantity [pieces]
			max.		min.		W		L		D Mounting centres from ... to		E Inner width						
			[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]					
FCC-1	7TCG009630R0012	Countersunk screws	21.0	0.83	8.0	0.31	12.7	0.5	32.5	1.28	-	-	25.4	1	M4	260	50		
FCC-1A	7TCG009630R0013	Countersunk screws / self-adhesive	21.0	0.83	8.8	0.35	12.7	0.5	32.5	1.28	-	-	25.4	1	76 N/cm	275	50		
FCC-2	7TCG009630R0014	Countersunk screws	36.0	1.42	8.0	0.31	12.7	0.5	57.9	2.28	39.1	1.54	50.8	2	M4	340	50		
FCC-2A	7TCG009630R0015	Countersunk screws / self-adhesive	36.0	1.42	8.8	0.35	12.7	0.5	57.9	2.28	39.1	1.54	50.8	2	76 N/cm	390	50		
FCC-3	7TCG009630R0016	Countersunk screws	36.0	1.42	8.0	0.31	12.7	0.5	83.3	3.28	64.5	2.54	76.2	3	M4	475	50		
FCC-3A	7TCG009630R0017	Countersunk screws / self-adhesive	36.0	1.42	8.8	0.35	12.7	0.5	83.3	3.28	64.5	2.54	76.2	3	76 N/cm	490	50		

#### Dimensions



## Accessories for flat cables

### 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

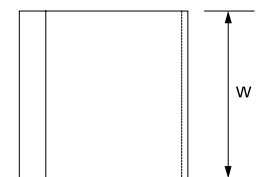
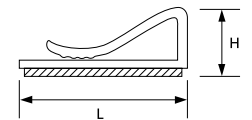
#### Technical information

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

#### Self-adhesive clips for round cable

Product code	GID No.	Dimensions						Quantity [pieces]
		H		T		W		
		[mm]	[in]	[mm]	[in]	[mm]	[in]	
<b>Small pack size</b>								
FRPV-1000-8-C	7TAG009970R0028	5.8	0.23	27	1.06	25.4	1	100
<b>Standard pack size</b>								
FRPV-1000-8-D	7TAG009970R0029	5.8	0.23	27	1.06	25.4	1	500

#### Dimensions





# Cable sleeves and spiral wraps

## Bind-It®

Cable Protection Systems (CPS) from ABB 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 self-wrapping 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 of ABB 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.



## Cable sleeves and spiral wraps

### Wrap-around woven sleeving



#### Characteristics

- Offers excellent protection for cable assemblies against abrasion
- No heat is required to seal the ends of this product as compared to traditional braided sleeving
- With its wrap-around design, it can be installed on assemblies where the wires are already terminated or wires need to be broken-out
- Bind-It® is available in nominal sizes from 5mm to 38mm (0.20" to 1.50")

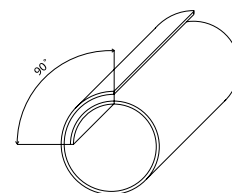
#### Technical information

- Material: Mono and multifilaments of polyester
- Temperature range: -70°C to +125°C (94°F to 257°F)
- Melt temperature: +255°C (491°F)
- Automotive temperature: T3 class
- Color: Black
- Flammability rating: Self-extinguishing, type B (FMVSS-302 Test method D45 1333)
- Abrasion resistance: PSA D44 1722 : R8
- Dielectric strength: from 1kVAC

#### Wrap-around woven sleeving

Product code	GID No.	Nominal size		Length per mini-reel	
		[mm]	[in]	[m]	[ft]
CPS05W-150-EU	7TCG054800R0001	5	0.20	150	492.13
CPS08W-100-EU	7TCG054800R0005	8	0.31	100	328.08
CPS13W-50-EU	7TCG054800R0020	13	0.51	50	164.04
CPS19W-25-EU	7TCG054800R0031	19	0.75	25	82.02
CPS25W-25-EU	7TCG054800R0048	25	0.98	25	82.02
CPS29W-15-EU	7TCG054800R0051	29	1.14	15	49.21
CPS32W-15-EU	7TCG054800R0064	32	1.26	15	49.21
CPS38W-15-EU	7TCG054800R0068	38	1.50	15	49.21

#### Dimensions



\* Nominal size is determined by wrapping the product around a mandrel of a given size to obtain 90 degrees of overlap (average value).



## Cable sleeves and spiral wraps

### Wrap-around woven sleeving – flame retardant



#### Characteristics

- Wrap-around sleeving manufactured from flame-retardant polyester monofilaments and multifilaments
- Designed for mechanical protection and maintenance of wire and cable bundles
- Its construction with 100% covering ratio provides excellent cut-through and abrasion resistance
- No heat is required to seal the ends of this product as compared to traditional braided sleeving
- With its wrap-around design, it can be installed on assemblies where the wires are already terminated or wires need to be broken-out
- Bind-It® is available in nominal sizes from 5mm to 50mm (0.20" to 1.97")

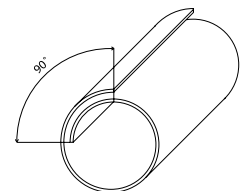
#### Technical information

- Material: Mono and multifilaments of polyester
- Temperature range: -50°C to +125°C (-58°F to 257°F)
- Melt temperature: +240°C (464°F)
- Automotive temperature: T3 class
- Color: Black
- Fire behaviour: According to EN 45545-2 : HL3  
According to NF F 16 101 : I2-F1
- Ignitability test: According to NF-EN-ISO 11925-2
- Abrasion resistance: PSA D44 1722: R8
- Smoke opacity: NFX 10-702-1; 10-702-2: Pass; Smoke index: 12
- Index oxygen: According to EN 45545-2 : 37.5%
- Dielectric strength: from 1kVAC
- Other properties: Halogen free

#### Wrap-around woven sleeving – flame retardant

Product code	GID No.	Nominal size		Length per mini-reel	
		[mm]	[in]	[m]	[ft]
CPS05W-150-FR-EU	7TCG054800R0003	5	0.20	150	492.13
CPS08W-100-FR-EU	7TCG054800R0007	8	0.31	100	328.08
CPS13W-50-FR-EU	7TCG054800R0022	13	0.51	50	164.04
CPS19W-25-FR-EU	7TCG054800R0033	19	0.75	25	82.02
CPS25W-25-FR-EU	7TCG054800R0050	25	0.98	25	82.02
CPS29W-15-FR-EU	7TCG054800R0065	29	1.14	15	49.21
CPS32W-15-FR-EU	7TCG054800R0069	32	1.26	15	49.21
CPS38W-15-FR-EU	7TCG054800R0090	38	1.50	15	49.21
CPS50W-15-FR-EU	7TCG054800R0090	50	1.97	15	49.21

#### Dimensions



\* Nominal size is determined by wrapping the product around a mandrel of a given size to obtain 90 degrees of overlap (average value).

## Cable sleeves and spiral wraps

### Braided sleeving



#### Characteristics

- Standard color – black or gray
- Non-flame retardant Polyester rated at UL 94 V-2
- Available in nominal diameters from 3 to 50mm to cover bundle diameters of 1 to 66mm, giving flexibility when adding to or removing cables from wire looms
- For use in temperature ranges from -50°C to +150°C
- Good chemical resistance
- Halogen free
- For protecting and bundling cables and wires inside cabinets and enclosures
- To stop the ends of the sleeving fraying it is necessary to heat seal the ends using a “hotwire” device. (Product code WT-HSG)

#### Technical information

- Material: Polyester
- Temperature range: -50°C to +150°C (-58°F to 302°F)
- Color: Black or grey
- Flammability rating: UL 94 V-2

### Braided sleeving

1:2

Product code	GID No.	Nominal as supplied		Expandable diameter range		Lengths per mini-reel	
		[mm]	[in]	[mm]	[in]	[m]	[ft]
<b>Black</b>							
CPS3B-100	7TCG054800R0071	3.0	0.12	1.0 - 5.0	0.04 - 0.20	100.0	328.08
CPS4B-100	7TCG054800R0081	4.0	0.16	2.0 - 7.0	0.07 - 0.28	100.0	328.08
CPS5B-100	7TCG054800R0092	5.0	0.20	3.0 - 9.0	0.12 - 0.35	100.0	328.08
CPS6B-100	7TCG054800R0097	6.0	0.24	4.0 - 11.0	0.16 - 0.43	100.0	328.08
CPS8B-100	7TCG054800R0103	8.0	0.31	5.0 - 12.0	0.20 - 0.47	100.0	328.08
CPS10B-100	7TCG054800R0008	10.0	0.39	7.0 - 15.0	0.28 - 0.59	100.0	328.08
CPS12B-50	7TCG054800R0015	12.0	0.47	8.0 - 17.0	0.31 - 0.67	50.0	164.04
CPS15B-50	7TCG054800R0025	15.0	0.59	10.0 - 20.0	0.39 - 0.79	50.0	164.04
CPS20B-25	7TCG054800R0035	20.0	0.79	14.0 - 26.0	0.55 - 1.02	25.0	82.02
CPS25B-25	7TCG054800R0042	25.0	0.98	18.0 - 34.0	0.71 - 1.34	25.0	82.02
CPS30B-25	7TCG054800R0058	30.0	1.18	20.0 - 40.0	0.79 - 1.57	25.0	82.02
CPS40B-25	7TCG054800R0076	40.0	1.57	30.0 - 50.0	1.18 - 1.97	25.0	82.02
CPS50B-25	7TCG054800R0086	50.0	1.97	40.0 - 66.0	1.57 - 2.60	25.0	82.02
<b>Grey</b>							
CPS3G-100	7TCG054800R0075	3.0	0.12	1.0 - 5.0	0.04 - 0.20	100.0	328.08
CPS4G-100	7TCG054800R0084	4.0	0.16	2.0 - 7.0	0.07 - 0.28	100.0	328.08
CPS5G-100	7TCG054800R0096	5.0	0.20	3.0 - 9.0	0.12 - 0.35	100.0	328.08
CPS6G-100	7TCG054800R0101	6.0	0.24	4.0 - 11.0	0.16 - 0.43	100.0	328.08
CPS8G-100	7TCG054800R0107	8.0	0.31	5.0 - 12.0	0.20 - 0.47	100.0	328.08
CPS10G-100	7TCG054800R0012	10.0	0.39	7.0 - 15.0	0.28 - 0.59	100.0	328.08
CPS12G-50	7TCG054800R0018	12.0	0.47	8.0 - 17.0	0.31 - 0.67	50.0	164.04
CPS15G-50	7TCG054800R0028	15.0	0.59	10.0 - 20.0	0.39 - 0.79	50.0	164.04
CPS20G-25	7TCG054800R0038	20.0	0.79	14.0 - 26.0	0.55 - 1.02	25.0	82.02
CPS25G-25	7TCG054800R0045	25.0	0.98	18.0 - 34.0	0.71 - 1.34	25.0	82.02
CPS30G-25	7TCG054800R0061	30.0	1.18	20.0 - 40.0	0.79 - 1.57	25.0	82.02
CPS40G-25	7TCG054800R0079	40.0	1.57	30.0 - 50.0	1.18 - 1.97	25.0	82.02
CPS50G-25	7TCG054800R0089	50.0	1.97	40.0 - 66.0	1.57 - 2.60	25.0	82.02

## Cable sleeves and spiral wraps

### Braided sleeving - flame retardant



#### Characteristics

- Braided sleeving manufactured from flame-retardant polyester monofilaments
- Flame retardant polyester, conform to UL 94 V-0, mainly used in the railway industry
- Available in diameters from 3 to 50mm (0.12" to 1.97") to cover bundle diameters of 2 to 60mm (0.08" to 2.36")
- Recommended in applications such as public transportation, aircraft industry, telecommunications, underground cables, etc.

