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<sup>®</sup>TEFZEL is the registered trademark of E. I. DuPont de Nemours Co.

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## Cable Ties

*PANDUIT* is a leading global producer of cable ties and wiring accessories. *PANDUIT* cable ties provide solutions to the Original Equipment Manufacturing, Contact Manufacturing, Transportation, Construction, Maintenance and Repair and Communications markets. The broad selection of cable ties offers unique solutions for specific market and customer needs. Some examples include *DOME-TOP™* Barb Ty cable ties with the strength of a stainless steel locking barb for tough, demanding construction applications; *CONTOUR-TY™* cable ties that incorporate round smooth edges & locking teeth on the outside of the tie body for high vibration applications; Full line of Hook & Loop cable ties designed to ensure that high performance voice, video and data cables can not be over-tensioned. *PANDUIT* also offers a large selection of ergonomic cable tie installation tools — from high-speed automatic systems to hand operated tools. All tools are designed to increase productivity and lower the total installed cost to meet customer requirements and marketplace demands.



- ***PAN-TY™* Cable ties are all nylon, one-piece construction for consistent performance and reliability**
- ***DOME-TOP™* Barb Ty cable ties feature a stainless steel locking barb and are infinitely adjustable throughout entire bundle range**
- ***CONTOUR-TY™* cable ties provide round, smooth edges on the head and strap body to protect wire insulation**
- ***PANDUIT* Hook & Loop cable ties are available in a variety of styles, colours and sizes, and are adjustable releasable and reusable**
- ***PANDUIT* installation tools are designed to increase productivity, reliability and lower total cable tie installation costs**

*PANDUIT* provides the most complete selection of cable ties in a broad range of styles, sizes, materials and colours to meet the varying needs of the marketplace. *PANDUIT* offers integrated solutions of cable ties, wiring accessories and installation tooling to allow customers to achieve the lowest cost of installation. *PANDUIT* continually develops innovative new products based on customer feedback and application opportunities. As with all *PANDUIT* products, quality in design and production along with customer service excellence are assured.

## Technical Specification and Selection Information

### PANDUIT Cable Ties

To help assure optimum quality, *PANDUIT* Cable Ties are designed and manufactured to meet applicable International, UL, military and customer standards. The information provided below is helpful in specifying *PANDUIT* Cable ties for your application.

**Underwriters laboratory, Inc.**

File E56854 and MH29590

Most *PANDUIT* miniature, intermediate, standard, light-heavy and heavy cross section ties are recognized (ZODZ(8)) or Listed in the US and Canada by Underwriters Laboratories (ZODZ(7)) in their Directory under the category "Wire Positioning Devices." Natural, pigmented and weather resistant cable ties are recognized for indoor use at temperatures up to 85°C. Weather resistant cable ties are also UL Listed for outdoor applications. Heat stabilized ties are UL Recognized and Listed for indoor use at temperatures up to 115°C.



**ISO 9001**

International Standards Organization ISO establishes worldwide standards for products and services in recognition of increasing globalization of markets. The ISO program sets up the requirements for quality assurance systems of these worldwide standards. *PANDUIT* is registered to ISO 9001:2000, the most comprehensive model in the standard, meant for companies who design, manufacture, install and service the products they sell. registration has been awarded by Underwriters Laboratories (Certificate No. A2269) after extensive audit of QA systems employed at *PANDUIT*.



**Canadian Standards Association**

File 031212

All cable tie products that bear the CSA mark have been tested and meet applicable standards for safety and performance in the USA and Canada per C22.3 No. 18.5-02 under the category "Fittings-Positioning Devices".



**QS-9000**

QS-9000 is the shorthand name for "Quality System Requirements QS-9000." Is is the common supplier quality standard for the automotive industry. QS-9000 is based on the 1994 edition of ISO 9001, but it contains additional requirements that are particular to the automotive industry. The ISO community of accreditation bodies and registrars considers these additions automotive "interpretations". Underwriters laboratories INC. (Certificate No. A2269) has rewarded registration for *PANDUIT* cable ties.

