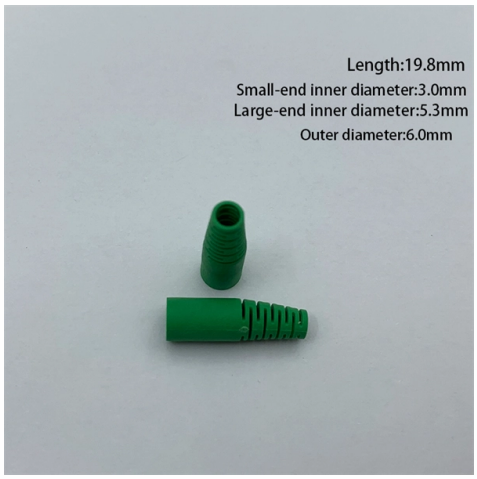
Can cable trays and ductwork share the same support frame



Overview

Yes. Strut framing can support both ladder and solid-bottom cable trays, offering a fully integrated system for cable management.

Key Takeaways

Cable trays and ductwork can share the same primary support frame if the structure is engineered to handle the combined load and proper separation is maintained.

Structural Considerations

Cable trays and air ducts serve distinct purposes: cable trays support electrical and data cables, while ducts transport air for HVAC systems. Although a cable tray cannot directly support a duct, both systems can be attached to the same primary structural steelwork or suspended from the same concrete slab, provided the support frame is designed for the combined weight. Multi-tier channel support systems are commonly used, allowing cable trays to be installed below ductwork or in separate tiers, ensuring proper load distribution.

Safety and Separation

Maintaining a minimum safe distance between cable trays and ducts is critical. This prevents issues such as condensation from chilled air ducts dripping onto electrical cables, which could create electrical hazards. Proper coordination ensures that large, rigid ducts are prioritized in routing, with cable trays adjusted around them to avoid conflicts.

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

Installation Practices

Channel and bracket systems (e.g., Unistrut) are versatile and can support both cable trays and ductwork on the same frame. Tiered supports allow multiple services to share a single installation, with electrical containment typically placed below ductwork. Coordination during design using 3D modeling or BIM is recommended to identify and resolve clashes before construction.

Key Recommendations

Engage both electrical and HVAC engineers early in the design phase to ensure compliance with load, spacing, and safety standards. Ensure the support frame is rated for the combined weight of ducts and cable trays. Avoid running cables inside air ducts unless specifically rated for that purpose, as this is a fire and airflow hazard.

By following these guidelines, cable trays and ductwork can safely share a support frame while maintaining operational efficiency and compliance with building codes.

Article Content

Cable Tray vs Air Duct: A Complete Guide for UK Construction

Shared Support Systems: While a cable tray cannot support an air duct, both systems can often be fixed to the same primary structural steelwork or suspended from the same concrete

Can cable trays and strut systems be integrated into the same support ...

Yes. Strut framing can support both ladder and solid-bottom cable trays, offering a fully integrated system for cable management. This hybrid setup is commonly used in commercial

NEC Article 392 Guide: Ensuring Compliance for Cable

A cable tray is a support structure that seems to be a bridge that supports wires in the air. The significance of this difference is that it varies the

Guide to cable support systems

The theoretically possible support spacings for the cable tray can be read off on the axis at the foot of the table. Using the load curves, it is easy to read off to what extent the load capacity of the system

ITER Cabling Handbook

If two cables belonging to incompatible families (for the definition of families, refer to ITER EDH Electromagnetic Compatibility) have to share the same cable tray, a metal vertical cable tray divider

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

Channel Support Systems and Fixings for MEP and HVAC Services

With a channel support framework constructed it is possible to attach all manner of fixings for the suspension or support of pipework, ducting or cable containment.

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.

Cable tray trapeze supports and process piping?

For Vitalink MC cable we typically see a spec that calls for independent support even from conduit racks. Construction utilized the same trapeze cable tray supports to install process

Unipier Rooftop Supports

An “H” frame constructed of Unistrut and 8-H Base P bases are used to support ductwork or cable trays on flat roofs. The unique design allows a sturdy support without penetrating or causing damage to

Cable Tray Systems in Ducts, Plenums and Other Air Handling Space

The appropriate types of cables that are used for branch circuit conductors and data handling or signal cables may be supported by cable tray under raised floors.

slovenia-standard-for-electroplated-galvanized-cable-trays

29 Companies and suppliers for slovenia-standard-for-electroplated-galvanized-cable-trays Find wholesalers and contact them directly Leading B2B martketplace Find companies now!

How Can Installation Conflicts Be Prevented Between Marine Interior ...

The correct sequence is your only defense. The proven 4-step sequence to prevent rework is: first install heavy hot-work pipes, second install and insulate the HVAC ductwork, third pull and secure the

Cable tray

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

7 Best Cable Management Solutions for Office Desks

Tame your office desk chaos with the best cable management solutions—under-desk trays, retractable racks, and clamp-on nets that hide wires, boost safety, and free up space.

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved

Conduit on duct work hangers | Information by Electrical Professionals ...

In addition to what has already been said, I try not to do this just because of the fact that it is not a dedicated support to the conduit, or perhaps cable tray for that matter that you are running. If

Cable Tray Support Spacing: Key Guidelines Explained

The cable tray supports shall be designed to support the weight of the cables, and also any loads that may be applied to the trays from the outside,

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.

Tray Installations

Tray Installations The placement of cables, ducts, and conduits can be done using cable trays – for both outside plant (OSP) and interior spaces (ISP). This allows cables and ducts to be installed quickly

Contact Us

Continue your research online:

Website: https://alfa-pro.co.za
Technical inquiry: https://alfa-pro.co.za/contact.html

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

© 2026 ALFA PRO COMMUNICATION SYSTEMS (Pty) Ltd - All rights reserved