#### Technical information

- Material: Flame retardant polyester monofilaments (PET FR)
- Temperature range: -50°C to +150°C (-58°F to 302°F)
- Melt temperature: +250°C (482°F)
- Color: Black or grey
- Tested according to:
  - NF F 16 101
  - I2-F1
  - EN45545-2 2013
  - HL3
- Other properties: Halogen free

#### Braided sleeving – flame retardant

1:2

Product code	GID No.	Nominal as supplied		Expandable diameter range		Lengths per reel	
		[mm]	[in]	[mm]	[in]	[m]	[ft]
<b>Black</b>							
CPS3B-100-CVO	7TCG054800R0072	3.0	0.12	2.0 - 5.0	0.07 - 0.20	100.0	328.08
CPS4B-100-CVO	7TCG054800R0082	4.0	0.16	3.0 - 7.0	0.12 - 0.28	100.0	328.08
CPS5B-100-CVO	7TCG054800R0093	5.0	0.20	4.0 - 9.0	0.16 - 0.35	100.0	328.08
CPS6B-100-CVO	7TCG054800R0098	6.0	0.24	5.0 - 11.0	0.20 - 0.43	100.0	328.08
CPS8B-100-CVO	7TCG054800R0104	8.0	0.31	7.0 - 13.0	0.28 - 0.51	100.0	328.08
CPS10B-50-CVO	7TCG054800R0010	10.0	0.39	9.0 - 15.0	0.35 - 0.59	50.0	164.04
CPS12B-50-CVO	7TCG054800R0016	12.0	0.47	11.0 - 17.0	0.43 - 0.67	50.0	164.04
CPS15B-50-CVO	7TCG054800R0026	15.0	0.59	13.0 - 20.0	0.51 - 0.79	50.0	164.04
CPS20B-50-CVO	7TCG054800R0036	20.0	0.79	18.0 - 25.0	0.71 - 0.98	50.0	164.04
CPS25B-50-CVO	7TCG054800R0043	25.0	0.98	22.0 - 30.0	0.87 - 1.18	50.0	164.04
CPS30B-50-CVO	7TCG054800R0059	30.0	1.18	27.0 - 40.0	1.06 - 1.57	50.0	164.04
CPS40B-50-CVO	7TCG054800R0077	40.0	1.57	35.0 - 50.0	1.38 - 1.97	50.0	164.04
CPS50B-50-CVO	7TCG054800R0087	50.0	1.97	45.0 - 60.0	1.77 - 2.36	50.0	164.04
<b>Grey</b>							
CPS3G-100-CVO	7TCG054800R0108	3.0	0.12	2.0 - 5.0	0.07 - 0.20	100.0	328.08
CPS4G-100-CVO	7TCG054800R0085	4.0	0.16	3.0 - 7.0	0.12 - 0.28	100.0	328.08
CPS5G-100-CVO	7TCG054800R0109	5.0	0.20	4.0 - 9.0	0.16 - 0.35	100.0	328.08
CPS6G-100-CVO	7TCG054800R0102	6.0	0.24	5.0 - 11.0	0.20 - 0.43	100.0	328.08
CPS8G-100-CVO	7TCG054800R0111	8.0	0.31	7.0 - 13.0	0.28 - 0.51	100.0	328.08
CPS10G-50-CVO	7TCG054800R0013	10.0	0.39	9.0 - 15.0	0.35 - 0.59	50.0	164.04
CPS12G-50-CVO	7TCG054800R0112	12.0	0.47	11.0 - 17.0	0.43 - 0.67	50.0	164.04
CPS15G-50-CVO	7TCG054800R0029	15.0	0.59	13.0 - 20.0	0.51 - 0.79	50.0	164.04
CPS20G-50-CVO	7TCG054800R0039	20.0	0.79	18.0 - 25.0	0.71 - 0.98	50.0	164.04
CPS25G-50-CVO	7TCG054800R0046	25.0	0.98	22.0 - 30.0	0.87 - 1.18	50.0	164.04
CPS30G-50-CVO	7TCG054800R0062	30.0	1.18	27.0 - 40.0	1.06 - 1.57	50.0	164.04
CPS40G-50-CVO	7TCG054800R0080	40.0	1.57	35.0 - 50.0	1.38 - 1.97	50.0	164.04
CPS50G-50-CVO	7TCG054800R0110	50.0	1.97	45.0 - 60.0	1.77 - 2.36	50.0	164.04

## Cable sleeves and spiral wraps

### Spiral wrap



#### Characteristics

- For protection of bundles from 4mm to 130mm (0.16" to 5.12")
- Install gapped for greater flexibility or butted for maximum abrasion resistance, insulation and rigidity
- Counter-clockwise cut
- Delivered in bags with Euroslot
- Available in natural and UV-resistant black Polyethylene

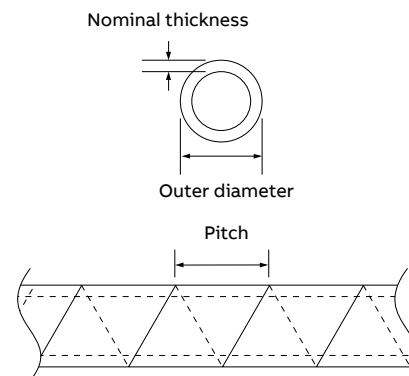
#### Technical information

- Material: Polyethylene
- Temperature range: -30°C to +80°C (-22°F to 176°F)
- Color: Natural and UV-resistant black
- Flammability rating: UL 94 HB
- Other properties: UV-resistant black, Halogen free, Silicone free

### Spiral wrap

Product code	GID No.	Color	Outer diameter		Pitch		Nominal thickness		Min. – max. bundle diameter		Length	
			[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[m]	[ft]
SRPE-6-9	7TCG054090R0233	Natural	6.0	0.24	7.0	0.78	0.5	0.02	4.0 - 50	0.16 - 0.97	10.0	32.81
SRPE-8-9	7TCG054090R0239	Natural	8.0	0.31	10.8	0.43	0.5	0.02	6.0 - 60	0.24 - 25.59	10.0	32.81
SRPE-10-9	7TCG054090R0217	Natural	10.0	0.39	11.4	0.44	0.8	0.03	7.5 - 60	0.30 - 25.59	10.0	32.81
SRPE-12-9	7TCG054090R0221	Natural	12.0	0.47	13.9	0.55	0.9	0.04	9.0 - 65	0.35 - 2.56	10.0	32.81
SRPE-15-9	7TCG054090R0223	Natural	15.0	0.59	15.0	0.59	1.0	0.04	12.0 - 70	0.47 - 2.76	10.0	32.81
SRPE-19-9	7TCG054090R0225	Natural	19.0	0.75	18.2	0.72	1.3	0.05	15.0 - 100	0.59 - 3.94	10.0	32.81
SRPE-24-9	7TCG054090R0227	Natural	24.0	0.94	19.6	0.77	1.5	0.06	20.0 - 130	0.79 - 5.12	10.0	32.81
SRPE-6-0	7TCG054090R0232	UV-resistant black	6.0	0.24	7.0	0.28	0.5	0.02	4.0 - 50	0.16 - 0.97	10.0	32.81
SRPE-8-0	7TCG054090R0238	UV-resistant black	8.0	0.31	10.8	0.43	0.5	0.02	6.0 - 60	0.24 - 25.59	10.0	32.81
SRPE-10-0	7TCG054090R0216	UV-resistant black	10.0	0.39	11.4	0.44	0.8	0.03	7.5 - 60	0.30 - 25.59	10.0	32.81
SRPE-12-0	7TCG054090R0220	UV-resistant black	12.0	0.47	13.9	0.55	0.9	0.04	9.0 - 65	0.35 - 2.56	10.0	32.81
SRPE-15-0	7TCG054090R0222	UV-resistant black	15.0	0.59	15.0	0.59	1.0	0.04	12.0 - 70	0.47 - 2.76	10.0	32.81
SRPE-19-0	7TCG054090R0224	UV-resistant black	19.0	0.75	18.2	0.72	1.3	0.05	15.0 - 100	0.59 - 3.94	10.0	32.81
SRPE-24-0	7TCG054090R0226	UV-resistant black	24.0	0.94	19.6	0.77	1.5	0.06	20.0 - 130	0.79 - 5.12	10.0	32.81

### Dimensions



## Cable sleeves and spiral wraps

### Extruded grommeting



#### Characteristics

- Used to line panel edges and knock-outs where the chafing of passing wires is a concern
- Available in 8 stock sizes in 30.5m (100.07ft) lengths for panels from 1mm to 6.35mm (0.04" to 0.25")
- In most applications, grommeting will grip tightly by itself, if not, a drop of Epoxy will keep it in place

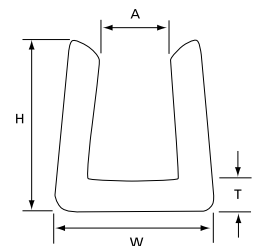
#### Technical information

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

### Extruded grommeting

Product code	GID No.	Color	Dimensions									
			Internal width		Thickness		H		W		Length per reel	
			A	T	H	W	[m]	[ft]				
GRNY-040-9-C	7TAG009750R0018	Natural	1.01	0.04	1.01	0.04	4.82	0.19	3.17	0.12	30.5	100.07
GRNY-052-9-C	7TAG009750R0021	Natural	1.32	0.05	1.01	0.04	4.82	0.19	3.17	0.12	30.5	100.07
GRNY-062-9-C	7TAG009750R0023	Natural	1.57	0.06	1.14	0.04	5.08	0.2	4.32	0.17	30.5	100.07
GRNY-085-9-C	7TAG009750R0026	Natural	2.15	0.08	1.14	0.04	5.08	0.2	4.32	0.17	30.5	100.07
GRNY-100-9-C	7TAG009750R0028	Natural	2.54	0.1	1.14	0.04	5.58	0.22	5.33	0.21	30.5	100.07
GRNY-125-9-C	7TAG009750R0031	Natural	3.17	0.12	1.27	0.05	5.58	0.22	5.23	0.21	30.5	100.07
GRNY-187-9-C	7TAG009750R0033	Natural	4.74	0.19	1.27	0.05	6.85	0.27	6.98	0.27	30.5	100.07
GRNY-250-9-C	7TAG009750R0035	Natural	6.35	0.25	1.27	0.05	7.11	0.28	9.39	0.37	30.5	100.07
GRNY-040-0-C	7TAG009750R0017	Black	1.01	0.04	1.01	0.04	4.82	0.19	3.17	0.12	30.5	100.07
GRNY-052-0-C	7TAG009750R0019	Black	1.32	0.05	1.01	0.04	4.82	0.19	3.17	0.12	30.5	100.07
GRNY-062-0-C	7TAG009750R0022	Black	1.57	0.06	1.14	0.04	5.08	0.2	4.32	0.17	30.5	100.07
GRNY-085-0-C	7TAG009750R0024	Black	2.15	0.08	1.14	0.04	5.08	0.2	4.32	0.17	30.5	100.07
GRNY-100-0-C	7TAG009750R0027	Black	2.54	0.1	1.14	0.04	5.58	0.22	5.33	0.21	30.5	100.07
GRNY-125-0-C	7TAG009750R0029	Black	3.17	0.12	1.27	0.05	5.58	0.22	5.23	0.21	30.5	100.07
GRNY-187-0-C	7TAG009750R0032	Black	4.74	0.19	1.27	0.05	6.85	0.27	6.85	0.27	30.5	100.07
GRNY-250-0-C	7TAG009750R0034	Black	6.35	0.25	1.27	0.05	7.11	0.28	9.39	0.37	30.5	100.07

### Dimensions



---

# Cable tie tooling

## Ty-Rap® and Ty-Met™ tooling

ABB offers a comprehensive range of tooling to complement the full range of cable ties. The range includes low-cost tools for maintenance and small batch requirements, as well as robust and ergonomic tools with tension setting and automatic cutting, now also in pneumatic versions.

In particular, the ERG50 and ERG120 hand tools, as well as the new ERG50P pneumatic tool, provide a superior level of reliability and performance, combined with enhanced ergonomics and comfort of use.

These ergonomic tools, with adjustable tension and automatic cutting, are ideally suited for efficiently installing all kinds of plastic cable ties in industrial (Original Equipment Manufacturers, Maintenance and Repair Organizations, etc) and construction applications.

---

### ERG50, ERG50P & ERG120

#### **Superior reliability and performance**

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

#### **Enhanced ergonomics and comfort of use**

- First class design and materials, for maximum convenience
- The pneumatic version (ERG50P) provides an even increased comfort of use
- The operator is subject to less stress, less fatigue and less risk of trauma due to long term use (such as Carpal Tunnel Syndrome).

#### **Increased efficiency**











- Exclusive features for quick set-up and fast installation
- Confidence to achieve a highly professional result, installation after installation



## Cable tie tooling

### Selection guide

#### Tooling for plastic ties











	Product code	Features	Tensioning	Cutting	For cable ties
	ERG50	Ergonomic hand tool with superior level of reliability and performance	Adjustable	Automatic	2.4mm - 4.8mm (0.04" - 0.19")
	ERG50B	Replacement blade for ERG50 hand tool			
	ERG120	Ergonomic hand tool with superior level of reliability and performance	Adjustable	Automatic	4.8mm - 7.6mm (0.19" - 0.30")
	ERG120B	Replacement blade for ERG120 hand tool			
	ERG50P	Ergonomic pneumatic tool with superior level of reliability and performance	Adjustable	Automatic	2.4mm - 4.8mm (0.04" - 0.19")
	WT1-TB	Basic tensioning tool, intended for maintenance and small batch use	Basic	Twist cut	2.4mm - 4.8mm (0.04" - 0.19")
	WT2-TB	Basic tensioning tool, intended for maintenance and small batch use	Basic	Twist cut	4.8mm - 7.6mm (0.19" - 0.19")
	L300-FR	Rugged construction tool for Col-Ty™ installation ties	Basic	Manual	Col-Ty™ - 9mm (0.35")
	WT3D	Robust metal body with plastic hand-grips, designed for tensioning and cutting heavy-duty cable ties	Basic	Twist cut	7.6mm - 12.7mm (0.30" - 0.5")
	L-500-EU	Rugged metallic construction	Adjustable	Automatic	4.7mm - 13.3mm (0.19" - 0.52")



## Cable tie tooling

### Selection guide

#### Tooling for Ty-Met™ stainless steel ties

	Product code	Features	Tensioning	Cutting	For cable ties
	DAS250	Heavy duty metallic hand tool	Basic	Manual	Ladder type stainless steel cable ties up to <b>7.88mm (0.31")</b> tie width
	CT1-TB	Tensioning hook provides extra-leverage for tensioning the ties by hand	Basic	No cutting	Releasable, ladder type & strap type
	CT2-TB	Basic hand tool	Basic	No cutting	Releasable, ladder type & strap type
	WT3S	A robust metallic hand tool with rubber grips	Basic	No cutting	Ladder type & strap type
	CT3	Economic tensioning tool	Basic	Manual	Ladder type, strap type & ball-Lock type. Width up to 12mm (0.47")
	CT4-TB	Bantam tool, unique 3-way handle can be used in various positions. Especially useful in tight areas with minimal access	Basic	Manual	Releasable, ladder type & strap type
	CT7	Tensioning and cutting tool, ratchet type	Basic	Manual	Ball-lock type. Width: 12mm & 16mm (0.47" & 0.63")
	CT8	Tensioning and cutting tool, ratchet type	Basic	Manual	Bands on reel (all widths)
	WTA290	Hand tool to apply mini standard stainless steel dual lock cable ties	Basic	Manual	Stainless steel 4.5mm (0.177")
	WTA250	Hand tool to apply standard stainless steel dual lock cable ties	Basic	Manual	Stainless steel 6.35mm (0.25")

## Cable tie tooling

Tools for plastic cable ties: ERG50, ERG120 and ERG50P

These 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 Organizations, etc) and construction applications. They are available in hand tool version (ERG50 and ERG120) and in pneumatic version (ERG50P) for higher volumes of installation without muscle strain.