**Conformity European**

CE Marketing is required for products sold within the European Union. CE Marketing Directives specify the minimum performance of these products. Applying the CE mark signifies compliance with essential requirements of specific directives. *PANDUIT* products conform to the following directive: Low Voltage Directive 73/23/EEC (amended 93/68/EEC)



**ISO 14001**

ISO 14001 is a voluntary standard for Environmental Management Systems established by the International Organization for Standardization. The International standard provides a benchmark for continual improvement in environmental performance. Business partners can be confident that the *PANDUIT* manufacturing facilities around the globe are engaged in an on-going process to maximize impact on global natural resources.



**Aerospace Standard**

AS23190

Aerospace Standard SAE spec AS23190 covers the actual test requirements on Cable Ties, when tested, either meet or exceed the requirements of this specification.



**Plenum-Rated**

This *PANDUIT* symbol indicates that the cable ties represented are suitable for use in air handling spaces (Plenum) in accordance with Sec. 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, Part1.



**ABS**

*PANDUIT* Cable Ties are approved for use in Ship and Offshore Platform construction and maintenance. *PANDUIT* has received a "Certificate of Design Assessment" from the American Bureau of Shipping for the *PAN-TY* and *DOME-TOP* Barb Ty cable ties. Miniature, Intermediate, Standard, Light-Heavy, and Heavy cross-sections in both natural and weather-resistant Nylon 6.6 material have been approved. The ties are approved for use as intermediate binding and supporting of electric cables for Marine and Offshore electrical installations.



**Nuclear Regulatory Commission**

The NCR developed rules and regulations concerning Quality Assurance Criteria for Nuclear Power Plants or Title 10, Chapter 10, Part 50, Appendix B (10CFR50). *PANDUIT* Quality Assurance program is designed to satisfy the 18 criteria set forth in NRC 10CFR50, Appendix B, Military Specification AS23190.

**International Approvals Independent Testing Facilities**



German (VG) Military



Lloyd's Register of Shipping



RINA



Germanischer Lloyd



Nippon Kaiji Kyokai



Det Norske Veritas



Bureau Veritas



Korean Register of Shipping

**PAN-TY™ Cable Ties**



(See pages 7-23)

- Largest selection of styles, materials and sizes
- One piece construction
- Low thread force

**DOME-TOP™ Barb Ty Cable Ties**

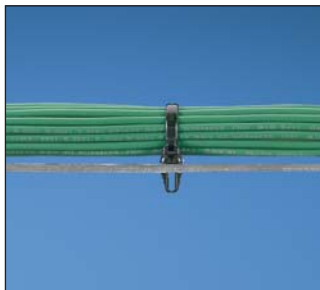


(See pages 24-31)

- Stainless steel barb provides consistent performance and reliability
- Infinitely adjustable for tight bundles throughout its entire bundle range

**DOME-TOP™ Barb Ty Locking Push Mount Ties**

**NEW!**



(See page 27)

- New Cable Tie with an integral push mount
- Push mount ties are used to attach bundles to other surfaces, such as a flat panel
- Anchor is easily pressed into hole and locks in place

**Parallel-Entry Cable Ties**



(See pages 32-35)

- No protrusion of tie cut-off — protects workers' arms/hands
- Low profile head avoids snags and reduces overall bundle size
- Three different styles available

**Hook & Loop Cable Ties**



(See pages 36-38)

- Versatile — Adjustable, releasable and reusable
- No risk of over-tensioning or damaging high performance cables
- Variety of styles, sizes and colors

**STA-STRAP™ Cable Ties**



(See pages 39-42)

- Two piece design — Allows tie to be secured directly to a panel
- Releasable prior to final tensioning and cut-off
- Lower head height than conventional designs - allows use in tight areas

**Manual Cable Tie Installation Tooling**



(See pages 49-53)

