
CATALOG

Ty-Rap[®]

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.

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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
	High temperatures				Smoke & flame resistance		High UV resistance	
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	PA6.6HSIUUV	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		
Ty-Rap® Chemical Resistant	Ty-Rap® Extreme Environment	Ty-Rap® Detectable	Ty-Fast® Ag+ Bacteria Resistant	Deltec®	Ty-Met®	Ty-Rap®	Twist Tail™	Ty-Fast® / Col-Ty™
Chemical resistance	Contaminant Resistance	Utilities & telecom	Extreme environments	Customization & performance	Convenience	Essential		
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.



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.



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.





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

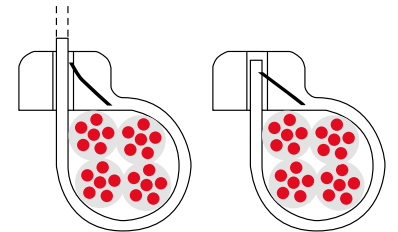
The oval head with rounded edges protects adjacent bundles and improves product life.

Up to 3X longer life

Solid body construction reduces stress points, increasing durability.

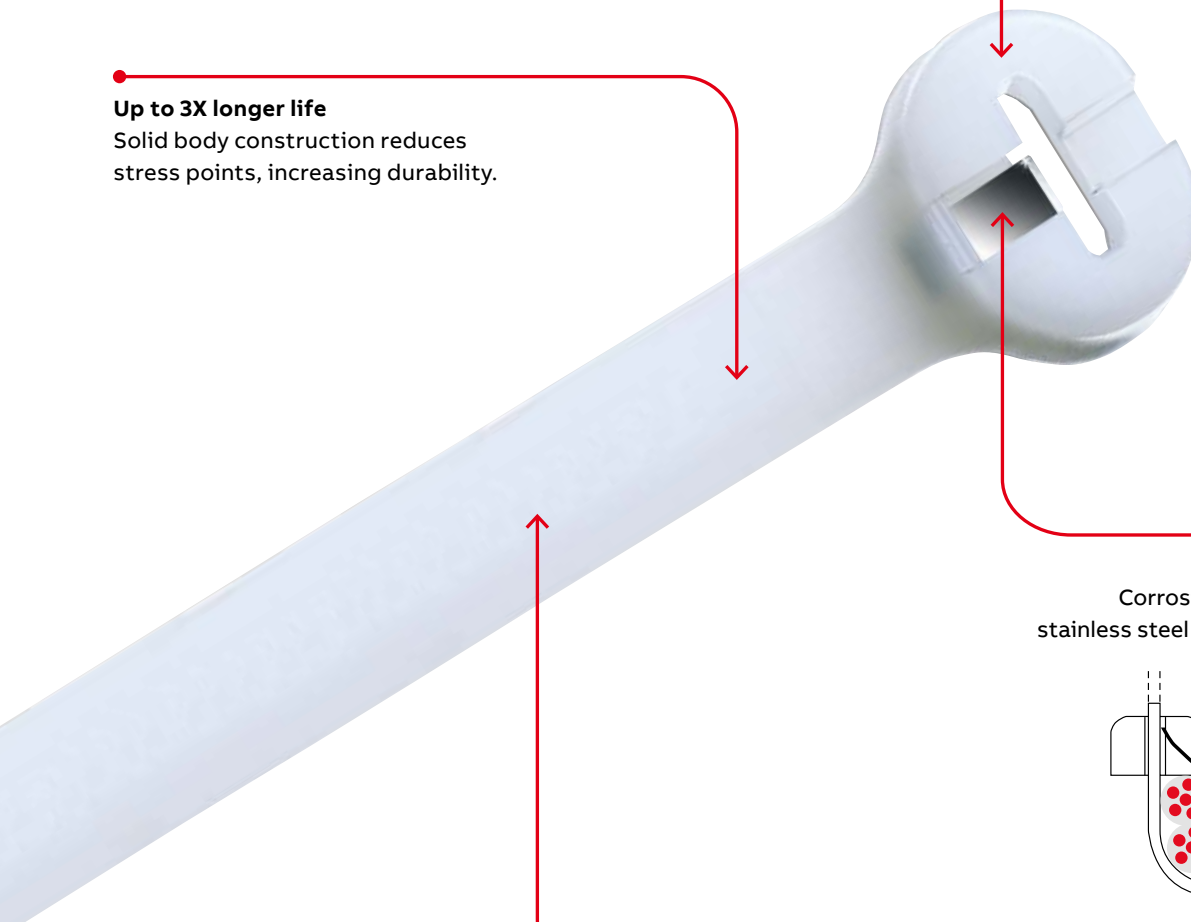
"The Grip of Steel"

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").