**Cutting mechanism**  
Automatic cutting so 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

**Quick tension-adjustment wheel**  
Located towards the front for easy access and fast changes

**First class design and materials**  
Ergonomic shape with rounded edges, soft rubber handles and well balanced center of gravity

**High / low force setting**  
For a selection between "high force & long stroke" or "low force & short stroke" (for hand tools only)

**Replaceable tip and blades**

**360° rotating nose**  
Allows the tool to be used in tight spaces and in any position

**Adjustable handle span**  
(for hand tools only) Adjusts the width of the handle's opening to match the size of the user's hand

**Spare cutting blades**  
Easy access to spare blade nest, each tool is supplied with a spare blade

ERG50P tool in use



## Cable tie tooling

Tools for heavy duty plastic cable ties



Product code: WT3D

**GID No.:** 7TAA131800R0008

### 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
- Dimensions [L x W x H]: 178 x 112 x 20mm (7.01" x 4.41" x 0.79")



Product code: L-500-EU

**GID No.:** 7TCA131140R0022

### Characteristics

- Rugged metallic construction makes this tool ideal for use with our 4.7mm to 13.3mm (0.19" to 0.52") wide ties
- Set tension adjuster to give desired tie tightness
- Pull trigger and tie is automatically tensioned and cut

### Technical information

- Tool type: Hand tool
- Color: Red
- For type of cable tie: Plastic ties
- For tie width: 4.7mm - 13mm (0.19" - 0.51")
- Features: Tensioning, automatic cutting
- Weight: 320g
- Dimensions [L x W x H]: 220 x 90 x 25mm (8.66" x 3.54" x 0.98")



Product code: L300-FR

**GID No.:** 7TCA131810R0001

### Characteristics

- Rugged construction makes this tool ideal for Col-Ty™ installation ties
- Pull tie to desired tension and pull trigger to cut excess flush at cable tie head
- Field proven durability

### Technical information

- Tool type: Hand tool for Col-Ty™ installation ties
- Color: White
- For type of cable tie: Plastic ties
- Features: Tensioning, manual cutting
- Weight: 330g
- Dimensions [L x W x H]: 195 x 100 x 25mm (7.68" x 3.94" x 0.98")

---

## Cable tie tooling

Tools for plastic cable ties



Product code: WT1-TB

**GID No.:** 7TAA131800R0004

### Characteristics

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

### Technical information

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



Product code: WT2-TB

**GID No.:** 7TAA131800R0007

### Characteristics

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

### Technical information

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

## Cable tie tooling

### Tools for stainless steel ties



Product code: CT1-TB

**GID No.:** 7TCA131140R0004

#### Characteristics

- Tensioning hook suitable for releasable type, ladder type and strap type stainless steel ties
- Provides extra-leverage for tensioning the ties by hand

#### Technical information

- Tool type: Hand tool
- For type of cable tie: Releasable type, ladder type & strap type stainless steel ties
- Features: Tensioning, no cutting
- Weight: 50g
- Dimensions [L x W x H]: 85 x 106 x 15mm (3.35" x 4.17" x 0.59")



Product code: CT2-TB

**GID No.:** 7TCA131140R0005

#### Characteristics

- Cable tie tensioner suitable for releasable type, ladder type & strap type ties
- Tensions the ties to their optimum holding power with a simple squeeze: a flick of the wrist and they're locked tight

#### Technical information

- Tool type: Hand tool
- For type of cable tie: Releasable type, ladder type & strap type stainless steel ties
- For tie width: Up to 12mm (0.47")
- Features: Tensioning, no cutting
- Weight: 300g
- Dimensions [L x W x H]: 195 x 90 x 30mm (7.68" x 3.54" x 1.18")



Product code: WT3S

**GID No.:** 7TAA131810R0002

#### Characteristics

- A robust metallic hand tool with rubber grips designed for tensioning ladder type & strap type stainless steel ties
- After tensioning, the stainless steel ties can easily be cut with side-cutters

#### Technical information

- Tool type: Hand tool
- For type of cable tie: Ladder type & strap type stainless steel ties
- For tie width: Up to 12mm (0.47")
- Features: Tensioning, no cutting
- Weight: 225g
- Dimensions [L x W x H]: 178 x 112 x 20mm (7.01" x 4.41" x 0.79")

## Cable tie tooling

Tools for stainless steel ties



Product code: DAS250

**GID No.:** 7TAA131800R0000

### Characteristics

- Heavy duty metallic hand tool
- Tensioning tool with side cutters

### Technical information

- Tool type: Hand tool
- For type of cable tie: Ladder type stainless steel ties
- For tie width: Up to 7.9mm (0.311")
- Features: Tensioning tool with side cutters



Product code: CT3

**GID No.:** 7TCA131990R0206

### Characteristics

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

### Technical information

- Tool type: Hand tool
- For type of cable tie: Ladder type, strap type & ball lock type stainless steel ties, coated and uncoated
- For tie width: Up to 12mm (0.47")
- Features: Tensioning, manual cutting
- Weight: 550g
- Dimensions [L x W x H]: 210 x 155 x 35mm (8.27" x 6.10" x 1.38")



Product code: CT4-TB

**GID No.:** 7TCA131140R0007

### Characteristics

- Bantam tool, suitable for releasable type, ladder type & strap type stainless steel ties
- Unique 3-way handle can be used in various positions. Especially useful in tight areas with minimal access

### Technical information

- Tool type: Hand tool
- For type of cable tie: Releasable type, ladder type & strap type stainless steel ties
- Features: Tensioning, manual cutting
- Weight: 1200g
- Dimensions [L x W x H]: 156 x 180 x 80mm (6.14" x 7.09" x 3.15")

## Cable tie tooling

Tools for stainless steel ties



Product code: CT7

GID No.: 7TCA131140R0009

### Characteristics

- Tensioning and cutting tool, ratchet type
- Suitable for coated and uncoated ball-lock type stainless steel ties, having a width of 12mm and 16mm (0.47" and 0.63")

### Technical information

- Tool type: Hand tool, ratchet type
- Weight: 1300g
- Dimensions [L x W x H]: 270 x 170 x 60mm (10.63" x 6.69" x 2.36")



Product code: CT8

GID No.: 7TCA131140R0010

### Characteristics

- Tensioning and cutting tool, ratchet type
- Suitable for the bands on reel, in all widths
- The long nose leaves an excess of 45mm after the tie is cut, for an easy installation of the band on reel

### Technical information

- Tool type: Hand tool, ratchet type
- For type of cable tie: Bands on reel
- For tie width: All widths (up to 19.1mm)
- Weight: 1570g
- Dimensions [L x W x H]: 310 x 200 x 60mm (12.20" x 7.87" x 2.36")

## Material specifications

### Material selection and specifications

#### General

There are 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 to which products may be subjected; therefore, it is recommended that this information be used as a guideline only and that the user conduct sample tests in any intended application to determine suitability.

#### How to use the table

For applications in an extremely cold environment, three materials are appropriate: ETFE Fluoropolymer, Polyamide 12 and stainless steel.

For applications that also require high tensile strength, stainless steel is the optimum material choice. If high strength is not required, Polyamide 12 may be a less costly option.

This information is based on data provided by material manufacturers and is provided only as a general guide. No specific recommendation is intended. As each application may vary, testing should be conducted by the user in the intended application and environment.

Table 1 provides relative performance ratings of the different product materials. Chemical resistance is shown in Table 2.

**Table 1: Information on cable tie materials**

Material code	Polyamide 6.6	Polyamide 6.6 weather resistant*	Polyamide 6.6 heat stabilized UV resistant	Polyamide 6.6 flame retardant	Polyamide 4.6 high temperature	Detectable Polyamide 6.6
Ty-Rap® product code	TY...M	TY...MX	TY...MXA	TY...MFR	TYHT...M	TY...M-NDT
Ty-Fast® product code	TY...	TY...X		TS...HF		
Max. operating temperature	85°C 185°F	105°C 221°F	105°C 221°F	65°C 149°F	150°C 302°F	85°C 185°F
Min. operating temperature	-60°C -76°F	-60°C -76°F	-60°C -76°F	-20°C -4°F	-40°C -40°F	-40°C -40°F
Installation temperature*****	-20°C to -40°C -4°F to -40°F	-20°C to -40°C -4°F to -40°F	-20°C to -40°C -4°F to -40°F	-20°C to -40°C -4°F to -40°F	-20°C to -40°C -4°F to -40°F	-20°C to -40°C -4°F to -40°F
UL flammability rating	V-2	V-2	V-2	V-0	V-2	V-2
Specific density	1.14	1.14	1.14	1.16	1.18	1.31
Water absorption (24h/ASTM)	2.5 - 3.1%	2.5 - 3.1%	2.5 - 3.1%	3.0 - 3.5%	1.3%	
Colors	Natural**	Black***	Black	White	Light green	Bright blue
E-module (N/mm <sup>2</sup> )	2000	2000	2000	1400	3200	
Notch impact strength conform DIN 53453 (KJ/m <sup>2</sup> )	2-20	2-20	2-20	3-25		
UV resistant		✓	✓			
Flame retardant				✓		
Heat resistant			✓		✓	
Enhanced weatherability			✓			
Flexible at low temperatures						
Radiation resistant						
Chemically resistant					See table 2 (pages 156 - 158)	
Halogen free	✓	✓	✓	✓	✓	✓
Silicon free	✓	✓	✓	✓	✓	✓

\* 2% carbon for military specifications.

\*\* Ty-Fast® ties in standard Polyamide 6.6 are available in natural color and in a wide range of colors Ty-Rap® ties in standard Polyamide 6.6 are available in natural color only.

\*\*\* 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).

\*\*\*\*\* Heat stabilized Polyamide 6.6 may have a greenish tint.

\*\*\*\*\* The installation temperature may vary based on size and material. The type-specific installation temperature can be found in the respective technical data sheet.





## Certifications

### IEC 62275, UL, CSA and CE

The National Electrical Manufacturers Association (NEMA) is the consortium of manufacturers that agree to the parameters of product testing and direct the IEC standards.

The International Electrotechnical Commission (IEC) is the agency that sets quality standards and technical requirements for products in the electrical industry. IEC 62275 is the unified standard for cable ties adopted in 2013.

Underwriters Laboratory (UL) is the leading standards agency for the US. Products listed as cULus are also recognized in Canada. UL 62275 is the quality and test standard unified with IEC 62275 for positioning devices. UL 62275 supersedes UL 1565.

CSA Group is the leading standards agency for Canada. CSA C22.2 No. 62275 is the quality and test standard unified with IEC 62275 for cable ties and is fully harmonized with UL 62275.

Conformité Européenne (CE) is the accepted standards agency for the European Economic Area and is adopted by most European countries. CE 62275 is the quality and test standard unified with IEC 62275 for cable ties and is a self-certified standard.



