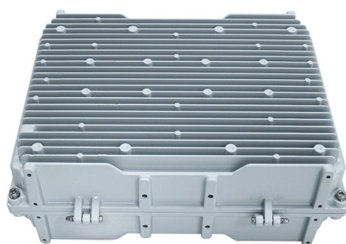


# Classification of Cable Tray Bolt Grades



## Article Overview

Cable tray bolts are classified by ISO 898 property classes, such as 4.6, 4.8, 5.8, 8.8, 9.8, 10.9, and 12.9, indicating their tensile and proof strengths.

### Overview of Bolt Grades

Cable tray bolts are typically carbon steel or alloy steel fasteners used to secure cable trays, supports, and accessories. Their classification is based on mechanical properties, including tensile strength (maximum load before failure) and proof strength (stress at which permanent deformation begins) according to ISO 898 standards . The property class designation consists of two numbers separated by a dot:

- First number  $\times 100$  = nominal tensile strength in MPa
- Second number  $\div 10 \times$  first number = ratio of proof strength to tensile strength For example, a bolt grade 8.8 has a nominal tensile strength of 800 MPa and a proof strength of  $0.8 \times 800 = 640$  MPa.

### Common Metric Bolt Grades for Cable Trays

| Grade | Tensile Strength (MPa) | Proof Strength (MPa) | Typical Use                                     |
|-------|------------------------|----------------------|-------------------------------------------------|
| 4.6   | 400                    | 240                  | Light-duty cable trays, indoor use              |
| 4.8   | 400                    | 320                  | General-purpose installations                   |
| 5.8   | 500                    | 400                  | Medium-duty trays, moderate loads               |
| 8.8   | 800                    | 640                  | Heavy-duty trays, structural supports           |
| 9.8   | 900                    | 720                  | High-strength applications                      |
| 10.9  | 1000                   | 900                  | Critical structural connections                 |
| 12.9  | 1200                   | 1080                 | Extreme load-bearing or industrial environments |

### Considerations for Cable Tray Installations...

## Article Content

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Bolt and Nut Grades Explained: Head Markings, Strength Charts ...

Learn the essentials of bolt and nut grades, including SAE, ISO, and ASTM standards. Discover the differences

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26 05 36 Cable Trays for Electrical Systems

If cable trays are sized for future cables, specify provisions for penetrations with sleeves through fire-rated partitions or use

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Product Data: Submit manufacturer's product data sheets for cable tray indicating dimensions, materials, and finishes, including UL

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Our wind certification report provides you with list of acceptable B-Line series cable tray supports, fittings and covers based off of the

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GUIDE CABLE TRAYS TECHNICAL

NEMA VE 1-2017 Specifies requirements for metal cable trays and associated fittings designed for use in accordance with the rules

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Roofing Bolts & Square Nuts Cable Tray Bolts, Roofing Bolts Zinc ...

Grade 8.8 High Tensile Carbon Steel Commonly used with drop in anchors for suspending cable trays from ceilings or can be cut to

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## 222 MANUFACTURING LTD

Aluminum Aluminum cable trays are fabricated from structural grade "copper free" (marine grade) aluminum extrusions. Aluminum's

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### QCS 2010: Cable Tray Specifications | PDF | Cable | Screw

Cable trays and accessories shall be electrically and mechanically continuous throughout their length. The entire cable tray system

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cable tray technical specifications cable tray

to cables when correctly inserted. Screwed connections are generally isometric threads fully compliant with ests in accordance of the

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### Document DICOS

Tray-rated cables are required for cable tray installation, so using a channel cable tray system or wire mesh system for exits may be

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As an industry leader in cable tray, Eaton offers one of the widest ranges of cable management solutions available in the market

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The Cable Tray Institute is making available the current edition of this practical guide for the proper installation of aluminum or steel

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### Types of Cable Trays – Advantages, Applications and Sizes

Explore the types of cable trays, their advantages, applications, and standard sizes. Learn how they improve cable

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### Cable Tray Standards | Cable Management | Metsec

Metsec cable tray systems are usually assembled using M6 roofing bolts particularly for couplers, fishplates and connection to

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Full cable tray systems specification document

A. General: Except as otherwise indicated, provide metal cable trays, of types, classes and sizes indicated; with splice plates, bolts,

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Cable Tray Bolts and Nuts

Discover cable tray bolts and nuts with CE-certified, corrosion-resistant steel for secure, industrial-grade cable

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A T& B Cable Tray Metallic cable tray

Cable tray systems, including trays, supports, fittings and other materials, are generally much less expensive than conduit wiring

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THOMAS & BETTS CABLE TRAY SYSTEMS

The Benefits of Cable Tray Cable tray wiring systems offer significant advantages over conduit pipe and other wiring systems. Cable

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Grades of Bolts

These charts helps to identify the grades of bolts using the identification marks on the bolt's head along with the strength and

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Electrical Cable Tray Classification

Cable Tray is a mechanical support system used for electrical cable management. Cable trays are of various types

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IEC 61537:2023

This document specifies requirements and tests for cable tray systems and cable ladder systems intended for the support and

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Technical information

Technical information Thermal contraction and expansion It is important that thermal contraction and expansion be considered when

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Cable Tray Technical Guide A practical guide to product selection and ...

Cable Tray Technical Guide A practical guide to product selection and installation This guide for engineers and installers has been

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Cable tray manual

Nearly every aspect of cable tray design and installation has been explored for the use of the reader. If a topic has not been covered

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Microsoft Word

Cable Tray Type Selection With all the choices in cable trays styles, ladder, ventilated, solid bottom and wire basket, it can be difficult

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LEGRAND CABLE TRAYS TECHNICAL GUIDE

Not all cable trays are equivalent. The mechanical and electrical characteristics, tests, certifications, overall quality management,

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Non-Metallic Cable Tray Load Guidelines | PDF | Snow | Cable

This document provides information on selecting cable tray classes and load capacities. It includes tables that define the standard

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Cable Tray Technical Guide A practical guide to product selection and ...

In designing supports for a cable tray system, consideration should be given to the loads associated with future cable additions and

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Flextray wire basket section of NEMA cable tray

The Flextray™ system is a flexible, field-adaptable way to manage cables throughout your project. The tray can be cut and bent to

## Contact Us

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