

Strength of cable tray support bolts



AI Overview

The strength of cable tray support bolts depends on the bolt material, size, and installation standards, typically designed to safely support the mechanical loads of the cable tray system.

Bolt Material and Standards

Cable tray support bolts are usually made from steel or stainless steel, often galvanized for corrosion resistance, in compliance with standards such as ASTM A123, A653, A1008, and B633 for hot-dip or electroplated coatings . The choice of material affects the tensile strength and load-bearing capacity. Common bolt grades include Grade 5 (medium strength) and Grade 8 (high strength) for steel bolts, with tensile strengths ranging from approximately 120,000 psi to 150,000 psi.

Load Considerations

The bolts must support the weight of the cable tray, cables, fittings, and any dynamic loads such as vibration or environmental forces. Cable tray systems are designed according to NEMA VE 1 and NEC Article 392, which specify that supports must safely carry the expected load without excessive deflection or failure . The spacing of supports and the size of bolts are determined based on the tray type (ladder, solid-bottom, or mesh) and the total load per unit length.

Typical Bolt Sizes and Torque

- Bolt diameters commonly range from M8 to M12 (5/16" to 1/2") for standard cable...

Article Content

Apr 10, 2026

LEGRAND CABLE TRAYS TECHNICAL GUIDE

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

Nov 06, 2025

Best Practice Guide to Cable Ladder and Cable Tray Systems

Introduction This publication is intended as a practical guide for the proper and safe* installation of cable ladder systems, cable tray

Jan 17, 2026

Full cable tray systems specification document

B. Cable tray systems are defined to include, but are not limited to straight sections of [ladder type] [trough type] [solid bottom type]

Dec 24, 2025

Cable Tray Systems

Cable trays offer continuous support of cables, are lightweight, quick and straight forward to install just about anywhere, and

Aug 19, 2025

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

Cable tray length is selected based on the load to be supported, the distance between the supports (also referred to as the span),

Mar 24, 2026

PP cable tray fastening accessories

PP mounting accessories are intended for joining cable trays, cable ladders, fastening of cable trays and

Nov 12, 2025

On the Relation between Strength and Stiffness of Cable Tray

On the premise of ensuring service safety, the correlation between the strength and stiffness of the cable tray under

Jul 04, 2026

Microsoft Word

Cable Trays Support, Fixing Hardware & Accessories shall be supplied as per this drawings. All finished galvanized MS structural

Mar 12, 2026

Document DICOS

To install the cable tray supports, first find the required elevation from the floor to the bottom of the cable tray and establish a level

Sep 17, 2025

CableTray Book English

Aluminum Cable trays fabricated of extruded aluminum are often used for their high strength-to-weight ratio, superior resistance to

Nov 22, 2025

Cable Tray Load and Weight Calculations

The maximum values calculated are 17.56kg/m for angle support weight, 54kg/m for cable weight, and 38.4kg/m for cable tray

Mar 12, 2026

Cable Tray Supports & Clamps

MP Husky cable tray clamps are the most reliable, highest quality, and cost effective cable tray clamps in the industry. Proper cable

Jul 02, 2026

On the Relation between Strength and Stiffness of Cable Tray

In order to realize the optimal design of the cable supporting system for the purpose of material saving and energy

Apr 25, 2026

Best Practice Guide to Cable Ladder and Cable Tray Systems

Cable ladder systems and cable tray systems are designed for use as supports for cables and not as enclosures giving full

Nov 03, 2025

Cable Tray Nut, Bolt, & Clamp Assemblies

1/4" plastic bolts and hex nuts fastens channel and fittings together for added strength and rigidity. Cast Copper Alloy Cable Tray

Aug 10, 2025

An In-depth Analysis for Optimal Cable Tray Support Span

This study investigates how to define the longest cable tray support span considering constructability in order to reduce

Aug 27, 2025

CABLE TRAY

Supports for cable trays should provide strength and working load capabilities sufficient to meet the load requirement of the cable

Mar 02, 2026

Cable Tray Selection: Strength & Deflection Guide

A guide to cable tray selection, focusing on strength, deflection, load capacity, and beam configurations. Ideal for engineering

Jun 13, 2026

Support methods

B1 copy starts here 16 – Under-floor U-bolt support Another method of creating support platforms for sub-floor runs of ExpressTray is

Dec 12, 2025

Calculate Size of Anchor Fastener for Cable Tray Support.

Consider 4 No of 10mm size of Anchor Fastener having Basic Tensile Load Capacity of 5KN at each Support. Total

Oct 28, 2025

Cable Tray Structural Design Guide | PDF | Strength Of Materials ...

The document discusses different beam configurations that can be found in cable tray installations, including simple beams,

Oct 27, 2025

Cable tray manual

The distance between supports affects the tray strength exponentially; therefore the strength of the cable tray system selected

Apr 11, 2026

Cable Tray Weight and Support Calculations

The document provides information on cable tray sizing including cable types and weights, tray sizes and weights, bending moment

Jan 14, 2026

Cable Tray | EAE Electric | Medium & heavy duty cable trays

General Information Cable Trays General Information EAE cable trays and ladders provide high-strength cable protection that

Sep 03, 2025

Guide to cable support systems

The load capacity of the cable trays according to the support width can be read off in the diagram using load curves – here, shown as

May 12, 2026

BHARAT HEAVY ELECTRICALS LIMITED

2.2 The design, material, construction, manufacture, inspection, testing and performance of cable tray support system (bolttable type)

May 31, 2026

Cable Tray Nut, Bolt, & Clamp Assemblies

Washer Support Plus, 1/4" Bolt, Nut and Washer, Zinc Plated Finish Category: Cable Tray Nut, Bolt, & Clamp Assemblies Cable Tray

Nov 12, 2025

Cable Tray Nut, Bolt, & Clamp Assemblies

Cable Tray Ground Clamp, Range: 2/0 AWG to 250 MCM, Tin Plated, Material: Copper Alloy Body, Bolt Size: 3/8 Inch x 16.

Sep 16, 2025

B-Line series Cable Tray Design Considerations

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

Nov 05, 2025

Cable Tray Ladder Trunking Wire Basket Installation Guidelines

Channel Cable Trays Economical support for cable drops and branch cable runs from the backbone cable tray system. Standard

Feb 26, 2026

Cable Tray SHIB NAL

Cable trays are not raceways, but they are treated as a structural component of a facility's electrical system. Cable trays are a part of

Jul 14, 2026

100+ Essential Questions Answered About Cable Trays: Design ...

Discover over 100 expert answers about cable trays, covering key topics like material selection, load capacity,

May 29, 2026

CABLE TRAY SYSTEMS GUIDE

Steel Ladder System Hubbell's NEXTFRAME® Ladder Tray is the effective and widely used cable runway that supports and delivers

Sep 10, 2025

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

SOLID-BOTTOM CABLE TRAY Providing additional cable protection, solid-bottom cable tray is sometimes preferred to support and

Apr 15, 2026

Document DICOS

Supports for cable trays should provide strength and working load capabilities sufficient to meet the load requirement of the cable

Aug 22, 2025

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

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://ntmmgroup.co.za>

Email: sales@ntmmgroup.co.za

Phone: +27 82 471 2596

Address: Unit 7, Optic Park, 24 High-Tech Lane, Century City, Cape Town,
7441, South Africa

This document is for informational purposes only. Specifications subject to
change without notice.