#### Type certifications

Type 1	Retains 100% declared loop tensile strength when tested in the as-received condition, and at least 50% of declared loop tensile strength after being subjected to specified test conditions
Type 11	Type 1 with additional pre-qualification to long-term performance characteristics of nonmetallic molding materials (Not recognized for CE standards)
Type 2	Retains 100% declared loop tensile strength, or mechanical strength for fixing device, after being subjected to specified test conditions
Type 21	Type 2 with additional pre-qualification to long-term performance characteristics of nonmetallic molding materials (Not recognized for CE standards)
Type 21S	Type 2 or Type 21 with additional qualification for suitability to support flexible metal conduit and cables in building construction in accordance with the requirements in relevant installation codes (fixing devices with 50lbs/220N or higher loop tensile strength)

#### Packaging markings

Flammability Ratings (as tested after ignition and flame removed)	UL94-HB	Slow burning on a horizontal specimen; burning rate < 76 mm/min for thickness < 3 mm or burning stops before 100 mm
	UL94-V2	Self-extinguishing on horizontal and burning stops within 30 seconds on a vertical specimen; drips of flaming particles are allowed
	UL94-V0	Self-extinguishing on horizontal and burning stops within 10 seconds on a vertical specimen; non-inflamed drips of particles allowed
Outdoor rating	UV	Survives 1000 hours of UV exposure in an approved UV testing apparatus and passes follow up testing per type requirements
Plenum rating	AH-2	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

## Certifications

### SAE AS23190 Military certified cable ties

- MS3367 standard cable ties
- See pages 13 – 16 for characteristics and specifications



#### MS3367 Standard cable ties

Military designator	Type	Color	Ty-Rap® standard pack		Ty-Rap® bulk pack	
			Product code	GID no	Product code	GID no
MS3367-1-0	7" x 50lb	UV Black	TY525MX-0	7TAG009170R0011	TY25MX-0	7TAG009210R0092
MS3367-1-9		Natural	TY525M-9	7TAG009270R0036	TY25M-9	7TAG009270R0019
MS3367-1-*		*Various	TY525M-*	**	TY25M-*	**
MS3367-2-0	14" x 50lb	UV Black	TY528MX-0	7TAG009170R0010	TY28MX-0	7TAG009210R0093
MS3367-2-9		Natural	TY528M-9	7TBG009010R0027	TY28M-9	7TAG009270R0028
MS3367-2-*		*Various	TY528M-*	**	TY28M-*	**
MS3367-3-0	14" x 120lb	UV Black	TY527MX-0	7TAG009280R0006	TY27MX-0	7TAG009320R0009
MS3367-3-9		Natural	TY527M-9	7TAG009280R0008	TY27M-9	7TAG009370R0030
MS3367-3-*		*Various	TY527M-*	**	TY27M-*	**
MS3367-4-0	4" x 18lb	UV Black	TY523MX-0	7TAG009010R0036	TY23MX-0	7TAG009040R0021
MS3367-4-9		Natural	TY523M-9	7TAG009010R0037	TY23M-9	7TAG009070R0103
MS3367-4-*		*Various	TY523M-*	**	TY23M-*	**
MS3367-5-0	6" x 30lb	UV Black	TY524MX-0	7TAG009080R0003	TY24MX-0	7TAG009120R0010
MS3367-5-9		Natural	TY524M-9	7TAG009080R0004	TY24M-9	7TAG009160R0024
MS3367-5-*		*Various	TY524M-*	**	TY24M-*	**
MS3367-6-0	30" x 120lb	UV Black	TY529MX-0	7TAG009280R0007	TY29MX-0	7TAG009320R0008
MS3367-6-9		Natural	TY529M-9	7TAG009280R0009	TY29M-9	7TCG009370R0039
MS3367-6-*		*Various	TY529M-*	**	TY29M-*	**
MS3367-7-0	11" x 50lb	UV Black	TY5253MX-0	7TAG009170R0012	TY253MX-0	7TAG009210R0094
MS3367-7-9		Natural	TY5253M-9	7TAG009170R0013	TY253M-9	7TAG009000R0223
MS3367-7-*		*Various	TY5253M-*	**	TY253M-*	**
MS3376-12-0	35" x 175lb	UV Black	TY53510MX-0			N/A
MS3376-15-0		UV Black	TY54513MX-0			N/A

\* Enter color code for various colors.

\*\* See page 18 – 20 for colored cable ties, part numbers and specification and appendix for GID code. See local sales representatives for non-stocked colors MOQ, lead times and pricing.

#### Cable tie color code

1	Brown	
2	Red	
3	Orange	
4	Yellow	
5	Green	
6	Blue	
7	Purple	
8	Gray	
10	White	
CLRS	Multi-pack*	
X-0	Military black	
9	Military natural	

## Certifications

### SAE AS23190 Military certified cable ties



- MS3368 identification cable ties
- See pages 51 – 52 for characteristics and specifications

#### MS3368 Identification cable ties

Military designator	Type	Color	Ty-Rap® standard pack		Ty-Rap® bulk pack	
			Product code	GID no	Product code	GID no
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	



- MS3367 standard cable ties
- See pages 77 – 78 for characteristics and specifications

#### MS3368 Identification cable ties

Military designator	Type	Color	Ty-Fast® standard pack		Ty-Fast® bulk pack	
			Product code	GID no	Product code	GID no
MS3367-1-0	7" x 50lb	UV Black	TY175-50X-0-100	7TAG054290R0026	TY175-50X-0	7TAG054330R0010
MS3367-1-9		Natural	TY175-50-9-100	7TCG054360R0177	TY175-50-9	7TAG054330R0011
MS3367-2-0	14" x 50lb	UV Black	TY400-50X-0-100	7TAG054290R0028	TY400-50X-0	7TAG054330R0015
MS3367-2-9		Natural	TY400-50-9-100	7TCG054360R0333	TY400-50-9	7TAG054330R0014
MS3367-3-0	14" x 120lb	UV Black	TY400-120X-0-100	7TAG054410R0020	TY400-120X-0	7TAG054410R0019
MS3367-3-9		Natural	TY400-120-9-100	7TAG054410R0022	TY400-120-9	7TAG054410R0021
MS3367-4-0	4" x 18lb	UV Black	TY100-18X-0-100		TY100-18X-0	
MS3367-4-9		Natural	TY100-18-9-100	7TCG054360R0095	TY100-18-9	
MS3367-5-0	6" x 30lb	UV Black	TY125-40X-0-100	7TAG054200R0010	TY125-40X-0	7TAG054250R0014
MS3367-5-9		Natural	TY125-40-9-100	7TCG054360R0140	TY125-40-9	7TAG054250R0015
MS3367-7-0	11" x 50lb	UV Black	TY300-50X-0-100	7TAG054290R0027	TY300-50X-0	7TAG054330R0013
MS3367-7-9		Natural	TY300-50-9-100	7TCG054360R0277	TY300-50-9	7TAG054330R0012



## Material specifications

### UL flammability ratings

—  
Nylon 6.6 = Polyamide  
6.6 is Halogen-free  
and Silicone-free.

#### Flammability ratings for selecting cable ties

Note: Flammability ratings of cable tie materials per UL 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 x 12.7mm (5" x ½"), 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 swab.

#### Materials classed 94 V-0:

A material classed 94 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 304.8mm (12") 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 94 V-1:

A material classed 94 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 304.8mm (12") 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 94 V-2:

A material classed 94 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 304.8mm (12") 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" x 5" (12.7mm x 127mm) specimen held at one end in a horizontal position with marks at 1" (25.4mm) and 5" (127mm) from the free end. A flame is applied to the free end for 30 seconds or until the flame front reaches the 1" (25.4mm) mark. If combustion continues the duration is timed between the 1" (25.4mm) mark and the 5" (127mm) mark. If combustion stops before the 5" (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" (3mm) in thickness will be classified 94HB if it has a burning rate of less than 3" (76.2mm) per minute or stops burning before the 5" (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

### Adhesive material specifications

#### 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

#### Technical information

- Description: 2 component glue
- Weight: 0.21 kg

#### Installation instructions for product code: 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)

Product code: TC2PA

GID No.: 7TAG009910R0083

#### 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

#### Adhesive material specifications

Property	Method	Unit of measure	Rubber based (self-adhesive)	Acrylic based (2 compound glue)
Coated sides	–	each	2	2
Foam density	–	Kg/m <sup>3</sup>	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
	PSTC 7	Hours	100 +	8 +
22°C (71.6°F) occasional wetting		N/m <sup>2</sup>	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
	–	°C/°F Min	-18	-29
Service temperature	–	°C/°F Max	+66	+79
	–			
Flammability	ASTM D 624		Slow burn	Slow burn

## 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 presented in tabular form to facilitate the selection of the desired 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
- Ty-Fast® ties in standard Polyamide 6.6 are available in natural color and in a wide range of colors
- Ty-Rap® ties in standard Polyamide 6.6 are available in natural color only

#### 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 containing 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 stabilized

- 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 stabilized 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 stabilized
- Color: black
- Flammability rating: UL 94 V-2



UV-resistant



Weather-proof



Heat resistant

#### 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

#### 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 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 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



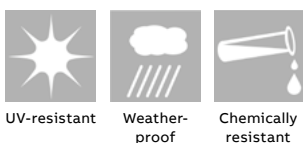
Chemically resistant

## 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

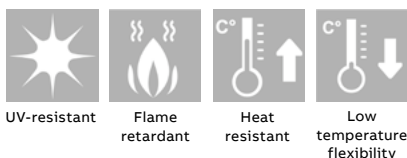
- Similar to standard Polypropylene, but contains a compound detectable by metal detectors (tested and rated at 1.5mm (0.06") diameter ferrous sphere setting) and X-ray equipment
- Color: bright blue, also contributes to visual detection
- Especially recommend for the food industry, and for any other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



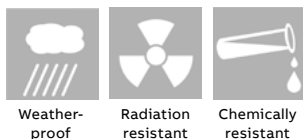
Detectable

#### 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



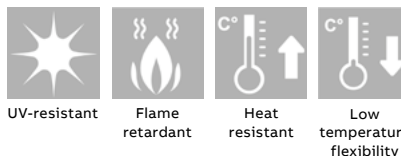
UV-resistant Flame retardant Heat resistant Low temperature flexibility



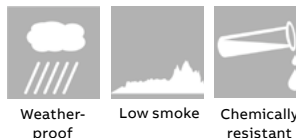
Weather-proof Radiation resistant Chemically resistant

#### ECTFE Fluoropolymer

- Similar to ETFE Fluoropolymer in performance
- Outstanding characteristic: lower smoke density when burnt
- Recommended for applications where smoke generation is a concern, such as plenum areas
- Color: maroon
- 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 (weatherable acetal)
- Limited self-extinguishing properties
- Color: black
- Flammability rating: UL 94 HB



UV-resistant



Weather-proof



Chemically resistant

#### 302/304 Stainless Steel, 316 Stainless Steel

- Superior corrosion resistance
- Excellent tensile strengths at extreme temperatures
- High resistance to chemicals, acids and radiation
- 316 grade has a better resistance to saltwater corrosion and can be supplied with a halogen free coating
- Extensively used in offshore, rail and petrochemical industries



UV-resistant



Flame retardant



Heat resistant



Low temperature flexibility



Weather-proof



Radiation resistant



Chemically resistant

#### Heat Reactive Polypropylene

- Material: Polypropylene
- Heat Activation Temperature: 49°C (+/- 3°C) (120.2°F (+/- 3°F))
- Standard Color: Green
- Heat transition color: Translucent (Natural)
- Operating temperature: -40°C to 80°C (-40°F to 176°F)
- Color transition life: 1000 hours above heat activation temperature
- UV Resistance: Indoor use only, avoid exposure to UV light
- Used for visual indication of high or dangerous temperatures

## Material specifications

### Material selection and specifications

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
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 specifications

### Material selection and specifications

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
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 specifications

### Material selection and specifications

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

### 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 <sup>3</sup> )
BTU		1054.8		Joules	gallons		231.0		cubic inch (in <sup>3</sup> )
BTU		0.293		Watt-hours (W x h)	gallons		3785.332		cubic centimetres (cm <sup>3</sup> )
centimetres (cm)		0.032808		feet (ft)	grams (g)		15.432		grains
centimetres (cm)		0.3937		inches (in)	gram/centimetre <sup>3</sup> (gm/cm <sup>3</sup> )		0.0361275		pounds/in <sup>3</sup> (lb/in <sup>3</sup> )
centimetres (cm)		0.00001		kilometres (km)	horsepower (hp)		33000.0		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 <sup>2</sup> (in <sup>2</sup> )	inch (in)		0.083333		feet (ft)
circular mils		0.000506671		square millimetres (mm <sup>2</sup> )	inch (in)		0.00002540		kilometre (km)
circular mils		0.7854		mils <sup>2</sup>	inch (in)		0.025400		metre (m)
cubic centimetre (cm <sup>3</sup> )		0.000035314		cubic foot (ft <sup>3</sup> )	inch (in)		2.54000514		centimetre (cm)
cubic centimetre (cm <sup>3</sup> )		0.061023		cubic inch (in <sup>3</sup> )	inch (in)		25.4000514		millimetre (mm)
cubic centimetre (cm <sup>3</sup> )		0.000001		cubic metre (m <sup>3</sup> )	inch (in)		1000.0		mils
cubic centimetre (cm <sup>3</sup> )		0.0026417		gallons	Joules		0.000948		BTU
cubic foot (ft <sup>3</sup> )		17280.		cubic inch (in <sup>3</sup> )	Joules		107		ergs
cubic foot (ft <sup>3</sup> )		28317.016		cubic centimetre (cm <sup>3</sup> )	liters (l)		61.0250		cubic inch (in <sup>3</sup> )
cubic inch (in <sup>3</sup> )		0.00057870		cubic feet (ft <sup>3</sup> )	metres (m)		1.093611		yard (yd)
cubic inch (in <sup>3</sup> )		0.000016387		cubic metre (m <sup>3</sup> )	metres (m)		3.2808333		feet (ft)
cubic inch (in <sup>3</sup> )		16.387162		cubic centimetre (cm <sup>3</sup> )	metres (m)		39.37		inch (in)
cubic metre (m <sup>3</sup> )		1000000.0		centimetre (cm)	metres (m)		100.0		centimetre (cm)
cubic metre (m <sup>3</sup> )		35.314456		cubic foot (ft <sup>3</sup> )	miles		1760.0		yards (yd)
cubic metre (m <sup>3</sup> )		264.17		gallons	miles		5280.0		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)		1000.0		microns (µm)
foot/pound (ft/lb)		0.00067197		metres/grams (m/g)	pound force (lbs)		4.45		Newton (N)
foot-pound (ft x lb)		0.001285		BTU	Watts (W)		44.25		ft x lb/minute
foot-pound (ft x lb)		1.356		Joules (J)	Watts (W)		0.737562		ft x lb/sec
foot/pound (ft/lb)		0.1383		kilogram/metre (kg/m)	Watts (W)		0.001341		horsepower (hp)
gallons (US)		3.785332		litres (l)	Watt-hours (W x h)		3.41266		BTU

