### **ELECTRICAL SOLUTIONS**

## **CABLE TIES**

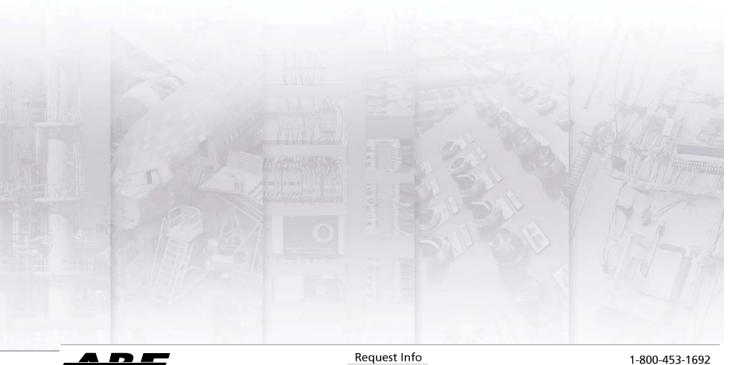


Panduit offers the most complete selection of cable tie styles, sizes, materials and colors to meet our customers' needs. Panduit cable ties bundle, mount, and identify in countless indoor, outdoor, and harsh environment applications. Panduit cable ties, wiring accessories, and installation tools allow our customers to achieve the lowest total installed cost of managing wire and cable.



- · Panduit continues to provide innovative new cable tie designs to meet our customers' application challenges
- Panduit cable ties and wiring accessories can be used in a variety of applications and environments, providing the optimal wire management solution
- Panduit offers a large selection of ergonomic cable tie installation tools - all with consistent, and reliable performance

Panduit leads the industry in the breadth and depth of available cable tie designs created from customer feedback on their application requirements. As with all Panduit products, quality in design and production along with customer service excellence are assured.



System

B2. Cable Accessories

B3. Stainless Steel Ties

> **C1.** Wiring Duct

C2. Surface Raceway

СЗ. Abrasion Protection

C4. Cable Management

D1. Terminals

D2. Power Connectors

D3. Grounding Connectors

E1. Labeling Systems

> E2. Labels

E3. Pre-Printed & Write-On Markers

E4. Permanent Identification

E5. Lockout/ Tagout & Safety Solutions

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**Cable Tie Selection Chart** 

Follow this step-by-step process to find the cable ties that best suit your application:

**Cable Tie Function** 

1) Select the main function of the cable tie you need:

Bundle = Standard Cable Ties Re-use = Nylon Releasable Ties\* Identify = Marker and Flag Ties

Mount = Clamp Ties, Push Mount Ties, and Stud Mount Ties

**Material Properties** 

Thermal

 Determine the appropriate material for your application: Mechanical Chemical **Cable Tie Family** 

3) Select the cable tie family that meets your overall needs

	Cable Tie Function		Bundle, Re-use, Identify, Mount	Bundle, Re-use, Identify, Mount	Bundle, Re-use, Mount	Bundle, Re-use, Mount	Bundle	Bundle
	Material	Test Method	Nylon 6.6	Weather Resistant Nylon 6.6	Impact Modified Weather Resistant Nylon 6.6	Heat Stabilized Nylon 6.6	Heat Stabilized Nylon 6.6	Heat Stabilized Weather Resistant Nylon 6.6
	Color	_	Natural	Black	Black	Black	Natural	Black
	Part Number Suffix (Material Designation)	_	No Suffix	0	0	30	39	300
	Tensile @ Yield @ 73°F(psi)	ISO 527	12,000	12,000	9,700	12,000	12,000	12,000
	Water Absorption (24 Hours)	ASTM D570	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
CC PP(I(I) TT WW(C) Iriring SS HH(C) CC AA MMT TM UU FF LL CC HH BB HH TT	Radiation Resistance (Rads)	_	1 x 10 <sup>5</sup>	1 x 10 <sup>5</sup>	1 x 10 <sup>5</sup>	1 x 10 <sup>5</sup>	1 x 10 <sup>5</sup>	1 x 10 <sup>5</sup>
	Weathering Life Expectancy (Years)/UV Resistance	_	1 – 2	7 – 9	7 – 9	4 – 5	1 – 2	7 – 9
	Impact Resistance	_	0	0	•	0	0	0
	Salts	_	•	•	•	•	•	•
	Hydrocarbons (Gas, Oil, Lubricants)	_	•	•	•	•	•	•
	Chlorinated Hydrocarbons	_	•	•	•	•	•	•
	Acids	_	•					
	Bases	_	•	•	•	•	•	•
	Acid Rain	_	•	•	•	0	•	•
	Max. Continuous Use Temperature (Note 1)	UL 746B	185°F 85°C	185°F 85°C	185°F 85°C	239°F 115°C	239°F 115°C	212°F 100°C (Note 2)
	Min. Application Use Temperature	EN 50146	-76°F -60°C	-76°F -60°C	-76°F -60°C	-76°F -60°C	-76°F -60°C	-76°F -60°C
	Flammability Rating (Note 4)	UL 94	V-2	V-2	HB	V-2	V-2	V-2
	Low Smoke	ASTM E662	PASS	PASS	PASS	PASS	PASS	PASS
	Oxygen Index	BS ISO 4589	28	28	_	28	28	28
	Halogen-Free	IEC 60754-2	Yes	Yes	Yes	Yes	Yes	Yes
	Burning Fume Toxicity	BSS-7239	PASS	PASS	PASS	PASS	PASS	PASS
	Heat Deflection Temperature @ 1.8 Mpa	ASTM D648 ISO 75 -1/-2	158°F 70°C	158°F 70°C	145°F 63°C	158°F 70°C	158°F 70°C	158°F 70°C
	Relative Price	_	Low	Low	Low	Low	Low	Med

