

Cable tray bolt specifications

Article Overview

Cable tray fittings typically use standard bolts such as M6, M8, or 1/4"-5/16" UNC, made from steel or stainless steel, selected based on load, environment, and tray material.

Bolt Types and Sizes

- o Metric bolts: Commonly M6, M8, or M10 depending on the tray size and load requirements. M6 is often used for light-duty trays, while M8 or M10 is used for medium to heavy-duty trays .
- o Imperial bolts: 1/4"-5/16" UNC bolts are frequently used in North American installations, especially for ladder and channel trays .
- o Length: Bolt length should accommodate the fitting thickness plus the tray flange, typically 20-50 mm for metric bolts or 3/4"-2" for imperial bolts, ensuring proper engagement with nuts and washers.

Material and Coating

- o Steel bolts: Standard carbon steel bolts are used for indoor, dry environments.
- o Stainless steel bolts (304 or 316): Recommended for corrosive or outdoor environments, such as chemical plants or coastal areas .
- o Galvanized bolts: Hot-dip galvanized or zinc-plated bolts are used with galvanized trays to prevent galvanic corrosion.

Nuts and Washers

- o Lock nuts or hex nuts: Used to prevent loosening due to vibration.
- o Flat washers: Distribute load and protect tray surfaces.
- o Spring washers: Optional for high-vibration environments.

Torque and Installation Considerations

- o Bolts should be tightened to the manufacturer's recommended torque to avoid deformation of the tray or fittings. For example, M6 bolts are typically torqued to 8-10 Nm, and M8 bolts to 20-25 Nm, depending on material and coating .
- o Ensure that bolts are compatible with the tray material to prevent corrosion or mechanical failure. Aluminum trays require stainless steel or compatible coated bolts.

Standards and Compliance

- o Cable tray fittings and their fasteners should comply with NEMA VE 2, UL 568, or equivalent local

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standards .

o CE marking or UL listing indicates that the bolts and fittings meet safety and mechanical performance requirements.

Summary

When selecting bolts for cable tray fittings, consider:

- o Bolt size (M6, M8, M10 or 1/4"-5/16" UNC) based on tray load.
- o Material (steel, stainless steel, or galvanized) for environmental compatibility.
- o Nuts and washers to ensure secure fastening.
- o Torque specifications to prevent damage or loosening.
- o Compliance with NEMA, UL, or manufacturer guidelines for safety and warranty purposes.

Following these specifications ensures a safe, durable, and code-compliant cable tray installation suitable for industrial, commercial, or data center applications .

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

IEC Standard for Cable Tray: Complete Technical Guide The International Electrotechnical

In accordance with its continuous improve-ment policy, Legrand reserves the right to change the specifications and illustrations

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

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Fittings in a cable tray system are required to change cable routing direction and to join straight sections and other fittings. This step

Splice plates should be placed on the outside of the cable tray, unless otherwise specified by the manufacturer, with the bolt heads

Wire basket cable tray systems are defined to include, but are not limited to straight sections of continuous wire mesh, field formed

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Specification data for engineering software systems As part of its ongoing commitment to customer support, Legrand's cable

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

INTRODUCTION The B-Line series Cable Tray Manual was produced by our technical staff. We recognize the need for a complete

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These documents: ANSI/NEMA VE-1, Metal Cable Tray Systems; NEMA VE-2, Cable Tray Installation Guidelines; and NEMA FG-1,

Fast installation with dependable support. Everything you need to build a cable management system, including Cablofil wire mesh

Aluminum cable tray Straight lengths -- Tray bottom types: ladder, ventilated and solid trough Ladder Extra wide aluminum rungs

Engineered with a heavy-duty copper construction, this bolt allows the ground wire to run directly

Web: <https://www.kremgroup.co.za>