## Appendix

### Part number index

Part. No.	GID No.	Page	Part. No.	GID No.	Page	Part. No.	GID No.	Page
696-41562	7TAG009550R0012	36	CPS40B-50-CV0	7TCG054800R0077	131	ERG50B		136
696-41563	7TAG009550R0013	36	CPS40G-25	7TCG054800R0079	130	ERG50P		134, 136, 138
696-41614	7TAG009910R0018	36	CPS40G-50-CV0	7TCG054800R0080	131			
696-41794	7TAA159090R0000	34	CPS4B-100	7TCG054800R0081	130	FANY-812-9-C	7TAG009970R0025	118
696-41795	7TAA159090R0001	34	CPS4B-100-CV0	7TCG054800R0082	131	FANY-812-9-D	7TAG009970R0026	118
696-41836		39	CPS4G-100	7TCG054800R0084	130	FCC-1	7TCG009630R0012	123
CPS05W-150-EU	7TCG054800R0001	128	CPS4G-100-CV0	7TCG054800R0085	131	FCC-1A	7TCG009630R0013	123
CPS05W-150-FR-EU	7TCG054800R0003	129	CPS50B-25	7TCG054800R0086	130	FCC-2	7TCG009630R0014	123
CPS08W-100-EU	7TCG054800R0005	128	CPS50B-50-CV0	7TCG054800R0087	131	FCC-2A	7TCG009630R0015	123
CPS08W-100-FR-EU	7TCG054800R0007	129	CPS50G-25	7TCG054800R0089	130	FCC-3	7TCG009630R0016	123
CPS10B-100	7TCG054800R0008	130	CPS50G-50-CV0	7TCG054800R0110	131	FCC-3A	7TCG009630R0017	123
CPS10B-50-CV0	7TCG054800R0010	131	CPS50W-15-FR-EU	7TCG054800R0090	129	FO200-40-0	7TAG009630R0018	84
CPS10G-100	7TCG054800R0012	130	CPS5B-100	7TCG054800R0092	130	FO200-50-0	7TAG009630R0026	84
CPS10G-50-CV0	7TCG054800R0013	131	CPS5B-100-CV0	7TCG054800R0093	131	FO350-40-0	7TAG009630R0031	84
CPS12B-50	7TCG054800R0015	130	CPS5G-100	7TCG054800R0096	130	FO350-50-0	7TAG009630R0033	84
CPS12B-50-CV0	7TCG054800R0016	131	CPS5G-100-CV0	7TCG054800R0109	131	FO350-50-0-FR	7TAG009000R0104	84
CPS12G-50	7TCG054800R0018	130	CPS6B-100	7TCG054800R0097	130	FOL300-50-0	7TAG009630R0036	84
CPS12G-50-CV0	7TCG054800R0112	131	CPS6B-100-CV0	7TCG054800R0098	131	FOL500-50-0	7TAG009630R0040	84
CPS13W-50-EU	7TCG054800R0020	128	CPS6G-100	7TCG054800R0101	130	FOR180-50-0	7TAG009630R0041	85
CPS13W-50-FR-EU	7TCG054800R0022	129	CPS6G-100-CV0	7TCG054800R0102	131	FOR180-50-0-FR	7TAG009370R0000	85
CPS15B-50	7TCG054800R0025	130	CPS8B-100	7TCG054800R0103	130	FOS150-50-0	7TAG009630R0046	85
CPS15B-50-CV0	7TCG054800R0026	131	CPS8B-100-CV0	7TCG054800R0104	131	FOS320-50-0	7TAG009630R0048	85
CPS15G-50	7TCG054800R0028	130	CPS8G-100	7TCG054800R0107	130	FOS500-50-0	7TAG009630R0050	85
CPS15G-50-CV0	7TCG054800R0029	131	CPS8G-100-CV0	7TCG054800R0111	131	FRPV-1000-8-C	7TAG009970R0028	124
CPS19W-25-EU	7TCG054800R0031	128	CSS-100	7TAA159110R0000	34	FRPV-1000-8-D	7TAG009970R0029	124
CPS19W-25-FR-EU	7TCG054800R0033	129	CSS-10K	7TAA159130R0001	34	FSNY-812-9-C	7TAG009970R0030	118
CPS20B-25	7TCG054800R0035	130	CSS-135	7TAA159090R0003	34	GRNY-040-0-C	7TAG009750R0017	133
CPS20B-50-CV0	7TCG054800R0036	131	CSS-160	7TAA159170R0000	34	GRNY-040-9-C	7TAG009750R0018	133
CPS20G-25	7TCG054800R0038	130	CSS-270	7TAA159080R0000	34	GRNY-052-0-C	7TAG009750R0019	133
CPS20G-50-CV0	7TCG054800R0039	131	CSS-5K	7TAA159120R0000	34	GRNY-052-9-C	7TAG009750R0021	133
CPS25B-25	7TCG054800R0042	130	CSS-B	7TAA159220R0000	35	GRNY-062-0-C	7TAG009750R0022	133
CPS25B-50-CV0	7TCG054800R0043	131	CSS-H	7TAA159180R0000	35	GRNY-062-9-C	7TAG009750R0023	133
CPS25G-25	7TCG054800R0045	130	CT1-TB	7TCA131140R0004	137, 141	GRNY-085-0-C	7TAG009750R0024	133
CPS25G-50-CV0	7TCG054800R0046	131	CT2-TB	7TCA131140R0005	137, 141	GRNY-085-9-C	7TAG009750R0026	133
CPS25W-25-EU	7TCG054800R0048	128	CT3	7TCA131990R0206	137, 142	GRNY-100-0-C	7TAG009750R0027	133
CPS25W-25-FR-EU	7TCG054800R0050	129	CT-3401	7TCG009750R0009	107	GRNY-100-9-C	7TAG009750R0028	133
CPS29W-15-EU	7TCG054800R0051	128	CT4-TB	7TCA131140R0007	137, 142	GRNY-125-0-C	7TAG009750R0029	133
CPS29W-15-FR-EU	7TCG054800R0065	129	CT-5359	7TCG009750R0010	107	GRNY-125-9-C	7TAG009750R0031	133
CPS30B-25	7TCG054800R0058	130	CT7	7TCA131140R0009	137, 143	GRNY-187-0-C	7TAG009750R0032	133
CPS30B-50-CV0	7TCG054800R0059	131	CT8	7TCA131140R0010	137, 143	GRNY-187-9-C	7TAG009750R0033	133
CPS30G-25	7TCG054800R0061	130	CTP-9-180-0-C	7TCG009910R0048	83	GRNY-250-0-C	7TAG009750R0034	133
CPS30G-50-CV0	7TCG054800R0062	131	CTP-9-260-0-C	7TCG009910R0049	83	GRNY-250-9-C	7TAG009750R0035	133
CPS32W-15-EU	7TCG054800R0064	128	CTP-9-360-0-C	7TCG009910R0050	83	HCNY-125-9-C	7TAG054010R0111	116
CPS32W-15-FR-EU	7TCG054800R0069	129	CTP-9-500-0-C	7TCG009910R0051	83	HCNY-125-9-M	7TAG009970R0044	116
CPS38W-15-EU	7TCG054800R0068	128	CTP-9-750-0-C	7TCG009910R0052	83	HCNY-250-9-C	7TAG009970R0045	116
CPS38W-15-FR-EU	7TCG054800R0090	129	DAS250	7TAA131800R0000	137, 142	HCNY-250-9-M	7TAG009970R0046	116
CPS3B-100	7TCG054800R0071	130	ERG120		134, 136, 138	HCNY-375-9-C	7TAG054980R0536	116
CPS3B-100-CV0	7TCG054800R0072	131	ERG120B		136	HCNY-375-9-M	7TAG009970R0047	116
CPS3G-100	7TCG054800R0075	130	ERG50		134, 136, 138	HCNY-500-9-C	7TAG054980R0538	116
CPS3G-100-CV0	7TCG054800R0108	131	JTB1-500	7TCG054830R0019	73	HCNY-500-9-M	7TAG009970R0048	116
CPS40B-25	7TCG054800R0076	130						



Part. No.	GID No.	Page	Part. No.	GID No.	Page	Part. No.	GID No.	Page
JTB-500	7TCG054830R0018	73	PCNY-125-9-D	7TAG009970R0143	116	SS23-250	7TAG009430R0005	62
JTN-500	7TCG054830R0020	73	PCNY-250-9-C	7TAG009970R0144	116	SS29-180	7TAG009440R0010	62
L-10-50R-0-C	7TAG054750R0009	78	PCNY-250-9-D	7TAG009970R0145	116	SS29-250	7TAG009440R0011	62
L-10-50R-9-C	7TAG054750R0011	78	PCNY-375-9-C	7TAG009970R0146	116	SS35-250	7TAG009440R0012	62
L-11-50MH-0-C	7TAG054670R0001	76	PCNY-375-9-D	7TAG009970R0147	116	SS7-180	7TAG009430R0006	62
L-11-50MH-9-C	7TAG054670R0003	76	PCNY-500-9-C	7TAG054010R0233	116	TB-12-50RLDH	7TCG054360R0057	80
L-14-120MH-0-C	7TAG054670R0004	76	PCNY-500-9-D	7TAG009970R0148	116	TB-15-50RLDH	7TCG054360R0059	80
L-14-120MH-9-C	7TAG054670R0005	76	RANY-160-9-D	7TAG009970R0149	117	TB-50RLDH	7TCG054360R0061	80
L-14-50MH-0-C	7TAG054680R0012	76	RANY-280-0-D	7TAG054980R1267	117	TC050x050A	7TAG009840R0003	89
L-14-50MH-9-C	7TAG054670R0006	76	RANY-280-9-D	7TAG009970R0150	117	TC050x050A-C	7TAG009830R0000	89
L300-FR	7TCA131810R0001	136, 139	RANY-530-9-D	7TAG009970R0151	117	TC050x050AX	7TAG009840R0004	89
L-4-18ID-9-C	7TAG054640R0001	79	RANY-620-9-D	7TAG009970R0152	117	TC050x050AX-C	7TAG009830R0001	89
L-4-18ID-9-M	7TAG054640R0002	79	RS-4.6-200A	7TAG009420R0137	53	TC101	7TAG009880R0000	105
L-500-EU	7TCA131140R0022	136, 139	RS-4.6-200B	7TAG009420R0138	53	TC102	7TAG009880R0001	99
L-5-30MH-0-C	7TAG054680R0014	76	RS-4.6-260A	7TAG009420R0139	53	TC102-NDT	7TAG009660R0008	103
L-5-30MH-9-C	7TAG054670R0008	76	RS-4.6-260B	7TAG009420R0140	53	TC102-PDT	7TAG009660R0009	103
L-5-50PM-0-C	7TAG054980R0640	78	RS-4.6-360A	7TAG009420R0141	53	TC103	7TAG009880R0002	105
L-5-50PM-9-D	7TAG054710R0001	78	RS-4.6-360B	7TAG009420R0142	53	TC104	7TAG009880R0003	99
L-5-50PMR-0-C	7TAG054710R0002	78	RS-4.6-520A	7TAG009420R0143	53	TC105	7TAG009840R0005	101
L-5-50PMR-9-C	7TAG054980R0642	78	RS-4.6-520B	7TAG009420R0144	53	TC105AP	7TCG009500R0034	101
L-5-50R-0-C	7TAG054750R0012	78	RS-4.6-680A	7TAG009420R0145	53	TC106	7TAG009910R0071	104
L-7-50ID-9-C	7TAG054640R0003	79	RS-4.6-680B	7TAG009420R0146	53	TC109	7TAG009920R0001	104
L-7-50ID-9-M	7TAG054640R0004	79	RS-7.9-200A	7TAG009420R0147	53	TC1101	7TAG009910R0072	105
L-7-50MH-0-C	7TAG054670R0009	76	RS-7.9-200B	7TAG009420R0148	53	TC1102	7TAG009910R0073	105
L-7-50MH-9-C	7TAG054660R0000	76	RS-7.9-360A	7TAG009420R0149	53	TC1103	7TAG009910R0074	105
L-7-50PM-0-C	7TAG054710R0004	78	RS-7.9-360B	7TAG009420R0150	53	TC1104	7TAG009910R0075	105
L-7-50PM-9-C	7TAG054710R0005	78	RS-7.9-520A	7TAG009420R0151	53	TC1105	7TAG009910R0076	105
L-7-50PMR-9-C	7TAG054980R0648	78	RS-7.9-520B	7TAG009420R0152	53	TC1112	7TAG009910R0077	105
L-8-50R-0-C	7TAG054750R0016	78	RS-7.9-680A	7TAG009420R0153	53	TC1113	7TAG009910R0078	105
L-8-50R-9-C	7TAG054750R0018	78	RS-7.9-680B	7TAG009420R0154	53	TC1114	7TAG009910R0079	105
MCNY-1250-0-C	7TAG009990R0006	93	SMNY-001-0-D	7TAG009990R0018	95	TC1115	7TAG009910R0080	105
MCNY-1250-9-C	7TAG009990R0007	93	SMNY-001-9-D	7TAG009990R0019	95	TC1116	7TAG009910R0081	105
MCNY-1250-9-D	7TAG009990R0008	93	SRPE-10-0	7TCG054090R0216	132	TC1117	7TAG009910R0082	105
MCNY-1250-9-L	7TAG009990R0009	93	SRPE-10-9	7TCG054090R0217	132	TC112-TB	7TAG009880R0004	98
N4NY-002-0-M	7TAG009970R0050	115	SRPE-12-0	7TCG054090R0220	132	TC115-TB	7TAG009920R0002	111
N4NY-003-0-M	7TAG009970R0056	115	SRPE-12-9	7TCG054090R0221	132	TC116-TB	7TAG009860R0003	110
N4NY-004-0-M	7TAG009970R0063	115	SRPE-15-0	7TCG054090R0222	132	TC118-TB	7TAG009860R0004	110
N4NY-005-0-M	7TAG009970R0070	115	SRPE-15-9	7TCG054090R0223	132	TC120	7TAG009860R0005	110
N4NY-006-0-M	7TAG009970R0075	115	SRPE-19-0	7TCG054090R0224	132	TC121-TB	7TAG009860R0006	108
N4NY-008-0-M	7TAG009970R0089	115	SRPE-19-9	7TCG054090R0225	132	TC140	7TAG009880R0005	94
N6NY-004C-0-M	7TAG009970R0096	115	SRPE-24-0	7TCG054090R0226	132	TC141	7TAG009880R0006	94
N6NY-005C-0-M	7TAG009970R0099	115	SRPE-24-9	7TCG054090R0227	132	TC141-NDT	7TAG009660R0010	103
N6NY-006C-0-M	7TAG009970R0102	115	SRPE-6-0	7TCG054090R0232	132	TC142	7TAG009880R0007	94
N6NY-008C-0-M	7TAG009970R0107	115	SRPE-6-9	7TCG054090R0233	132	TC142-NDT	7TAG009660R0011	103
N6NY-009-0-M	7TAG009970R0110	115	SRPE-8-0	7TCG054090R0238	132	TC142X	7TAG009840R0007	94
N6NY-010-0-M	7TAG009970R0113	115	SRPE-8-9	7TCG054090R0239	132	TC150x150	7TAG009840R0008	91
N6NY-011-0-M	7TAG009970R0116	115	SS10-180	7TAG009430R0001	62	TC150x150A	7TAG009840R0009	91
N6NY-012-0-M	7TAG009970R0119	115	SS10-250	7TAG009430R0002	62	TC150x150A-L	7TAG009830R0002	91
N6NY-013-0-M	7TAG009970R0122	115	SS16-180	7TAG009440R0008	62	TC150x150AX	7TAG009840R0010	91
N6NY-014-0-M	7TAG009970R0125	115	SS17-250	7TAG009430R0003	62	TC150x150AX-L	7TAG009830R0003	91
N6NY-016-0-M	7TAG009970R0129	115	SS23-180	7TAG009440R0009	62	TC150x150L	7TAG009830R0004	91