Product Line		Cross Se	ections			
Pan-Ty® (B1.6 - Note 5)	✓	SM, M, I, S	LH, H, EH	✓	✓	✓
Super-Grip® (B1.38)	✓	M, I, S, LH	Н	✓		
Dome-Top® Barb Ty (B1.43)	✓	M, I, S	LH	✓	✓	✓
Dura-Ty™ (B1.53)						
Parallel-Entry (B1.56)	✓	M, I, S, HS	LH		✓	
Sta-Strap® (B1. 65)	✓	M, I, S, LH, H		1		
Specialty Ties (B1.73)	✓		Н	✓		✓

Check mark indicates material availability in that product line.

Cross Sections: SM = Subminiature, M = Miniature, I = Intermediate, S = Standard, HS = Heavy-Standard, LH = Light-Heavy, H = Heavy, EH = Extra-Heavy.

\*For information on re-usable Hook and Loop Cable Ties, see page B1.85.





# PANDUIT® ELECTRICAL SOLUTIONS

System Overview

B1. Cable Ties

B2. Cable Accessories

B3. Stainless **Steel Ties** 

> **C1.** Wiring Duct

C2. Surface Raceway

СЗ. Abrasion Protection

Cable Management

D1. Terminals

Power Connectors

D3. Grounding Connectors

E1. Labeling Systems

E2. Labels

**Pre-Printed** & Write-On Markers

E4. Permanent Identification

E5. Lockout/ Tagout & Safety Solutions

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lacktriangle HALAR is a registered trademark of Ausimont USA, Inc.

	Highest	High	Acceptable	Low	Lowest
Recommendation Legend		•	0	•	

Bundle	Bundle, Identify	Bundle	Bundle	Bundle, Re-use	Bundle	Bundle	Bundle	Bundle	Bundle	Bundle
Flame Retardant Nylon 6.6	Flame Retardant Nylon 6.6	Weather Resistant Nylon 12	Polypropylene	Weather Resistant Polypropylene	TEFZEL•	HALAR*	PEEK	Metal Detectable Nylon 6.6	Metal Detectable Polypropylene	Weather Resistant Acetal
Black	Natural Ivory	Black	Green	Black	Aqua Blue	Maroon	Brown	Blue	Blue	Black
60	69	120	109	100	76	702Y	71	86	186	N/A
11,000	11,000	6,700	4,100	4,100	7,500	7,000	15,200	_	_	6,500
1.1%	1.1%	0.3%	0.1%	0.1%	<0.03%	<0.05%	0.5%	1.2%	0.1%	<0.45%
1 x 10 <sup>5</sup>	1 x 10 <sup>5</sup>	3.5 x 10 <sup>6</sup>	1 x 10 <sup>6</sup>	1 x 10 <sup>6</sup>	2 x 10 <sup>8</sup>	2 x 10 <sup>8</sup>	1 x 10 <sup>9</sup>	_	1 x 10 <sup>6</sup>	6 x 10 <sup>5</sup>
1 – 2	1 – 2	12 – 15	1	7 – 9	>15	>15	_	_	1	>20
•	•	0	•	•	•	•	•	0	•	•
•	•	•	•	•	•	•	•	•	•	0
•	•	•	0	0	•	•	•	•	0	•
•	•	•	0	0	•	•	•	•	0	•
	•		•	•	•	•	0		•	•
•	•	•	•		•			•	•	•
212°F 100°C	212°F 100°C	194°F 90°C	239°F 115°C	239°F 115°C	338°F 170°C	302°F 150°C	500°F 260°C (Note 3)	185°F 85°C	239°F 115°C	185°F 85°C
-40°F -40°C	-76°F -60°C	-76°F -60°C	-76°F -60°C	-76°F -60°C	-76°F -60°C	-76°F -60°C	-76°F -60°C	-76°F -60°C	-76°F -60°C	-76°F -60°C
V-0	V-0	НВ	НВ	НВ	V-0	V-0	V-0	НВ	НВ	НВ
PASS	PASS	_	_	_	_	_	PASS	_	_	PASS
34	34	_	_	_	30	52	35	_	_	_
Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
PASS	PASS	_	_	_	_	_	_	_	_	_
154°F 68°C	154°F 68°C	122°F 50°C	122°F 50°C	122°F 50°C	_	149°F 65°C	313°F 156°C	145°F 63°C	122°F 50°C	239°F 115°C
Med	Med	Med	Med	Med	High	High	High	Low	Med	Med
/	/	1	<b>√</b>	<b>√</b>	<b>✓</b>	1	<b>✓</b>	1	<b>√</b>	

