

Function of cable tray expansion joint support



Overview

According to NEC Section 300-7 (b), cable trays must be designed to accommodate the thermal expansion and contraction of the cables they support. A rung spacing of 6 to 9 inches (150 to 230 mm) is preferable when the cable tray is used for instrumentation and control applications that require. When developing our cable support OBO can offer reliable solutions for systems, three attributes are at the routing and fastening cables securely core of what we do: efficiency, resilience for each of these installation challenges and safety. As cables and trays expand or contract, they can cause stress on the structure, leading to potential damage or misalignment. Considering a 100m cable bus system under normal site conditions, an Aluminum housing would expand 18cm.



Article Content

May 28, 2026

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 systems, channel support systems and associated supports.

Nov 15, 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 protect numerous small instrumentation and control cables.

May 08, 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

Jan 03, 2026

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 any additional loading that may be applied to the cable tray system (e.g.,

Dec 07, 2025

Cable Tray Expansion Joint Installation: Comprehensive

When performing cable tray expansion joint installation, it is essential to follow best practices for anchoring and supporting the cable trays to ensure

Dec 16, 2025

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.

Jun 23, 2026

Beama Best Practice Guide | Installation Of The System | Cable ...

The following recommendations are intended to be a practical guide to ensure the safe and proper installation of cable ladder and cable tray systems and channel support and other support systems.

Feb 12, 2026

US8534613B2

An expansion joint is disclosed for a cable tray apparatus for a people mover system. An expansion joint is inserted or positioned between a pair of generally rectangular electrical cable trays having first and

Jun 20, 2026

Guide to cable support systems

In addition, a cable support system can be used to separate and arrange cables in groups. The systems are installed on ceilings, walls or floors. The material of a cable support system is normally steel or

Jun 01, 2026

Thermal Expansion and Contraction of Cable Tray

To function properly, expansion splice plates require accurate gap settings between trays. The support nearest the midpoint between expansion splice plates should be anchored, allowing the tray

Jul 19, 2025

THERMAL EXPANSION DESIGN IN CABLE BUS

Expansion joints allow a cable bus housing to expand in a controlled manner. Considering a 100m cable bus system under normal site conditions, an Aluminum housing would expand 18cm.

Jul 04, 2025

CTI-S65001_A01

Thermal Expansion and Contraction of Cable Tray All materials expand and contract due to temperature changes. It is important that cable tray installations incorporate features which provide adequate

May 17, 2026

Expansion joint

The CEI EN 61537 standard states that the maximum acceptable longitudinal inflexion is 1/100 of the distance between supports, and that the maximum acceptable transversal one is 1/20 of tray width.

Sep 21, 2025

Thermal Contraction and Expansion of Cable Tray

A cable tray support should be located within 2 feet of each side of the expansion joint splice plates position. The cable trays must not be clamped to

Apr 11, 2026

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

Jul 17, 2025

Cable tray expansion joint setting method

Reasonable setting of cable tray expansion joints is a key link to ensure the safe operation of the cable tray system, and factors such as thermal expansion compensation, vibration absorption

Aug 03, 2025

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 13, 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

Jan 06, 2026

Cable Tray Systems: Requirements and Best Practices

Comprehensive guide to cable tray systems requirements: tray types, materials, loading, supports, bonding, routing, and best practices for safe electrical cable management.

Mar 17, 2026

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 today with its B-Line series portfolio. With unmatched quality and service, we

Mar 30, 2026

Guide to cable support systems

Cable support systems for cable support structures are used to bridge large loads and support spacings and to create complex section routes. The systems allow large support spacings of wide span systems

Jul 22, 2025

Cable Tray Thermal Expansion Guides | TechLine Mfg

Our thermal expansion guides are recommended to provide longitudinal movement from a fixed point. Two guides should be used and attached to each side rail.

Aug 09, 2025

optimization of Cable Tray Support in Oil & Gas Projects Using Heavy ...

This paper presents a case study to qualify the installation of cable tray systems in Oil& Gas projects with nonstandard expansion splicing plates. It aims to reduce cost and installation time of local power

Apr 16, 2026

THERMAL EXPANSION DESIGN IN CABLE BUS

In the absence of expansion joints, this would put an undue stress on the support structures and connected equipment. Under these same conditions, the copper conductor of the power cables

Jan 27, 2026

Design Consideration we follow | powersolution.

Thermal Expansion & Contraction Installation of cable support and cable management systems must consider thermal expansion and contraction. The

Jan 23, 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.

Contact Us

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