## Appendix

### Part number index

Part. No.	GID No.	Page	Part. No.	GID No.	Page	Part. No.	GID No.	Page
TC200x200	7TAG009840R0011	91	TC5345A	7TAG009800R0002	91	TY100-18	7TCG054360R0073	70
TC200x200A	7TAG009840R0012	91	TC5345AX	7TAG009800R0005	89	TY100-18-100	7TCG054360R0073	69
TC200x200A-L	7TAG009830R0005	91	TC5345AX	7TAG009800R0005	91	TY100-18-9		148
TC200x200AX	7TAG009840R0013	91	TC5347A	7TAG009800R0007	88	TY100-18-9-100	7TCG054360R0095	148
TC200x200L	7TAG009830R0006	91	TC5347A-NDT	7TAG009660R0025	102	TY100-18-ANTI	7TAG054970R0000	33
TC201	7TAG009890R0000	113	TC5347A-PDT	7TAG009660R0026	102	TY100-18X	7TCG054360R0096	72
TC2PA	7TAG009910R0083	101, 151	TC5347AX	7TCG009800R0008	88	TY100-18X-0		148
TC342	7TAG009820R0036	92	TC5349A-TB	7TCG009890R0001	120	TY100-18X-0-100		148
TC342A	7TAG009820R0037	92	TC5350	7TCG009500R0042	120	TY100-18X-100	7TCG054360R0073	71
TC342A-NDT	7TAG009660R0012	102	TC5350A-TB	7TCG009890R0002	120	TY1200-175	7TAG054360R0103	74
TC342A-X	7TAG009820R0038	92	TC5355	7TAG009870R0004	96	TY1200-175X	7TAG054360R0102	74
TC342X	7TAG009820R0040	92	TC5356	7TAG009870R0005	96	TY125-18	7TCG054360R0104	70
TC344	7TAG009810R0008	89	TC5357	7TAG009870R0006	96	TY125-18-100	7TCG054360R0104	69
TC344A	7TAG009810R0010	89	TC5358	7TAG009850R0001	106	TY125-18X	7TCG054360R0148	72
TC344A-NDT	7TAG009660R0013	102	TC5359	7TAG009850R0002	106	TY125-18X-100	7TCG054360R0104	71
TC344AX	7TAG009810R0012	89	TC5363X	7TAG009890R0003	114	TY125-40	7TAG054360R0123	70
TC345	7TAG009820R0041	89	TC5823	7TAG009850R0003	109	TY125-40-100	7TAG054360R0123	69
TC347	7TAG009820R0050	88	TC5828	7TAG009870R0007	98	TY125-40-9	7TAG054250R0015	148
TC347A	7TAG009820R0051	88	TC804-TB	7TAG009880R0008	99	TY125-40-9-100	7TCG054360R0140	148
TC347A-NDT	7TAG009660R0014	102	TC812-TB	7TAG009880R0009	98	TY125-40X	7TAG054360R0141	72
TC347FR	7TAG009820R0053	88	TC814-TB	7TAG009880R0011	98	TY125-40X-0	7TAG054250R0014	148
TC347X	7TAG009820R0054	88	TC815-TB	7TAG009880R0012	100	TY125-40X-0-100	7TAG054200R0010	148
TC349AN	7TCG009500R0035	120	TC817-TB	7TAG009840R0020	92	TY125-40X-100	7TAG054360R0123	71
TC349A-TB	7TCG009900R0001	120	TC823-TB	7TAG009860R0007	109	TY125-50	7TAG054360R0144	70
TC350	7TCG009900R0002	120	TC823X	7TAG009860R0008	109	TY125-50-100	7TAG054360R0144	69
TC350AN	7TCG009500R0036	120	TC824-TB	7TAG009840R0021	101	TY125-50X	7TAG054360R0146	72
TC350A-TB	7TCG009900R0003	120	TC826-TB	7TAG009880R0014	98	TY125-50X-100	7TAG054360R0144	71
TC368	7TAG009840R0015	90	TC828-TB	7TAG009880R0015	98	TY1435M	7TAG009520R0045	38
TC368A	7TAG009840R0016	90	TC86	7TAG009710R0006	122	TY150-18	7TAG054360R0149	70
TC375	7TAG009910R0084	105	TC87	7TAG009710R0007	122	TY150-18-100	7TAG054360R0149	69
TC376	7TAG009910R0086	105	TC88	7TAG009710R0008	121	TY150-18X	7TAG054360R0151	72
TC502	7TAG009870R0000	99	TC92	7TAG009910R0088	97	TY150-18X-100	7TAG054360R0149	71
TC5102-NDT	7TAG009660R0015	103	TC95	7TAG009910R0088	121	TY175-50	7TAG054360R0153	70
TC5105	7TAG009680R0006	101	TCP360	7TAA159160R0000	35	TY175-50-100	7TAG054360R0153	69
TC5140	7TAG009840R0017	94	TCP5255	7TAA159090R0004	35	TY175-50-9	7TAG054330R0011	148
TC5141	7TAG009870R0002	94	TCS25	7TAG009470R0057	63	TY175-50-9-100	7TCG054360R0177	148
TC5141-NDT	7TAG009660R0017	103	TCZ347	7TAG009820R0055	88	TY175-50-ANTI	7TAG054970R0001	33
TC5141-PDT	7TAG009660R0018	103	TS1025HF	7TCG054360R0062	75	TY175-50X	7TAG054360R0178	72
TC5142	7TAG009870R0003	94	TS1435HF	7TCG054360R0063	75	TY175-50X-0	7TAG054330R0010	148
TC5142-NDT	7TAG009660R0019	104	TS2045HF	7TCG054360R0064	75	TY175-50X-0-100	7TAG054290R0026	148
TC5142-PDT	7TAG009660R0020	103	TS2845HF	7TCG054360R0065	75	TY175-50X-100	7TAG054360R0153	71
TC5142X	7TAG009840R0018	94	TS3645HF	7TCG054360R0066	75	TY200-120	7TCG054360R0182	70
TC5342A	7TAG009800R0000	92	TS3675HF	7TCG054360R0067	75	TY200-120-100	7TCG054360R0182	69
TC5342A-NDT	7TAG009660R0021	103	TT-11-30-0-L	7TAG054780R0009	68	TY200-120X	7TCG054360R0188	72
TC5342A-PDT	7TAG009660R0022	102	TT-11-30-9-L	7TAG054780R0012	68	TY200-120X-100	7TCG054360R0182	71
TC5344	7TAG009790R0010	89	TT-14-30-0-L	7TAG054780R0015	68	TY200-40	7TAG054360R0213	70
TC5344A-NDT	7TAG009660R0023	102	TT-14-30-9-L	7TAG054780R0017	68	TY200-40-100	7TAG054360R0213	69
TC5344A-PDT	7TAG009660R0024	102	TT-7-30-0-L	7TAG054780R0020	68	TY200-40X	7TAG054360R0228	72
TC5344AR	7TCG009500R0039	89	TT-7-30-9-L	7TAG054780R0023	68	TY200-40X-100	7TAG054360R0213	71
TC5344AX	7TCG009790R0012	89	TY1000-175	7TAG054360R0100	74	TY225-50	7TCG054360R0230	70
TC5345A	7TAG009800R0002	89	TY1000-175X	7TAG054360R0101	74	TY225-50-100	7TCG054360R0230	69

Part. No.	GID No.	Page	Part. No.	GID No.	Page	Part. No.	GID No.	Page
TY225-50X	7TCG054360R0236	72	TY26M	7TAG009120R0002	14	TY33MX	7TAG009520R0048	38
TY225-50X-100	7TCG054360R0230	71	TY26MX	7TAG009120R0004	16	TY34M	7TAG009520R0049	38
TYB2315MX	7TAG009050R0003	17	TY26MX-RW	7TCG009120R0006	26	TY34MX	7TAG009520R0050	38
TY232M	7TAG009040R0005	14	TY272M	7TAG009340R0002	14	TY35M	7TAG009520R0053	38
TY232MFR	7TAG009570R0000	25	TY272MFR	7TAG009570R0005	25	TY35MX	7TAG009520R0056	38
TY232MFR-RW	7TCG009570R0013	26	TY272MX	7TAG009330R0007	16	TY37M	7TAG009520R0057	38
TY232MX	7TAG009040R0007	16	TY272MX-RW	7TAG009330R0008	26	TY37MX	7TAG009520R0060	38
TY232MX-RW	7TCG009040R0014	26	TY275M	7TAG009330R0009	14	TY38M	7TAG009530R0005	39
TY234M	7TAG009050R0000	14	TY275MX	7TAG009320R0001	16	TY38MX	7TAG009530R0006	39
TY234MX	7TAG009050R0001	16	TY277M	7TAG009340R0003	14	TY400-120	7TAG054360R0282	70
TY234MX-RW	7TAG009050R0005	26	TY277MX	7TAG009330R0010	16	TY400-120-100	7TAG054360R0282	69
TY23M	7TAG009040R0009	14	TY277MX-RW	7TAG009340R0003	26	TY400-120-9	7TAG054410R0021	148
TY23M-*		147	TY27M	7TAG009320R0003	14	TY400-120-9-100	7TAG054410R0022	148
TY23M-9	7TAG009070R0103	147	TY27M-*		147	TY400-120-ANTI	7TAG054970R0003	33
TY23MFR	7TAG009570R0002	25	TY27M-9	7TAG009370R0030	147	TY400-120X	7TAG054360R0307	72
TY23MFR-RW	7TCG009570R0008	26	TY27MFR	7TAG009570R0006	25	TY400-120X-0	7TAG054410R0019	148
TY23MX	7TAG009040R0011	16	TY27MFR-RW	7TCG009570R0012	26	TY400-120X-0-100	7TAG054410R0020	148
TY23MX-0	7TAG009040R0021	147	TY27MX	7TAG009320R0004	16	TY400-120X-100	7TAG054360R0282	71
TY23MX-A	7TAG009640R0000	22	TY27MX-0	7TAG009320R0009	147	TY400-40	7TAG054360R0311	70
TY23MX-RW	7TCG009040R0015	26	TY27MX-A	7TAG009640R0003	22	TY400-40-100	7TAG054360R0311	69
TY242M	7TAG009120R0000	14	TY27MX-RW	7TAG009320R0006	26	TY400-40X	7TAG054360R0313	72
TY242MX	7TAG009130R0004	16	TY28M	7TAG009210R0048	14	TY400-40X-100	7TAG054360R0311	71
TY242MX-RW	7TCG009130R0011	26	TY28M-*		147	TY400-50	7TAG054360R0315	70
TY244M	7TCG009130R0005	14	TY28M-9	7TAG009270R0028	147	TY400-50-100	7TAG054360R0315	69
TY244MX	7TCG009130R0006	16	TY28MFR	7TAG009570R0007	25	TY400-50-9	7TAG054330R0014	148
TY244MX-RW	7TCG009130R0012	26	TY28MFR-RW	7TCG009570R0011	26	TY400-50-9-100	7TCG054360R0333	148
TY24M	7TAG009130R0007	14	TY28MX	7TAG009210R0050	16	TY400-50-ANTI	7TAG054970R0002	33
TY24M-*		147	TY28MX-0	7TAG009210R0093	147	TY400-50X	7TAG054360R0336	72
TY24M-9	7TAG009160R0024	147	TY28MX-A	7TAG009210R0051	22	TY400-50X-0	7TAG054330R0015	148
TY24MFR	7TAG009570R0003	25	TY28MX-RW	7TCG009210R0086	26	TY400-50X-0-100	7TAG054290R0028	148
TY24MFR-RW	7TCG009570R0009	26	TY29M	7TAG009330R0012	14	TY400-50X-100	7TAG054360R0315	71
TY24MX	7TAG009130R0009	16	TY29M-*		147	TY409	7TAG009550R0018	82
TY24MX-0	7TAG009120R0010	147	TY29M-9	7TCG009370R0039	147	TY4100PX	7TCG009460R0099	36
TY24MX-A	7TAG009640R0001	22	TY29MX	7TAG009330R0014	16	TY41M	7TAG009520R0061	81
TY24MX-RW	7TCG009130R0010	26	TY29MX-0	7TAG009320R0008	147	TY450-120-100	7TAG054360R0341	69
TY253M	7TAG009220R0001	14	TY29MX-RW	7TCG009330R0012	26	TY450-120X-100	7TAG054360R0341	71
TY253M-*		147	TY300-120-100	7TAG054360R0238	69	TY46M	7TAG009510R0018	44
TY253M-9	7TAG009000R0223	147	TY300-120X-100	7TAG054360R0238	71	TY46M-9		148
TY253MX	7TAG009220R0003	16	TY300-40	7TCG054360R0240	70	TY46MD	7TAG009510R0025	44
TY253MX-0	7TAG009210R0094	147	TY300-40-100	7TCG054360R0240	69	TY46MD-9		148
TY253MX-A	7TAG009640R0009	22	TY300-40X	7TCG054360R0256	72	TY46MF	7TAG009510R0031	44
TY253MX-RW	7TCG009220R0011	26	TY300-40X-100	7TCG054360R0240	71	TY46MT	7TAG009510R0033	44
TY25M	7TAG009210R0042	14	TY300-50	7TAG054360R0259	70	TY46MT-9		148
TY25M-*		147	TY300-50-100	7TAG054360R0259	69	TY48M	7TAG009510R0039	44
TY25M-9	7TAG009270R0019	147	TY300-50-9	7TAG054330R0012	148	TY48M-9		148
TY25MFR	7TAG009570R0004	25	TY300-50-9-100	7TCG054360R0277	148	TY512M	7TAG009510R0044	43
TY25MFR-RW	7TCG009570R0010	26	TY300-50X	7TAG054360R0278	72	TY51M	7TAG009510R0046	43
TY25MX	7TAG009210R0045	16	TY300-50X-0	7TAG054330R0013	148	TY51M-9		148
TY25MX-0	7TAG009210R0092	147	TY300-50X-0-100	7TAG054290R0027	148	TY52315M	7TAG009020R0050	13
TY25MX-A	7TAG009640R0002	22	TY300-50X-100	7TAG054360R0259	71	TY52315MX	7TAG009020R0051	15
TY25MX-RW	7TCG009210R0085	26	TY33M	7TAG009520R0048	38	TY5232M	7TAG009010R0008	13

