Refrigerant pipe supports use cable trays



Overview

This Bulletin provides guidance on pipework support methods for copper pipework designed to contain refrigerant in air conditioning, heat pump or refrigeration applications.

Key Takeaways

Refrigerant pipes can be installed in cable trays if proper materials, ventilation, and spacing are maintained to ensure safety and system efficiency.

Material and Tray Selection

For refrigerant piping, corrosion-resistant materials are essential. Common options include hot-dip galvanized steel, aluminum alloys, or FRP (Fiber Reinforced Polymer) for highly corrosive environments. The tray must support the combined weight of pipes, insulation, and refrigerant, with typical utility tray sizes starting at 150mm x 50mm.

Ladder, perforated, or solid-bottom trays can be chosen based on ventilation needs and load requirements.

Ventilation and Heat Management

Proper ventilation is critical to prevent condensation and overheating around refrigerant lines. Perforated or ladder trays allow airflow, reducing the risk of thermal buildup. If pipes carry hot refrigerant, consider heat shields or splash guards to protect nearby electrical cables from radiant or convective heat.

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Safety and Spacing

Maintaining adequate separation between refrigerant pipes and electrical cables is crucial. Pipes should not be placed too close to cables to avoid heat transfer, vibration, or potential leaks that could damage electrical systems. Safety distances depend on pipe temperature, fluid type, and cable insulation, but a general principle is to maximize access for maintenance and inspection while minimizing interference.

Installation Guidelines

Ensure trays are level, plumb, and securely mounted with proper support spacing. Select tray width and depth to accommodate current and future piping needs, allowing 20–30% extra capacity for expansion. Use ventilated designs to enhance airflow and prevent moisture accumulation.

Verify that tray coatings meet standards such as ASTM A123 for hot-dip galvanizing if steel trays are used.

Maintenance Considerations

Routing refrigerant pipes in trays should allow easy access for inspection and replacement. Avoid configurations that require full tray disassembly for maintenance, and ensure that any potential leaks or drips are contained to prevent damage to electrical cables. By following these guidelines, refrigerant piping in cable trays can be installed safely, efficiently, and in compliance with industry standards, ensuring long-term reliability of both HVAC and electrical systems.

Article Content

Pipe Supports Case Study: Supporting Refrigeration Lines

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Cable trays and pipe support

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Copper pipework support and routing

This Bulletin provides guidance on pipework support methods for copper pipework designed to contain refrigerant in air conditioning, heat pump or refrigeration applications.

Perforated Cable Tray Free Space Calculator for Refrigerant Piping

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Calculate free space and tray fill for refrigerant piping in perforated cable trays using HVAC engineering best practices by AskMEP.

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Made from recycled rubber, these feet can support pipework, cable tray and can be used to mount air conditioning units, air source heat pumps and a variety of outdoor equipment.

Supporting and fixing solutions for HVAC equipment

Support solution for the cooling networks and equipment on your air conditioning systems. SUFIX offers you a wide range of wall-mounted supports, vibration-damping feet, refrigerating pipes, rails and

Copper Pipe Support | PDF | Duct (Flow) | Plumbing

It discusses recommended maximum support spacing for different copper pipe sizes and recommended methods for fixing pipework run through floor ducts, along walls and ceilings, or at high levels

Pipe Fixing And Placing

Pipe Fixing And Placing: Clips and fixing accessories for pipe, insulation and cable tray fixings for air conditioning and refrigeration use.

Cable Tray Installation Details | PDF | Hvac | Machines

This document contains reference information for typical cable tray support details, including cable tray data sheets, cable lists, and HVAC system specifications for a substation and rack room.

Safety Distances Between Cable Trays and Pipes

Learn about the importance of cable trays and pipes safety distances in ensuring system reliability. Explore standards,

Route piping over or under cable trays?

Piping handbook referred to high temperature piping being routed over cable trays because the radiant heat could have an adverse effect on the cables.

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.

SECTION 232300

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Refrigerant piping indicated on Drawings is schematic only. Size piping and design actual piping layout, including oil traps, double risers, specialties, and pipe and tube sizes to accommodate, as a

Cable Trays vs Pipes (Conduits)

How to choose a cable tray. Now comes the question of choosing the right cable tray. Briefly, the following needs to be taken into consideration. 1. Wire type – Cable trays support wirings

EARTHQUAKE PROTECTION

Suspended systems such as piping, equipment and ductwork need seis-mic braces to keep them from swaying during an earthquake. Seismic braces can be flexible using aircraft quality cables, or rigid

Cable Tray Questions | Cable Tray Institute

Answer: No. Cable trays are a support system for electrical cables, power, signal, and communication and optical fiber cables. NEC section 300-8 does not permit any tube, pipe, or equal for water, air

Cable tray vs cable basket vs cable ladder vs cable

This article will discuss the four most common types of cable containment and their uses: cable tray, cable basket, cable ladder, and cable

What Is A Cable Tray? 5 Types Of Cable Trays

A cable tray is a structural system used to support and manage electrical cables in various settings, such as industrial, commercial, and residential environments.

Related Video Reference

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

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