Note 1: Also known as Relative Thermal Index (RTI), see Temperature (page B1.103) Note 2: Estimated Note 3: Based on the UL RTI for electrical properties Note 4: See Table B (page B1.102) Note 5: Also available in 00 material (meets Mil Spec)

■TEFZEL is a registered trademark of E.I. du Pont de Nemours and Company.



## PANDUIT® ELECTRICAL SOLUTIONS

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### Cable Tie Styles Overview

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B2. Cable

Accessories

B3. Stainless Steel Ties

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C3. Abrasion Protection

C4. Cable Management

> D1. Terminals

D2. Power Connectors

D3. Grounding Connectors

E1. Labeling Systems

> E2. Labels

E3. Pre-Printed & Write-On Markers

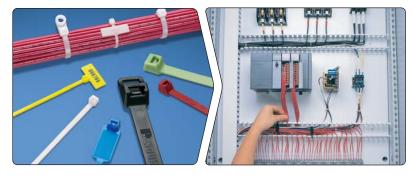
E4. Permanent Identification

E5. Lockout/ Tagout & Safety Solutions

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#### D. . T. 8 A. I.I. T'. .

#### Pan-Ty® Cable Ties



#### Pages B1.6 - B1.37

- Designed for use in numerous applications to meet a variety of needs in the OEM, MRO, and construction markets
- Largest selection of styles, materials, and sizes
- One-piece construction for consistent performance and reliability
- Lowest threading force of any one-piece cable tie in the industry

#### Super-Grip® Cable Ties



#### Pages B1.38 - B1.42

- Designed for the strength requirements of the MRO and construction markets
- Thin, wide strap body flexible, conforms to bundles
- Strong withstands rough installation practices
- Grips wires tightly and resists lateral movement

#### **Dome-Top® Barb Ty Cable Ties**



#### Pages B1.43 - B1.55

- Approved for the demanding MRO and construction requirements as typified in the oil and gas markets
- Stainless steel barb provides consistent performance and reliability
- Infinitely adjustable for tight bundles throughout entire bundle range
- Dome-top head features unique patented design with smooth, round edges

#### **Parallel-Entry Cable Ties**



#### Pages B1.56 - B1.64

- Designed for use in the OEM and transportation markets
- All parallel-entry ties provide a low profile head which avoids snags and reduces overall bundle size
- No protrusion of tie cut-off protects workers' arms/hands
- Contour-Ty® Cable Ties have outside teeth and smooth, round edges to protect cable jacket – perfect for high vibration applications





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СЗ. Abrasion

Protection

C2. Surface Raceway

C4. Cable Management

D1. **Terminals** 

Connectors D3.

D2. Power

Grounding Connectors

> E1. Labeling Systems

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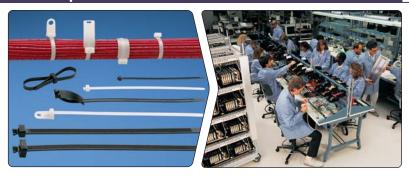
E3. Pre-Printed & Write-On Markers

E4. Permanent Identification

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#### Sta-Strap® Cable Ties



#### Pages B1.65 - B1.72

- · Convenient and easy to use in OEM manual assembly operations
- Exclusive, two-piece design provides lowest threading force in the industry
- Use for normal bundling and through-panel applications
- · Releasable prior to final tensioning and cut-off

#### **Network Cable Ties**



#### Pages B1.85 - B1.92

- Ideal for the telecommunications, financial, education, and government markets
- · Adjustable, releasable, and re-usable
- · No risk of over-tensioning or damaging high performance network cables
- · Variety of styles, sizes, and colors

#### **Manual Cable Tie Installation Tools**



#### Pages B1.109 - B1.114

- · Used in production, maintenance, and construction applications
- Designed for ease of use and to reduce repetitive stress injuries
- Full line of lightweight, ergonomic hand tools - Panduit leads the industry in reliability and performance
- Flush cut-off of cable tie limits exposure to sharp edges

#### Automatic Cable Tie Installation Tools



### Pages B1.115 - B1.122

- An efficient solution for high volume OEM harness, assembly, fastening and packaging applications
- · High-speed tools lower installed cost and reduce operator fatigue
- Wrap, tension, and cut-off cable ties in less than a second
- · Reel-fed systems for miniature and standard cross section cable ties