## Appendix

### Part number index

Part. No.	GID No.	Page	Part. No.	GID No.	Page	Part. No.	GID No.	Page
TY5232M-1		18	TY524M-9-NDT	7TAG009660R0072	31	TY5272MX	7TAG009290R0003	15
TY5232M-10		18	TY524M-9-PDT		32	TY5275M	7TAG009290R0004	13
TY5232M-2		18	TY524M-CLRS		20	TY5275MX	7TAG009280R0000	15
TY5232M-3		18	TY524M-NDT	7TAG009660R0031	31	TY5277M	7TAG009290R0005	13
TY5232M-4		18	TY524M-PDT		32	TY5277MX	7TAG009290R0006	15
TY5232M-5		18	TY524MX	7TAG009090R0007	15	TY527M	7TAG009280R0001	13
TY5232M-6		18	TY524MX-0	7TAG009080R0003	147	TY527M-*		147
TY5232M-7		18	TY5253M	7TAG009180R0006	13	TY527M-1		19
TY5232M-8		18	TY5253M-*		147	TY527M-10		19
TY5232MX	7TAG009010R0010	15	TY5253M-1		19	TY527M-1-NDT	7TAG009660R0079	31
TY5234M	7TAG009020R0052	13	TY5253M-10		19	TY527M-1-PDT		32
TY5234MX	7TAG009010R0011	15	TY5253M-1-NDT	7TAG009660R0075	31	TY527M-2		19
TY523M	7TAG009010R0012	13	TY5253M-1-PDT		32	TY527M-3	7TAG009370R0040	19
TY523M-*		149	TY5253M-2	7TAG009270R0030	19	TY527M-4		19
TY523M-1		18	TY5253M-3		19	TY527M-5		19
TY523M-10		18	TY5253M-4		19	TY527M-6		19
TY523M-1-NDT	7TAG009660R0082	31	TY5253M-5		19	TY527M-7		19
TY523M-1-PDT		32	TY5253M-6		19	TY527M-8		19
TY523M-2	7TAG009070R0104	18	TY5253M-7		19	TY527M-9	7TAG009280R0008	147
TY523M-3	7TAG009070R0105	18	TY5253M-8		19	TY527M-9-NDT	7TAG009660R0078	31
TY523M-4		18	TY5253M-9	7TAG009170R0013	147	TY527M-9-PDT		32
TY523M-5		18	TY5253M-9-NDT	7TAG009660R0076	31	TY527M-NDT	7TAG009660R0034	31
TY523M-6		18	TY5253M-9-PDT		32	TY527M-PDT	7TAG009660R0035	32
TY523M-7		18	TY5253M-NDT	7TAG009660R0071	31	TY527MX	7TAG009280R0002	15
TY523M-8		18	TY5253M-PDT		32	TY527MX-0	7TAG009280R0006	147
TY523M-9	7TAG009010R0037	147	TY5253MX	7TAG009180R0007	15	TY528M	7TAG009170R0003	13
TY523M-9-NDT	7TAG009660R0081	31	TY5253MX-0	7TAG009170R0012	147	TY528M-*		147
TY523M-9-PDT		32	TY525M	7TAG009170R0000	13	TY528M-1		19
TY523M-CLRS		20	TY525M-*		147	TY528M-10	7TBG009010R0027	19
TY523M-NDT	7TAG009660R0029	31	TY525M-1		19	TY528M-1-NDT	7TAG009660R0077	31
TY523M-PDT	7TAG009660R0030	32	TY525M-10	7TAG009270R0053	19	TY528M-1-PDT		32
TY523MX	7TAG009010R0015	15	TY525M-1-NDT	7TAG009660R0073	31	TY528M-2		19
TY523MX-0	7TAG009010R0036	147	TY525M-1-PDT		32	TY528M-3	7TAG009270R0038	19
TY5242M	7TAG009090R0002	13	TY525M-2	7TAG009270R0032	19	TY528M-4		19
TY5242MX	7TAG009090R0003	15	TY525M-3	7TAG009270R0034	19	TY528M-5		19
TY5244M	7TCG009090R0004	13	TY525M-4		19	TY528M-6		19
TY5244MX	7TCG009090R0005	15	TY525M-5		19	TY528M-7		19
TY524M	7TAG009090R0006	13	TY525M-6		19	TY528M-8	7TBG009010R0026	19
TY524M-*		147	TY525M-7		19	TY528M-9	7TBG009010R0027	147
TY524M-1	7TBG009000R0274	18	TY525M-8	7TAG009270R0035	19	TY528M-9-NDT	7TAG009660R0080	31
TY524M-10		18	TY525M-9	7TAG009270R0036	147	TY528M-9-PDT		32
TY524M-1-NDT	7TAG009660R0070	31	TY525M-9-NDT	7TAG009660R0074	31	TY528M-CLRS		20
TY524M-1-PDT		32	TY525M-9-PDT		32	TY528M-NDT	7TAG009660R0036	31
TY524M-2		18	TY525M-CLRS	7TAG009270R0037	20	TY528M-PDT	7TAG009660R0037	32
TY524M-3	7TAG009160R0031	18	TY525M-NDT	7TAG009660R0032	31	TY528MX	7TAG009170R0004	15
TY524M-4		18	TY525M-PDT	7TAG009660R0033	32	TY528MX-0	7TAG009170R0010	147
TY524M-5		18	TY525MX	7TAG009170R0002	15	TY529M	7TAG009280R0004	13
TY524M-6		18	TY525MX-0	7TAG009170R0011	147	TY529M-*		147
TY524M-7		18	TY526M	7TAG009080R0001	13	TY529M-9	7TAG009280R0009	147
TY524M-8		18	TY526MX	7TAG009080R0002	15	TY529MX	7TAG009280R0004	15
TY524M-9	7TAG009080R0004	147	TY5272M	7TAG009300R0015	13	TY529MX-0	7TAG009280R0007	147

Part. No.	GID No.	Page	Part. No.	GID No.	Page	Part. No.	GID No.	Page
TY532M	7TAG009510R0050	43	TYB2315M	7TAG009050R0002	17	TYP25MX	7TAG009600R0001	29
TY533M	7TAG009520R0062	38	TYB232M	7TCG009020R0054	17	TYP27MX	7TAG009600R0002	29
TY533MX	7TAG009520R0063	38	TYB232MX	7TCG009020R0055	17	TYP28MX	7TAG009600R0003	29
TY53418PX	7TAG009550R0019	37	TYB23M	7TCG009450R0186	17	TYR505	7TAG009540R0001	42
TY534M	7TAG009520R0064	38	TYB23MX	7TCG009960R0068	17	TYR508	7TAG009540R0002	42
TY534MX	7TAG009520R0065	38	TYB24M	7TCG009140R0019	17	TYV23M	7TAG009000R0330	27
TY53510M	7TCG009380R0001	13	TYB24MX	7TCG009960R0069	17	TYV25M	7TAG009610R0000	27
TY53510MX	7TCG009380R0002	15	TYB25M	7TCG009450R0193	17	TYV523M	7TAG009610R0001	27
TY53510MX-0		147	TYB25MX	7TCG009450R0198	17	TYV525M	7TAG009610R0002	27
TY535M	7TAG009520R0068	38	TYB271MX-RW	7TCG009450R0226	26	TYZ23M	7TAG009620R0000	28
TY535MX	7TAG009520R0069	38	TYC25MX	7TCG009580R0001	30	TYZ25M	7TAG009620R0002	28
TY537M	7TAG009520R0070	38	TYC272MX	7TCG009580R0002	30	TYZ27M	7TAG009620R0004	28
TY537MX	7TAG009520R0071	38	TYC27MX	7TCG009580R0003	30	TYZ28M	7TAG009620R0005	28
TY53M	7TAG009510R0052	43	TYC28MX	7TCG009580R0004	30	TYZ523M	7TAG009620R0006	28
TY5409	7TAG009550R0020	82	TYC29MX	7TCG009580R0005	30	TYZ525M	7TAG009620R0007	28
TY5418PX	7TAG009550R0021	37	TYC525MX	7TCG009580R0006	30	TYZ527M	7TAG009620R0008	28
TY541M	7TAG009520R0072	81	TYC527MX	7TCG009580R0007	30	TYZ528M	7TAG009620R0009	28
TY5424PX	7TAG009550R0022	37	TYD-50R	7TAA159090R0005	34	ULNY-013-8-C	7TAG009970R0153	119
TY5442PX	7TAG009550R0025	37	TYD-LH	7TAA159090R0006	34	ULNY-018-8-C	7TAG009970R0155	119
TY544MX	7TAG009530R0008	41	TYF35M	7TCG009520R0076	38	ULNY-023-8-C	7TAG009970R0156	119
TY54513M	7TCG009380R0003	13	TYF535M	7TCG009520R0077	38	WT1-TB	7TAA131800R0004	136, 139
TY54513MX	7TCG009380R0005	15	TYG34M	7TCG009520R0078	40	WT2-TB	7TAA131800R0007	136, 139
TY54513MX-0		147	TYG34MX	7TCG009520R0079	40	WTA250	7TAA131800R0009	137
TY545MX	7TAG009520R0073	41	TYG534M	7TCG009520R0080	40	WTA290	7TAA131810R0003	137
TY5460PX	7TAG009550R0026	37	TYG534MX	7TCG009520R0081	40	WT3D	7TAA131800R0008	136, 139
TY546M	7TAG009510R0058	44	TYH232M	7TCG009590R0001	21	WT3S	7TAA131810R0002	137, 141
TY546M-9		148	TYH23M	7TCG009590R0002	21	WTXM	7TAG009770R0000	112
TY546MD	7TAG009510R0059	44	TYH242M	7TCG009590R0003	21	XMNY-375-0-D	7TAG009770R0001	112
TY546MD-9		148	TYH24M	7TAG009590R0004	21	XMNY-500-0-D	7TAG009770R0002	112
TY546MF	7TAG009510R0060	44	TYH253M	7TAG009590R0005	21	XMNY-625-0-D	7TAG009770R0003	112
TY546MT	7TAG009510R0061	44	TYH25M	7TAG009590R0006	21	XMNY-750-0-D	7TAG009770R0004	112
TY546MT-9		148	TYH26M	7TCG009590R0007	21	YBR-12.7-25BC	7TCG009460R0126	61
TY548M	7TAG009510R0063	44	TYH272M	7TCG009590R0008	21	YBR-15.9-25BC	7TCG009460R0127	61
TY548M-9		148	TYH27M	7TAG009590R0009	21	YBR-19.1-25BC	7TCG009460R0128	61
TY54SM	7TCG009460R0104	39	TYH28M	7TAG009590R0010	21	YBR-6.4-25BC	7TCG009460R0129	61
TY54SMX	7TCG009460R0105	39	TYH29M	7TCG009590R0011	21	YBR-9.5-25BC	7TCG009460R0130	61
TY5512M	7TAG009510R0064	43	TYHB23M	7TCG009460R0111	17	YBRH-12.7	7TCG009470R0059	61
TY551M	7TAG009510R0065	43	TYHR525M-5	7TAG009600R0007	24	YBRH-15.9	7TCG009470R0060	61
TY551M-9		148	TYHR527M-5	7TAG009600R0009	24	YBRH-19.1	7TCG009470R0061	61
TY5532M	7TAG009510R0067	43	TYHR528M-5	7TAG009600R0008	24	YBRH-6.4	7TCG009470R0062	61
TY553M	7TAG009510R0069	43	TYHT23M	7TAG009590R0012	23	YBRH-9.5	7TCG009470R0063	61
TY600-120-100	7TAG054360R0343	69	TYHT24M	7TAG009590R0013	23	YID-CHAR-1	7TCG009470R0065	60
TY600-120X-100	7TAG054360R0343	71	TYHT25M	7TAG009590R0014	23	YID-CHAR-2	7TCG009470R0066	60
TY600-175	7TAG054360R0345	74	TYHT277M	7TAG009000R0326	23	YID-CHAR-3	7TCG009470R0067	60
TY600-175X	7TAG054360R0346	74	TYHT27M	7TAG009590R0015	23	YID-CHAR-4	7TCG009470R0068	60
TY635M	7TAG009520R0074	38	TYHT28M	7TAG009590R0016	23	YID-CHAR-5	7TCG009470R0068	60
TY635MX	7TAG009520R0075	38	TYL300M	7TCG054360R0353	74	YID-CHAR-6	7TCG009470R0068	60
TY800-120-100	7TAG054360R0347	69	TYL300MX	7TCG054360R0354	74	YID-CHAR-7	7TCG009470R0068	60
TY800-120X-100	7TAG054360R0347	71	TYL546M	7TCG054360R0355	74	YID-CHAR-8	7TCG009470R0068	60
TY900-175	7TAG054360R0350	74	TYL546MX	7TCG054360R0356	74	YID-CHAR-A	7TCG009470R0074	59
TY900-175X	7TAG054360R0351	74	TYP23MX	7TAG009600R0000	29	YID-CHAR-B	7TCG009470R0075	59

