

**Thomas and Betts Corporation  
Product Guide Specification**

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat*, *SectionFormat*, and *PageFormat*, as described in *The Project Resource Manual—CSI Manual of Practice, Fifth Edition*.

This section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all "Specifier Notes" after editing this section.

Section numbers are from *MasterFormat 2010 Update*.

**SECTION 26 05 84  
WIRE AND CABLE FASTENING**

Specifier Notes: Delete any information below in Parts 1, 2 or 3 which is not required or relevant for the project.

**PART 1 – GENERAL**

**1.01 SUMMARY**

- A. This section Includes the following products for bundling or harnessing wire and cable:
  - 1. Standard Nylon 6.6 Cable Ties
  - 2. UV Resistance Nylon 6.6 Cable Ties
  - 3. Detectable Cable Ties
  - 4. Flame Retardant Nylon 6.6 Cable Ties
  - 5. Weather Resistant Nylon 12 Cable Ties
  - 6. Heat Stabilized Nylon 6.6 Cable Ties
  - 7. Heat Stabilized/UV Resistant Nylon 6.6 Cable Ties
  - 8. Extra High Temperature Nylon 4.6 Cable Ties
  - 9. Weather and Chemical Resistant Polypropylene Cable Ties
  - 10. Low Smoke Fluoropolymer Cable Ties
  - 11. Radiation Resistant Fluoropolymer Cable Ties
  - 12. Dual Locking Stainless Steel Cable Ties
  - 13. Deltec® Cable Support System

**1.02 REFERENCES**

- A. Underwriters Laboratories, Inc. (UL):
  - 1. UL1565: Positioning Devices
- B. Canadian Standard Association (CSA):
  - 1. CSA C22.1 Canadian Electrical Code Part I (CEC)
  - 2. CSA C22.2 No.18.5 Wiring Position Devices
- C. International Electrotechnical Commission
  - 1. IEC 62275 Cable Management Systems
- D. National Fire Protection Association (NFPA)
  - 1. NFPA 70 National Electrical Code (NEC)

**1.03 SUBMITTALS**

- A. Comply with Section 01 33 00 – Submittal Procedures.

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- B. Product Data:
  - 1. Submit manufacturer's descriptive literature and product specifications for each product.
  - 2. Manufacturer's product drawings.
- C. Manufacturer's installation instructions.

**1.04 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Products shall be free of defects in material and workmanship.
- B. Furnished products are listed, recognized or classified by third party agencies as being suitable for the intended purpose.

**1.05 WARRANTY**

- A. Product is warranted free of defects in material and workmanship.
- B. Product is warranted to perform the intended function within design limits.

**PART 2 – PRODUCTS**

**2.01 GENERAL**

- A. Cable ties and support systems shall be UL Listed, UL Recognized and/or CSA Certified where stated below in the DESIGN AND PERFORMANCE REQUIRMENTS section.
- B. Cable ties and support systems shall be used with the ERG series installation tool to ensure proper assemblies.
- C. Cable ties and support systems shall be approved for nuclear facilities as commercial grade product.

**2.02 MANUFACTURERS**

- A. Acceptable Manufacturers:  
Thomas & Betts Corporation  
8155 T&B Blvd  
Memphis, TN 38125  
800-816-7809, 901-252-5000  
[www.tnb.com](http://www.tnb.com)  
  
Product: Ty-Rap® Cable Ties

**2.03 DESIGN AND PERFORMANCE REQUIREMENTS**

- A. Standard nylon 6.6 cable ties (TY523M series):
  - 1. Standard cable ties shall be molded from nylon 6.6 material.
  - 2. Standard nylon 6.6 cable ties shall have a non-magnetic stainless steel locking device.
  - 3. Standard nylon 6.6 cable ties shall have a smooth, notchless body.
  - 4. Standard nylon 6.6 cable ties shall have a turned up tail.
  - 5. Standard nylon 6.6 cable ties shall be available in natural, black, brown, red, orange, yellow, green, blue, purple, gray and beige colors.
  - 6. Colored and black standard nylon 6.6 cable ties shall be UV stabilized.
  - 7. Standard nylon 6.6 cable ties shall have tensile strength ratings of 18 lbs, 30 lbs, 40 lbs, 50 lbs, 120 lbs and 175 lbs.
  - 8. Standard nylon 6.6 cable ties shall be rated -40°F to 185°F (-40°C to 85°C), UL94V-2.

