

Cable trays do not require expansion joints



Overview

1993 NEC Section 300-7 (b) states that “Raceways shall be provided with expansion joints where necessary to compensate for the thermal expansion or contraction. This subject. ** Steel cable trays shall not be used as equipment grounding conductors for circuits with ground-fault protection above 600amperes. The mechanical and electrical characteristics, tests, certifications, overall quality management, recommendations mentioned in this technical guide only apply to our own cable management ranges and cannot under any circumstances be transposed to si osure, overheating or. en completely installed, without damage either to conductors or structural system use maintain spacing or to keep cables in place when the tray is ect the minimum bend ra-dius for cables as they exit the bottom of the cable tray. A rung spacing of 6 to 9 inches (150 to 230 mm) is preferable when. Cable tray (or cable ladder) systems are a popular alternative to electrical conduit systems, as they have an outstanding record for dependable service, design flexibility and cost savings in commercial and industrial applications. In this guide, the expansion gaps are explained to be calculated, as well as how to select materials such as aluminum or steel.



Article Content

Jun 01, 2026

Cable Tray Trunking & Ladder Installation Method Statement

Cable Trays and Trunking shall be fixed with metal bracket at an interval of 1200mm or less as per manufacturer recommendations and at 250mm from bends, intersection and termination points with

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Cable Tray, Cable Bus, Wire Mesh Cable Trays | MP

MP Husky manufacturers Cable Tray Systems, Cable Bus System, Wire Mesh/Wire,Cable Tray, & Cable Management Systems. Our cable support

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100+ Essential Questions Answered About Cable Trays:

Discover over 100 expert answers about cable trays, covering key topics like material selection, load capacity, installation methods, and maintenance.

Sep 11, 2025

Engineers guide to structural steel savings with B-Line series cable ...

Indoor cable tray runs (when temperature controlled) do not require expansion joints, and therefore, bonding jumpers are not required to maintain electrical continuity

May 17, 2026

Thermal Contraction and Expansion of Cable Tray

VE 1 Table 6-1 shows the allowable lengths of steel and aluminum cable tray between expansion joints for the temperature differential values. For a 100° F differential (winter to summer), a steel cable tray

Jan 28, 2026

Thermal Expansion and Contraction of Cable Tray

To determine the number of expansion splice plates you need, decide the length of the straight cable tray runs and the total difference between the minimum winter and maximum summer temperatures.

Jul 28, 2025

Cable Tray Thermal Expansion Guidelines | PDF

Cable Tray Thermal Expansion Guidelines 1) Cable trays need expansion joints to allow for thermal contraction and expansion due to temperature changes. The

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Thermal Contraction and Expansion of Cable Tray

Installing expansion joints in the cable tray runs only at the structure expansion joint positions, does not normally provide a valid solution to adequately compensate for the cable tray's thermal contraction

Apr 14, 2026

Microsoft Word

The cable tray needs to be anchored at the support closest to the midpoint between the expansion joints with hold down clamps and secured by expansion guides at all other support locations. The

Mar 04, 2026

392.44 Expansion Splice Plates.

An expansion splice plate may have slotted holes to allow for movement in the cable tray. A bonding jumper is required where cable tray systems are mechanically

Dec 14, 2025

Managing Thermal Expansion and Contraction in Cable

Learn how to manage thermal expansion and contraction in cable tray systems with expert tips on expansion joints, guides, and spacing to ensure

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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

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B-Line series Cable Tray Design Considerations

Available in 3, 4, and 6-inch widths with ventilated or solid bottoms, channel cable tray is ideal for smaller instrumentation cables and cable tray runs involving a small number of cables.

Jan 03, 2026

Cable tray (expansion joints) | Information by Electrical Professionals ...

Is there anywhere else in the NEC book that says cable tray has to have an expansion splice plate every so many feet? Alls I have found is 392.44 which says- Expansion splice plates for

Mar 20, 2026

INSTALLATION GUIDE

At the midpoint between two expansion joints the tray should be secured (no longitudinal movement). At all other support locations, the tray is secured to the supports using the expansion guide portion of

Dec 28, 2025

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 developed by ABB as a practical reference regarding cable tray

Apr 21, 2026

CTI-S65001_A01

The length of the continuous cable tray straight run, and the temperature differential govern the quantity of expansion splice plates required. For step-by-step method on how to determine the maximum

Jun 16, 2026

Cable Tray Thermal Expansion Guidelines

Thermal expansion and contraction of cable trays must be accounted for through the use of expansion joints. Proper installation of expansion joints is important to

Apr 21, 2026

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.

Aug 29, 2025

Document DICOS

Expansion splice joints should be designed and placed so as to maximize the rigidity of the cable tray, unless expansion splice plates are part of a system specifically designed for other placement,

Jun 19, 2026

Cable Tray Expansion Joint Installation: Comprehensive

Discover best practices for cable tray expansion joint installation to accommodate thermal changes, ensuring structural integrity and compliance with

May 29, 2026

Cable Tray Installation Guide | NEMA VE 2-2018

NEMA VE 2-2018 Cable Tray Installation Guidelines. Learn best practices for cable tray installation, support, and accessories.

Apr 30, 2026

Cable Tray Installation Guidelines for Engineers

Cable trays shall not be used to support any rigging for cable installation Guidelines for Engineers. Cable clamps or straps suitable for outdoor duty and ultraviolet light shall be provided to limit the movement

Aug 23, 2025

THERMAL EXPANSION DESIGN IN CABLE BUS

Considering a 100m cable bus system under normal site conditions, an Aluminum housing would expand 18cm. A Stainless Steel housing would expand only 8cm. In the absence of expansion joints,

Jan 11, 2026

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

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.

Jan 22, 2026

Cable tray (expansion joints) | Information by Electrical Professionals ...

NEMA has a free PDF installation guide that gives you the information needed to calculate how many expansion joints are needed. The code never tells you that you need one every so many

Sep 05, 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 of Canadian Electrical Code, Part I and the National Electrical Code®

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