## Appendix

### Part number index

Part. No.	GID No.	Page	Part. No.	GID No.	Page	Part. No.	GID No.	Page
YID-CHAR-BLANK	7TCG009470R0068	60	YLD-7-450-B	7TCG009460R0157	56	YLS-16-840BC	7TCG009420R0081	55
YID-CHAR-C	7TCG009470R0078	59	YLD-7-450-BC	7TCG009450R0223	57	YLS-4.6-1000A	7TCG009410R0009	51
YID-CHAR-D	7TCG009470R0079	59	YLD-7-610-B	7TCG009450R0224	56	YLS-4.6-1000B	7TCG009420R0084	51
YID-CHAR-E	7TCG009470R0080	59	YLD-7-610-BC	7TCG009450R0225	57	YLS-4.6-1000BC	7TCG009420R0085	50
YID-CHAR-EARTH	7TCG009470R0081	60	YLS-12-1000B	7TCG009420R0032	54	YLS-4.6-100A	7TCG009410R0010	51
YID-CHAR-F	7TCG009470R0082	59	YLS-12-1000BC	7TCG009420R0033	55	YLS-4.6-100B	7TCG009410R0011	51
YID-CHAR-G	7TCG009470R0083	59	YLS-12-1200B	7TCG009420R0034	54	YLS-4.6-100BC	7TCG009410R0012	50
YID-CHAR-H	7TCG009470R0084	59	YLS-12-1200BC	7TCG009420R0035	55	YLS-4.6-1200A	7TCG009420R0086	51
YID-CHAR-I	7TCG009470R0085	59	YLS-12-1400B	7TCG009420R0036	54	YLS-4.6-1200B	7TCG009420R0087	51
YID-CHAR-J	7TCG009470R0086	59	YLS-12-1400BC	7TCG009420R0037	55	YLS-4.6-1200BC	7TCG009420R0088	50
YID-CHAR-K	7TCG009470R0087	59	YLS-12-200B	7TCG009420R0038	54	YLS-4.6-125A	7TCG009410R0013	51
YID-CHAR-L	7TCG009470R0088	59	YLS-12-200BC	7TCG009420R0039	55	YLS-4.6-125B	7TCG009410R0014	51
YID-CHAR-M	7TCG009470R0089	59	YLS-12-300B	7TCG009420R0040	54	YLS-4.6-125BC	7TCG009420R0089	50
YID-CHAR-MINUS	7TCG009470R0068	60	YLS-12-300BC	7TCG009420R0041	55	YLS-4.6-1400A	7TCG009420R0090	51
YID-CHAR-N	7TCG009470R0091	59	YLS-12-360B	7TCG009420R0042	54	YLS-4.6-1400B	7TCG009420R0091	51
YID-CHAR-O	7TCG009470R0092	59	YLS-12-360BC	7TCG009420R0043	55	YLS-4.6-1400BC	7TCG009420R0092	50
YID-CHAR-P	7TCG009470R0093	59	YLS-12-440B	7TCG009420R0044	54	YLS-4.6-150A	7TCG009410R0015	51
YID-CHAR-PLUS	7TCG009470R0068	60	YLS-12-440BC	7TCG009420R0045	55	YLS-4.6-150B	7TCG009420R0093	51
YID-CHAR-Q	7TCG009470R0095	59	YLS-12-520B	7TCG009420R0046	54	YLS4.6-150BC	7TCG009410R0034	50
YID-CHAR-R	7TCG009470R0096	59	YLS-12-520BC	7TCG009420R0047	55	YLS4.6-200A	7TCG009410R0035	51
YID-CHAR-S	7TCG009470R0097	59	YLS-12-600B	7TCG009420R0048	54	YLS4.6-200B	7TCG009410R0036	51
YID-CHAR-SINE	7TCG009470R0098	60	YLS-12-600BC	7TCG009420R0049	55	YLS-4.6-200BC	7TCG009420R0094	50
YID-CHAR-SLASH	7TCG009470R0068	60	YLS-12-680B	7TCG009420R0050	54	YLS-4.6-300A	7TCG009410R0016	51
YID-CHAR-T	7TCG009470R0100	59	YLS-12-680BC	7TCG009420R0051	55	YLS-4.6-300B	7TCG009410R0017	51
YID-CHAR-U	7TCG009470R0101	59	YLS-12-760B	7TCG009420R0052	54	YLS-4.6-300BC	7TCG009410R0018	50
YID-CHAR-V	7TCG009470R0102	59	YLS-12-760BC	7TCG009420R0053	55	YLS4.6-360A	7TCG009410R0037	51
YID-CHAR-W	7TCG009470R0103	59	YLS-12-840B	7TCG009420R0054	54	YLS4.6-360B	7TCG009410R0038	51
YID-CHAR-X	7TCG009470R0104	59	YLS-12-840BC	7TCG009420R0055	55	YLS-4.6-360BC	7TCG009420R0098	50
YID-CHAR-Y	7TCG009470R0105	59	YLS-16-1000B	7TCG009420R0058	54	YLS4.6-520A	7TCG009410R0039	51
YID-CHAR-Z	7TCG009470R0106	59	YLS-16-1000BC	7TCG009420R0059	55	YLS-4.6-520B	7TCG009410R0019	51
YID-STRIP-10	7TCG009470R0107	60	YLS-16-1200B	7TCG009420R0060	54	YLS-4.6-520BC	7TCG009420R0101	50
YID-STRIP-16	7TCG009470R0108	60	YLS-16-1200BC	7TCG009420R0061	55	YLS-4.6-680A	7TCG009410R0020	51
YID-STRIP-20	7TCG009470R0109	60	YLS-16-1400B	7TCG009420R0062	54	YLS-4.6-680B	7TCG009410R0021	51
YID-STRIP-30	7TCG009470R0110	60	YLS-16-1400BC	7TCG009420R0063	55	YLS-4.6-680BC	7TCG009410R0022	50
YID-STRIP-6	7TCG009470R0111	60	YLS-16-200B	7TCG009420R0064	54	YLS-4.6-840A	7TCG009420R0102	51
YLD-12-150-B	7TCG009460R0133	56	YLS-16-200BC	7TCG009420R0065	55	YLS-4.6-840B	7TCG009420R0103	51
YLD-12-150-BC	7TCG009450R0210	57	YLS-16-300B	7TCG009420R0066	54	YLS-4.6-840BC	7TCG009420R0104	50
YLD-12-225-B	7TCG009460R0136	56	YLS-16-300BC	7TCG009420R0067	55	YLS-7.9-1000A	7TCG009410R0023	52
YLD-12-225-BC	7TCG009450R0211	57	YLS-16-360B	7TCG009420R0068	54	YLS-7.9-1000B	7TCG009420R0105	52
YLD-12-300-B	7TCG009450R0212	56	YLS-16-360BC	7TCG009420R0069	55	YLS-7.9-1000BC	7TCG009420R0106	50
YLD-12-300-BC	7TCG009450R0213	57	YLS-16-440B	7TCG009420R0070	54	YLS-7.9-100A	7TCG009420R0107	52
YLD-12-450-B	7TCG009450R0214	56	YLS-16-440BC	7TCG009420R0071	55	YLS-7.9-100B	7TCG009420R0108	52
YLD-12-450-BC	7TCG009450R0215	57	YLS-16-520B	7TCG009420R0072	54	YLS-7.9-100BC	7TCG009420R0109	50
YLD-12-610-B	7TCG009460R0143	56	YLS-16-520BC	7TCG009420R0073	55	YLS-7.9-1200A	7TCG009420R0110	52
YLD-12-610-BC	7TCG009460R0144	57	YLS-16-600B	7TCG009420R0074	54	YLS-7.9-1200B	7TCG009420R0111	52
YLD-7-150-B	7TCG009450R0217	56	YLS-16-600BC	7TCG009420R0075	55	YLS-7.9-1200BC	7TCG009420R0112	50
YLD-7-150-BC	7TCG009450R0218	57	YLS-16-680B	7TCG009420R0076	54	YLS-7.9-125A	7TCG009420R0113	52
YLD-7-225-B	7TCG009450R0219	56	YLS-16-680BC	7TCG009420R0077	55	YLS-7.9-125B	7TCG009420R0114	52
YLD-7-225-BC	7TCG009450R0220	57	YLS-16-760B	7TCG009420R0078	54	YLS-7.9-125BC	7TCG009420R0115	50
YLD-7-300-B	7TCG009450R0221	56	YLS-16-760BC	7TCG009420R0079	55	YLS-7.9-1400A	7TCG009420R0116	52
YLD-7-300-BC	7TCG009450R0222	57	YLS-16-840B	7TCG009420R0080	54	YLS-7.9-1400B	7TCG009420R0117	52

<b>Part. No.</b>	<b>GID No.</b>	<b>Page</b>
YLS-7.9-1400BC	7TCG009420R0118	50
YLS-7.9-150A	7TCG009420R0119	52
YLS-7.9-150B	7TCG009420R0120	52
YLS-7.9-150BC	7TCG009410R0024	50
YLS7.9-200A	7TCG009410R0040	52
YLS-7.9-200B	7TCG009410R0025	52
YLS-7.9-200BC	7TCG009420R0122	50
YLS-7.9-300A	7TCG009410R0026	52
YLS-7.9-300B	7TCG009410R0027	52
YLS-7.9-300BC	7TCG009410R0028	50
YLS7.9-360A	7TCG009410R0041	52
YLS-7.9-360B	7TCG009410R0029	52
YLS-7.9-360BC	7TCG009410R0030	50
YLS7.9-520A	7TCG009410R0042	52
YLS-7.9-520B	7TCG009410R0031	52
YLS-7.9-520BC	7TCG009420R0124	50
YLS-7.9-680A	7TCG009420R0125	52
YLS-7.9-680B	7TCG009410R0032	52
YLS-7.9-680BC	7TCG009420R0126	50
YLS-7.9-840A	7TCG009420R0127	52
YLS-7.9-840B	7TCG009410R0033	52
YLS-7.9-840BC	7TCG009420R0128	50
YRL-10-150-BC	7TCG009210R0062	58
YRL-10-230-BC	7TCG009210R0064	58
YRL-10-330-BC	7TCG009210R0066	58
YRL-10-450-BC	7TCG009210R0068	58
YRL-10-650-BC	7TCG009210R0070	58
YRL-10-750-BC	7TCG009210R0072	58
YRL-10-900-BC	7TCG009210R0074	58
YRL-5-150-BC	7TCG009210R0075	58
YRL-5-230-BC	7TCG009210R0077	58
YRL-5-330-BC	7TCG009210R0079	58
YRL-5-450-BC	7TCG009210R0081	58
YRL-5-650-BC	7TCG009210R0083	58

**Additional information**

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB AG does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilisation of its contents – in whole or in parts – is forbidden without prior written consent of ABB AG.







—  
**US**

ABB Installation Products  
Electrification Business  
860 Ridge Lake Blvd.  
Memphis, TN 38120  
+1 901-252-5000

**[tnb.abb.com](http://tnb.abb.com)**