Cable trays without expansion joints



Overview

Cable Trays We provide ladder cable tray covers and fixing systems that allow quick installation and secure coupling without deformation. Covers are availa.

Key Takeaways

Cable trays do not always require expansion joints; they are only necessary for long runs or where significant thermal expansion and contraction may occur.

Thermal Expansion Considerations

Cable trays, particularly metallic ones, expand and contract with temperature changes.

According to NEMA V

E 1 standards, steel and aluminum cable trays have specific maximum lengths between expansion joints depending on the expected temperature differential. For example, a steel tray may require an expansion joint every 128 feet, while an aluminum tray may require one every 65 feet for a 100°F temperature change. Expansion joints are typically installed only where large temperature variations occur, such as rooftop installations.

Installation Practices

Proper installation allows cable trays to accommodate thermal movement without expansion joints in shorter runs. Supports should not clamp the tray so tightly that it cannot expand or contract. Instead, trays should be anchored at midpoint supports with hold-down clamps and guided at other supports to allow sliding movement.

© 2026 METRA FIBER MARKET - All rights reserved

Expansion joints are generally aligned with structural expansion joints rather than installed arbitrarily along the tray run, as the tray and supporting structure may have different thermal expansion rates.

Material and Design Factors

The need for expansion joints also depends on the tray material. Aluminum expands more than steel, so shorter intervals between joints are required for aluminum trays. Ladder-type cable trays without covers allow for better airflow and minimal heat buildup, reducing thermal stress and the need for frequent expansion joints.

Proper design, including support spacing and load considerations, can often eliminate the need for expansion joints in typical indoor installations.

Standards and Guidelines

While the NEC does not explicitly require expansion joints for cable trays, NEMA standards provide guidance on thermal expansion management. Manufacturers also offer expansion joint splice plates and bonding jumpers for grounding continuity when joints are used. Following these guidelines ensures safe, reliable, and long-lasting cable tray installations.

In summary, expansion joints are not universally required for cable trays. They are necessary only for long runs, extreme temperature variations, or specific structural conditions, and proper support and installation practices can often mitigate the need for them.

Article Content

Cable Trays

We provide ladder cable tray covers and fixing systems that allow quick installation and secure coupling without deformation. Covers are available in Hot-Dip

Cable Tray Installation Rules (NEC 392) – Electrical Trader

Core rules for selecting, installing, grounding, and filling cable trays—clearances, materials, separation, and bonding explained.

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 of Canadian Electrical Code, Part I and the National Electrical Code®

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

© 2026 METRA FIBER MARKET - All rights reserved

Cable tray is considered to be a system. It must provide continuous support for cables, and the electrical continuity of the cable tray system must be maintained.

INSTALLATION GUIDE

For some tray runs, short lengths of cable may be laid in place without being pulled in. Where cables have to be drawn in, the use of pulling equipment is required.

Best Practice Guide to Cable Ladder and Cable Tray Systems

This publication is intended as a practical guide for the proper and safe* installation of cable ladder systems, cable tray systems, channel support systems and associated supports.

Thermal Contraction and Expansion of Cable Tray

It is important that cable tray installations incorporate features which provide adequate compensation for their thermal contraction and expansion.

Cable Tray Thermal Expansion Guidelines | PDF

1) Cable trays need expansion joints to allow for thermal contraction and expansion due to temperature changes. The NEC requires expansion joints where necessary, while NEMA standards provide

Cable tray manual

Instead of large conduits, cable channel may be used very effectively to support cable drops from the cable tray run to the equipment or device being serviced and is ideal for cable tray runs involving a

NEC Article 392 Requirements for Cable Tray Systems

A cable tray support should sit within 2 feet of each side of every expansion joint, and the tray must be anchored at the support closest to the midpoint between joints using hold-down clamps.

How to Fix Common Cable Management Issues using

Discover common cable management problems and how cable tray accessories effectively solve them to ensure safety and performance.

Cable Tray Size Chart and Selection Guide

When calculating expansion joint spacing for systems with specific electrical cable tray dimensions, consider not only the tray material but also the

B-Line series Cable Tray Design Considerations

© 2026 METRA FIBER MARKET - All rights reserved

As an industry leader in cable tray, Eaton offers one of the widest ranges of cable management solutions available in the market today with its B-Line series portfolio. With unmatched quality and service, we

Avoiding Mistakes in Instrumentation Cable Tray

Learn how to avoid common mistakes in instrumentation cable tray installation. Follow IEC standards and EPC best practices for safe, reliable

Cable Tray Fitting Accessories

Some common cable tray fittings include elbows, tees, crosses, bends, risers, reducers, bolts, nuts, locks, expansion screws, supporting brackets, suspension

Fiberglass cable tray installation

Fiberglass Cable Trays should be installed section by section, with each segment connected using splice plates, bolts, and washers. Ensure trays are level and

What Are Long Span Cable Trays

What are long span cable trays? Learn how they reduce support points, save costs & suit stadiums, factories. UK expert guide with FAQs.

CABLE TRAY

Hot dipped galvanized after fabrication (H.D.G.A.F.) (see ASTM A 123) steel, aluminum, and stainless steel cable tray and fiberglass or other non-metallic cable tray can be stored outside without cover,

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

© 2026 METRA FIBER MARKET - All rights reserved

Contact Us

Continue your research online:

Website: https://metramarket.es
Technical inquiry: https://metramarket.es/contact.html

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

© 2026 METRA FIBER MARKET - All rights reserved