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9. Standard nylon 6.6 cable ties shall be suitable for use in air handling spaces (plenums) in accordance with section 300.22 (C) and (D) of the NEC and rules 12-010(3), (4) and (5), and 12-020 of the CEC.
  10. Standard nylon 6.6 cable ties shall be UL Listed and CSA Certified.
- B. UV Resistant nylon 6.6 cable ties (TY523MX series):
1. UV Resistant nylon 6.6 cable ties shall be molded from nylon 6.6 material.
  2. UV Resistant nylon 6.6 cable ties shall have a non-magnetic stainless steel locking device.
  3. UV Resistant nylon 6.6 cable ties shall have a smooth, notchless body.
  4. UV Resistant nylon 6.6 cable ties shall have a turned up tail.
  5. UV Resistant nylon 6.6 cable ties shall be UV stabilized and colored black.
  6. UV Resistant nylon 6.6 cable ties shall have tensile strength ratings of 18 lbs, 30 lbs, 40 lbs, 50 lbs, 120 lbs and 175 lbs.
  7. UV Resistant nylon 6.6 cable ties shall be rated -40°F to 185°F (-40°C to 85°C), UL94V-2.
  8. UV Resistant nylon 6.6 cable ties shall be UL Listed and CSA Certified.
- C. Detectable Cable Ties (TY523M-NDT series):
1. Detectable cable ties shall be molded from nylon 6.6 or polypropylene.
  2. Detectable cable ties molded from polypropylene shall be buoyant in liquid applications.
  3. Detectable cable ties shall be detectable with metal detection, X-ray systems and vision systems.
  4. Detectable cable ties shall be bright blue in color for easy visual detection.
  5. Detectable cable ties shall have a non-magnetic stainless steel locking device.
  6. Detectable cable ties shall have a smooth, notchless body.
  7. Detectable cable ties shall have a turned up tail.
  8. Detectable cable ties shall have tensile strength ratings of 18 lbs, 30 lbs, 50 lbs, 60 lbs and 120 lbs.
  9. Detectable cable ties shall be rated -40°F to 185°F (-40°C to 85°C).
- D. Flame Retardant Nylon 6.6 Cable Ties (TY23MFR series):
1. Flame retardant cable ties will be molded from nylon 6.6 material.
  2. Flame retardant nylon 6.6 cable ties shall have a non-magnetic stainless steel locking device.
  3. Flame retardant nylon 6.6 cable ties shall have a smooth, notchless body.
  4. Flame retardant nylon 6.6 cable ties shall have a turned up tail.
  5. Flame retardant nylon 6.6 cable ties shall be white.
  6. Flame retardant nylon 6.6 cable ties shall have a UL94V-0 flame rating.
  7. Flame retardant nylon 6.6 cable ties shall be rated: -40°F to 185°F (-40°C to 85°C).
  8. Flame retardant nylon 6.6 cable ties shall have tensile strength ratings of 18 lbs, 40 lbs, 50 lbs and 120 lbs.
  9. TY23MFR series shall be UL Recognized except for TY272MFR.
- E. Weather Resistant Nylon 12 Cable Ties (TYC series)
1. Weather resistant cable ties shall be molded from nylon 12 material.
  2. Weather resistant nylon 12 cable ties shall have a non-magnetic stainless steel locking device.
  3. Weather resistant nylon 12 cable ties shall have a smooth, notchless body.
  4. Weather resistant nylon 12 cable ties shall have a turned up tail.
  5. Weather resistant nylon 12 cable ties shall be black.
  6. Weather resistant nylon 12 cable ties shall be UV stabilized and resistant to moisture.
  7. Weather resistant nylon 12 cable ties shall have tensile strength ratings of 35 lbs and 85 lbs,
  8. Weather resistant nylon 12 cable ties shall be rated: -40°F to 185°F (-40°C to 85°C).
- F. Heat Stabilized Nylon 6.6 Cable Ties (TYH series):
1. Heat stabilized cable ties will be molded from nylon 6.6 material.
  2. Heat stabilized nylon 6.6 cable ties shall have a non-magnetic stainless steel locking device.
  3. Heat stabilized nylon 6.6 cable ties shall have a smooth, notchless body.