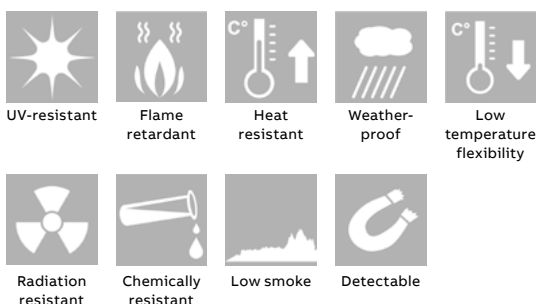
Performance Installation Tools: Industry-leading tools tighten and cut the loose end of cable ties with precision for repeatable, consistent installations that leave a safe, clean edge.

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.

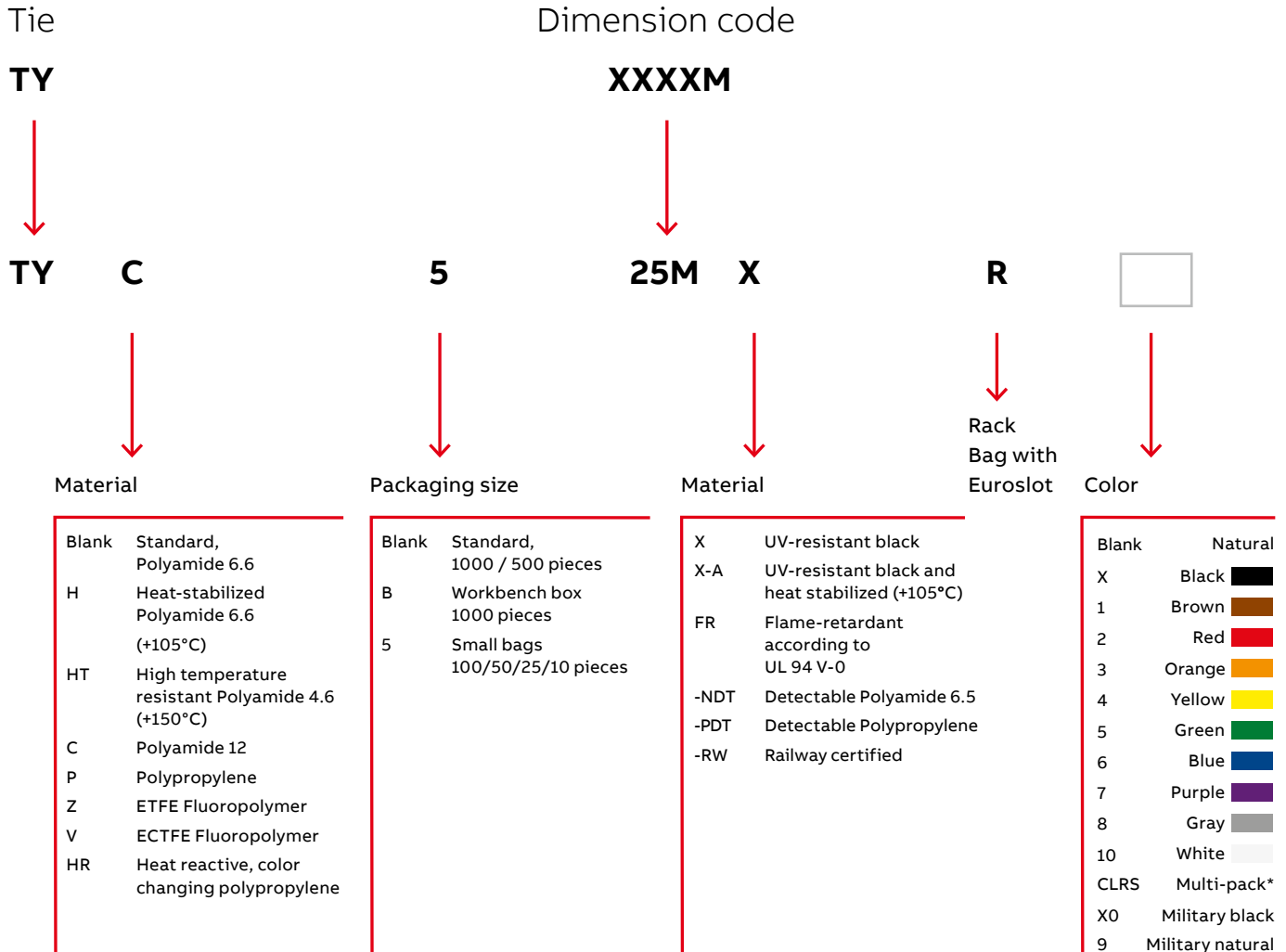
Outstanding range of special ties, all with the famous stainless steel locking device: ties with mounting hole or integrated peg/nail, panel mounting ties, identification ties with integrated label.

