

Welding of cable tray supports in steel structure workshops

Article Overview

Cable tray supports in steel structures should be welded using approved procedures, with proper positioning, temporary attachment, and post-weld finishing to ensure safety and structural integrity.

Welding Method and Positioning

Cable tray supports are typically welded to steel structures at predetermined positions along the cable routing path. The process begins with selecting the welding position and temporarily attaching the support to the floor or structure using a bonding surface or clamps to maintain alignment and stability during welding . This ensures that the support remains plumb and level, preventing misalignment of the cable tray system .

Welding Procedure

Welding should be performed according to an approved Welding Procedure Specification (WPS), which defines the type of weld, electrode, current, and other parameters . For coated or galvanized steel, additional care is required to remove coatings at the weld site to prevent defects and ensure proper fusion . After welding, touch-up painting is recommended to protect exposed steel surfaces from corrosion .

Support Spacing and Installation

Supports should be spaced according to the load requirements of the cable tray system, typically within 2 feet (600 mm) of expansion splice plates and at quarter points of horizontal spans . Vertical trays require secure fastening methods beyond friction, and expansion guides should be used where necessary. All supports must be rigidly secured to the steel structure to maintain stability under load .

Safety and Preparation

Before welding, all tools, consumables, and materials must be inspected and approved by a supervisor or safety engineer. Proper personal protective equipment (PPE) and fire safety measures should be in place, especially when welding near flammable materials or fireproofed structures . Temporary attachment methods, such as clamps or bonding surfaces, improve convenience and reduce the need for multiple workers to hold supports during welding .

Post-Weld Considerations

After welding, ensure that all welds are inspected for quality and compliance with standards. Any cutting, drilling, or grinding edges should be painted or coated to prevent corrosion. Supports attached to fireproofed

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structures should account for the thickness of fireproofing material to maintain proper clearance . By following these procedures, welding cable tray supports in steel structure workshops can be performed efficiently, safely, and in compliance with structural and electrical standards .

Steel weld shall be ensured in the cable trenches ceiling slabs and concrete blocks for installing the cable racks and support

Wire Mesh Cable Trays Wire mesh cable trays provide a secure surface for cables to rest on while holding them out of the way of

2.2 Structural characteristics When considering the installation of the cable supports system it is imperative to avoid the cutting or

Cable trays are systems that distribute bundles of insulated electrical cables from power supplies to electrical equipment, consisting

This document provides guidance on best practices for installing cable ladder and cable tray systems, including channel support

As described above, the cable tray support and the welding method according to an embodiment of the present invention can weld

Cable tray length is selected based on the load to be supported, the distance between the supports (also referred to as the span),

Self standing support for cable tray shall be made of steel channel vertically nstalled and supported with concrete

Prepare the required tools and materials to be used for the installation of the cable tray. Inspect tools for proper

Approval of IPR shall be obtained for site preparation and marking the cable tray routes and locations of cable tray support before

Then, add some percentage (how much?, I'm not sure) per foot because the contractor will likely do that, in any case.

If it has excellent electrical continuity and is integrated in the installation's equipotential bonding system, a metal cable tray reduces

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The document then covers structural design stresses and factors of safety used in determining allowable stresses for aluminum

7.2 Procedure for Cable tray installation. 7.2.1 Ensure cable tray size, type, spacing between tiers and routing as per drawing during

B. Cable tray systems are defined to include, but are not limited to straight sections of [ladder type] [trough type] [solid bottom type]

Cable tray structures are ubiquitous in modern infrastructure, supporting critical electrical and communication systems.

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