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4. Heat stabilized nylon 6.6 cable ties shall have a turned up tail.
  5. Heat stabilized nylon 6.6 cable ties shall be light green in color.
  6. Heat stabilized nylon 6.6 cable ties shall be rated for 221°F (105°C) maximum.
  7. Heat stabilized nylon 6.6 cable ties shall have a UL94V-2 flame rating.
  8. Heat stabilized nylon 6.6 cable ties shall have a tensile strength rating of 18 lbs, 30 lbs, 40 lbs, 50 lbs and 120 lbs.
  9. TYH series shall be UL Recognized.
- G. Heat Stabilized/UV Resistant Nylon 6.6 Cable Ties (TY23MX-A series):
1. Heat stabilized/UV resistant cable ties shall be molded from nylon 6.6 material.
  2. Heat stabilized/UV resistant nylon 6.6 cable ties shall have a non-magnetic stainless steel locking device.
  3. Heat stabilized/UV resistant nylon 6.6 cable ties shall have a smooth, notchless body.
  4. Heat stabilized/UV resistant nylon 6.6 cable ties shall have a turned up tail.
  5. Heat stabilized/UV resistant nylon 6.6 cable ties shall be black.
  6. Heat stabilized/UV resistant nylon 6.6 cable ties shall be rated for 221°F (105°C) maximum.
  7. Heat stabilized/UV resistant nylon 6.6 cable ties shall be UV stabilized.
  8. Heat stabilized/UV resistant nylon 6.6 cable ties shall have a UL94V-2 flame rating.
  9. Heat stabilized/UV resistant nylon 6.6 cable ties shall have a tensile strength rating of 18 lbs, 40 lbs, 50 lbs and 120 lbs.
  10. TY23MX-A series shall be UL Recognized.
- H. High Temperature Nylon 4.6 Cable Ties (TYHT series):
1. High temperature cable ties shall be molded from nylon 4.6 material.
  2. High temperature nylon 4.6 cable ties shall have a non-magnetic stainless steel locking device.
  3. High temperature nylon 4.6 cable ties shall have a smooth, notchless body.
  4. High temperature nylon 4.6 cable ties shall have a turned up tail.
  5. High temperature nylon 4.6 cable ties shall be light green in color.
  6. High temperature nylon 4.6 cable ties shall be rated for 302°F (150°C) maximum.
  7. High temperature nylon 4.6 cable ties shall have a UL94V-2 flame rating.
  8. High temperature nylon 4.6 cable ties shall have a tensile strength rating of 18 lbs, 50 lbs and 120 lbs.
  9. TYHT series shall be UL Recognized.
- I. Weather and Chemical Resistance Polypropylene Cable Ties (TYP series):
1. Weather-Resistance cable ties shall be molded from polypropylene material.
  2. Weather-resistance polypropylene cable ties shall have a non-magnetic stainless steel locking device.
  3. Weather-resistance polypropylene cable ties shall have a smooth, notchless body.
  4. Weather-resistance polypropylene cable ties shall have a turned up tail.
  5. Weather-resistance polypropylene cable ties shall be black.
  6. Weather-resistance polypropylene cable ties shall be weather and chemical resistant.
  7. Weather-resistance polypropylene cable ties shall have a tensile strength rating of 18 lbs, 30 lbs and 60 lbs.
  8. Weather resistant polypropylene cable ties shall be rated -40°F to 185°F (-40°C to 85°C).
- J. Low Smoke Fluoropolymer Cable Ties (TYV series):
1. Low smoke cable ties shall be molded from fluoropolymer material.
  2. Low smoke fluoropolymer cable ties shall have a non-magnetic stainless steel locking device.
  3. Low smoke fluoropolymer cable ties shall have a smooth, notchless body.
  4. Low smoke fluoropolymer cable ties shall have a turned up tail.
  5. Low smoke fluoropolymer cable ties shall be maroon colored.
  6. Low smoke fluoropolymer cable ties shall have a UL94V-0 flame rating.
  7. Low smoke fluoropolymer cable ties shall exhibit low smoke density.
  8. Low smoke fluoropolymer cable ties shall be rated -49°F to 302°F (-45°C to 150°C).