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]		
Standard pack size											
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.

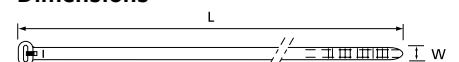


ERG120
 For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



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]		
Bulk pack size											
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

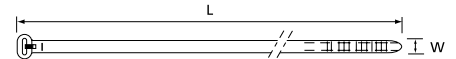
For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



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]		
Standard pack size											
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.

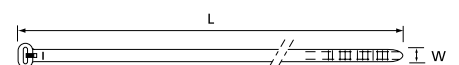


ERG120
For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



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]		
Bulk pack size											
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

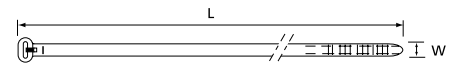
For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



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

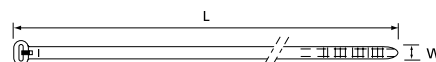


ERG50
 For use with 2.3mm to 4.8mm (80N to 220N) cable ties. See page 136.



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]			
Standard pack size											
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.

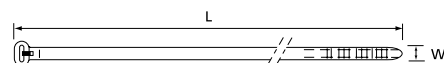


ERG120
For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



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.

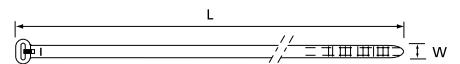


ERG120
For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



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]			
Multi-color pack*											
Standard pack size											
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.

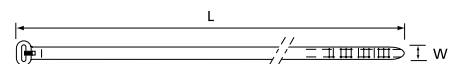


ERG120
For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



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.

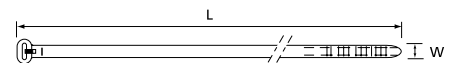


ERG120
 For use with 4.7mm to 7.0mm (220N to 540N) cable ties. See page 136.



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.

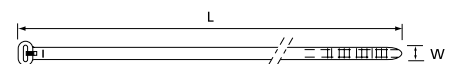


L-500-EU

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



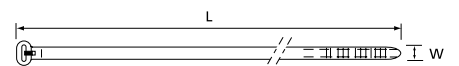
ERG50
 For use with 2.3mm to 4.8mm (80N to 220N) cable ties. See page 136.



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

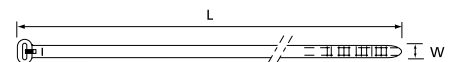


ERG50
 For use with 4.8mm (220N) cable ties.
 See page 136.



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

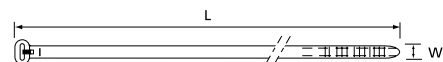
For use with 4.8mm to 7.0mm (220N to 540N) cable ties. See page 136.



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		Length L		Width W		Min. tensile strength [N]	Quantity [pieces]
		[mm]	[in]	[mm]	[in]	[mm]	[in]		
Standard pack size									
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
Bulk pack size									
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

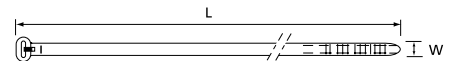


ERG50
 For use with 2.3mm to 4.7mm (80N to 220N) cable ties. See page 136.



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]		
Standard pack size									
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
Bulk pack size									
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.

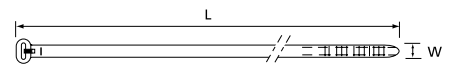


ERG120*

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

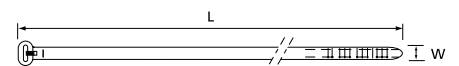
For use with 2.4mm to 4.8mm (50N to 130N) cable ties. See page 136.



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]		
Standard pack size									
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
Bulk pack size									
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

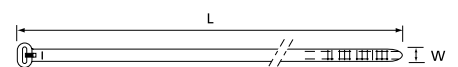
For use with 4.7mm to 7.6mm (155N to 380N) cable ties. See page 136.



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]	
Detectable Polyamide 6.6												
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

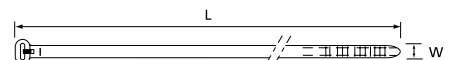


ERG50
 For use with 2.4mm to 4.8mm (50N to 220N) cable ties. See page 136.



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]	
Detectable Polypropylene												
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

