

Should cross-connections be made for trough-type cable trays

Article Overview

Cross-connections are generally not required for trough-type cable trays unless additional structural support or grounding continuity is needed.

Structural Considerations

Trough-type cable trays feature a continuous or partially ventilated bottom with solid side rails, providing moderate structural strength and continuous cable support . Unlike ladder trays, which have rungs that can be cross-connected for added rigidity, trough trays are designed to support cables along their length without the need for transverse cross-connections under normal loading conditions . Cross-connections may be considered if:

- o The tray spans unusually long distances without intermediate supports.
- o Heavy or densely packed cables are installed that could cause sagging.
- o Local building codes or engineering specifications require additional reinforcement.

Grounding and Electrical Continuity

While mechanical cross-connections are not typically required, electrical continuity and grounding are critical. According to NEC Article 392, metallic cable trays must maintain proper grounding throughout the system . This can be achieved using:

- o Factory-installed bonding jumpers or connectors.
- o Grounding lugs at tray joints.
- o Cross-bonding where multiple trays intersect to ensure a continuous path to ground. Cross-connections in this context are primarily for bonding and grounding purposes, not structural support.

Best Practices

- o Follow manufacturer recommendations for tray spans, supports, and load ratings .
- o Use splice plates or brackets at joints to maintain alignment and mechanical stability.
- o Ensure grounding continuity across all tray sections, especially at tees, crosses, and bends.
- o Avoid unnecessary cross-connections that could complicate installation or interfere with cable routing.

Conclusion

For standard trough-type cable trays, mechanical cross-connections are not typically required, as the tray

Should cross-connections be made for trough-type cable trays

design provides sufficient support. However, cross-connections may be implemented for enhanced structural support or grounding continuity in specific installations, particularly for long spans, heavy cable loads, or compliance with local electrical codes . Proper planning and adherence to manufacturer and NEC guidelines ensure both mechanical stability and electrical safety.

Any vertically orientated component, whether cable ladder, cable tray or support, acts structurally as a column; it is not usual to

Only cables specifically rated for tray use - such as Type TC (Tray Rated) or Type MC (Metal-Clad) - are allowed.

Cable tray is alternatives to wire ways and electrical conduits, which completely enclose cables. Study types of cable

When designing a cable tray wiring system, the designer should evaluate the National Electrical Code's (NEC) Equipment Grounding

For ladder or ventilated trough trays, the total sum of the cross-sectional areas of all the cables to be installed in the cable tray must

Introduction The purpose of this document is to describe the correct process to install the connectors in our cable trays.

A professional guide to trough type cable trays. Explore load capacity charts, installation guidelines, advantages over

Make expansion connections wherever cable tray and trunking are crossing building expansion joints. Cable trays are to be made

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

Where a cable tray wiring system containing Type TC cables will be exposed to any significant amount of hot metal splatter from

Adequate room should be provided around the cable tray to allow for the set-up of cable pulling equipment and to provide easy

Should cross-connections be made for trough-type cable trays

Across industry tray cable (type TC) is a go-to solution that works in some of the harshest indoor and outdoor environments. Tray

In the electrical wiring of buildings, a cable tray system is used to support insulated electrical cables used for power distribution,

cable trays are equivalent. The mechanical and electrical characteristics, tests, certifications, overall quality management,

Overloading cable trays Cable trays come in a wide variety of sizes. The appropriate size and number of cable trays depends directly

NEC section 318-5 (e) indicates that multiconductor cables rated 600 volts or less are permitted in the same cable tray, however,

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