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9. Low smoke fluoropolymer cable ties shall have a tensile strength rating of 18 lbs and 50 lbs.
  10. TYV series shall be UL Listed.
- K. Radiation Resistant Fluoropolymer Cable Ties (TYZ series):
1. Radiation resistant cable ties shall be molded from fluoropolymer material.
  2. Radiation resistant fluoropolymer cable ties shall have a non-magnetic stainless steel locking device.
  3. Radiation resistant fluoropolymer cable ties shall have a smooth, notchless body.
  4. Radiation resistant fluoropolymer cable ties shall have a turned up tail.
  5. Radiation resistant fluoropolymer cable ties shall be aqua colored.
  6. Radiation resistant fluoropolymer cable ties shall have a UL94V-0 flame rating.
  7. Radiation resistant fluoropolymer cable ties shall exhibit high resistance to radiation.
  8. Radiation resistant fluoropolymer cable ties shall be rated for 302°F (150°C) maximum.
  9. Radiation resistant fluoropolymer cable ties shall have a tensile strength rating of 18 lbs, 50 lbs and 120 lbs.
  10. TYZ series shall be UL recognized.
- L. Dual Locking Stainless Steel Cable Ties (SS series):
1. Dual locking stainless steel cable ties shall be made from type 304 stainless steel.
  2. Dual locking stainless steel cable ties shall be fireproof.
  3. Dual locking stainless steel cable ties shall resist corrosion.
  4. Dual locking stainless steel cable ties shall resist UV light.
  5. Dual locking stainless steel cable ties shall be rated to 537°C maximum.
  6. Dual locking stainless steel cable ties shall be low-profile, single wrap ties.
  7. Dual locking stainless steel cable ties shall be available in standard and mini sizes.
  8. Dual locking stainless steel cable tie standard sizes shall be rated for 250 lbs tensile strength.
  9. Dual locking stainless steel cable tie standard sizes shall support maximum bundle diameters of 2", 4", 6", 8" and 10".
  10. Dual locking stainless steel cable tie mini sizes shall be rated for 100 lbs tensile strength,
  11. Dual locking stainless steel cable tie mini sizes shall support maximum bundle diameters of 1", 2", 4", 6" and 8".
  12. Dual locking stainless steel cable ties shall create a dual lock when installed with tool WTA250.
  13. SS series dual locking cable ties shall be UL Listed.
- M. Deltec® Cable Support System (TYD series):
1. Deltec® cable support system straps and mounting head bodies shall be made of weather-resistant acetal.
  2. Deltec® cable support system locking devices shall be made from marine grade corrosion resistant copper alloy.
  3. Deltec® cable support system minimum tensile strength shall be 250 lbs.
  4. Deltec® cable support system shall be designed to last a minimum of 20 years.
  5. Deltec® cable support system continuous load rating shall be 20 lbs.
  6. Deltec® cable support system maximum temperature rating shall be 150°C.
  7. Deltec® cable support system shall have a UL94HB flame rating.
  8. Deltec® cable support system straps and mounting heads shall be black.
  9. Deltec® cable support system strapping shall be available in standard lengths of 10", 13.5", 27", and on reels from 50' to 3500'.
  10. Deltec® cable support system shall be installed using installation tool WT3D.

## **PART 3 – EXECUTION**

### **3.01 INSTALLATION**

- A. Installation shall be in accordance to the NEC and CEC requirements where applicable, and the manufacturer's tool instructions.

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- B. Unless otherwise specification all cable ties will be installed with one of the following tools:
1.     ERG50 hand tool                   18 to 50 lbs tensile strength cable ties
  2.     ERG50P pneumatic tool         18 to 50 lbs tensile strength cable ties.
  3.     ERG120 hand tool                 50 to 120 lbs tensile strength cable ties.

**END OF SECTION**