- Full line of hand tools — PANDUIT leads the industry in reliability and performance
- Flush cut-off of cable tie limits exposure to sharp edges

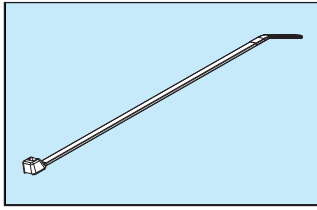
**Automatic Cable Tie Installation Tooling**



(See pages 54-55)

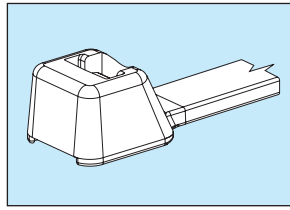
- High speed tools lower installed cost and reduce operator fatigue
- Wraps, tensions and cuts off cable ties in less than a second
- Reel-fed system for miniature cross section cable ties

**PAN-TY™ Cable Tie Features/Benefits:**



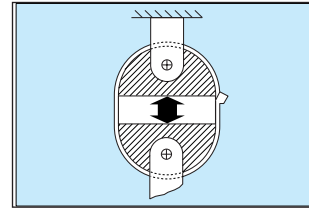
**1. One Piece Construction**

- Consistent performance and reliability
- Available in lengths from 71mm up to 1100mm to meet a variety of application requirements



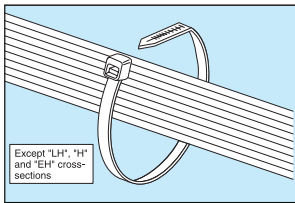
**Smooth, Round Edges**

- No irritation to installer's hands, increases productivity
- Prevents damage to wire insulation



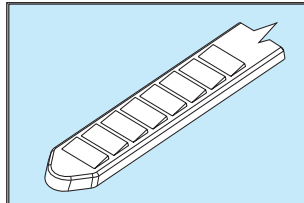
**3. Tensile Strength**

- Exceeds Industry and Aerospace Standards SAE (AS23190) standards
- Available in seven loop tensile strengths from 36N up to 1112N to provide an economical selection



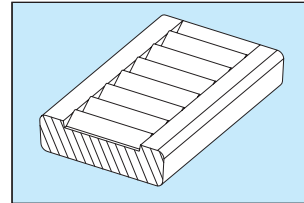
**4. Curved Tip**

- Orients tip toward head to speed installation — lowers installed cost
- Faster initial threading
- Easier to pick up from flat surfaces
- Only applies to SM, M, I and S



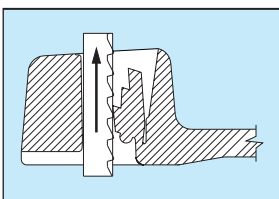
**5. Finger Tip Grip**

- Finger tip grip on selected sizes assures positive grip during threading of the tie
- Grip prevents tip from slipping out of cable tie head during threading



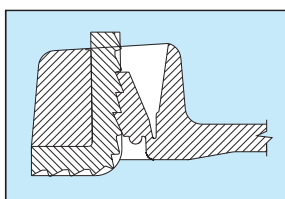
**6. More Serrations Per Tie**

- Greater number of small uniform teeth provides tighter bundles
- Because they are flush with surface they provide proper wire bundle grip without wire insulation damage



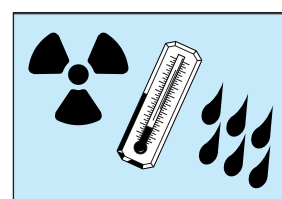
**7. Low Threading Force**

- Lowest threading force of any one-piece cable tie in the industry
- Reduces operator fatigue



**8. One Piece Locking Design**

- Multiple locking tooth design provides greater strength and reliability
- Available in self locking or releasable styles for use in applications where changes are anticipated.



**9. Material Availability**

- Available in a variety of materials to meet the needs of special environments
- Properly selected ties can be used indoors or outdoors with assurance of long lasting performance