

RIVO MULTITRADE OPTICAL SYSTEMS

Methods for riveting and welding cable tray elbows



Overview

This document provides a method statement for installing cable trays and trunking systems for building electrical services.

Key Takeaways

Cable tray elbows can be joined using either riveting for mechanical fastening or welding for permanent, strong joints, depending on material, load, and installation requirements. Riveting Methods

Riveting is a mechanical fastening method suitable for lighter-duty or modular cable tray systems. Key steps include:

- **Material Preparation:** Cut and bend the metal sheets to the required elbow angle (e.g., 45° or 90°) using a shearing and bending machine .
- **Drilling Holes:** Align the elbow sections and drill holes at the joint points for rivets.
- **Rivet Selection:** Use appropriate rivets (aluminum, steel, or stainless steel) based on tray material and environmental conditions .
- **Fastening:** Insert rivets and use a rivet gun or hammer to secure the joint. Ensure tight, uniform fastening to maintain structural integrity.

- **Inspection:** Check alignment, spacing, and tightness to prevent gaps or misalignment that could affect cable support. Riveting is advantageous for ease of assembly, disassembly, and field adjustments, but it may not provide the same strength as welding for heavy-duty or high-load applications.

Welding Methods

Welding provides a permanent, strong joint, ideal for heavy-duty cable trays or high-stress installations. Common welding methods include:

- **Preparation:** Clean and align the elbow sections. Ensure edges are smooth and free of coatings that may interfere with welding .
- **Tack Welding:** Temporarily attach the elbow sections using tack welds to maintain alignment.
- **Full Welding:** Perform continuous welding along the joint using appropriate techniques such as MIG, TIG, or arc welding, depending on the material (galvanized steel, stainless steel, or aluminum), .
- **Welding Positioning:** For floor-mounted or ceiling-mounted trays, a bonding surface can be temporarily attached to the floor to improve welding convenience and stability .
- **Post-Weld Treatment:** Smooth welds, remove slag, and apply surface treatment (painting or galvanization) to prevent corrosion .
- **Inspection:** Verify weld quality, joint strength, and dimensional accuracy to meet safety and industry standards.

Material Considerations

- **Galvanized Steel:** Common for indoor and outdoor installations; welding requires care to avoid zinc fumes.
- **Stainless Steel:** Corrosion-resistant; TIG welding is preferred for clean, strong joints.
- **Aluminum:** Lightweight and corrosion-resistant; requires TIG or MIG welding with proper shielding gas .

Summary

- **Riveting:** Quick, modular, suitable for lighter loads, allows disassembly.
- **Welding:** Permanent, strong, suitable for heavy-duty or high-stress applications, requires skilled labor and safety precautions.
- **Best Practice:** Choose the method based on load requirements, material type, installation environment, and maintenance needs. Always follow safety standards and inspect joints for structural integrity .

Article Content

Basic Construction of Cable Tray Elbows

This document provides a method statement for installing cable trays and trunking systems for building electrical services. It outlines

Methods for fabricating cable trays and bending elbows

This manual is designed to guide workers through the detailed production process of ladder cable trays, including the manufacture of

Cable tray support and its welding method

According to the cable tray support and the welding method thereof according to the embodiment of the present invention, the

Cable Tray Fabrication Method Statement

The document outlines procedures for cable tray fabrication and installation for the HA MBD project. It includes sections on scope of

Method for fabricating elbows in cable trays

Creating a 90-degree elbow in an electrical cable tray, often called a "fabricated" or "mitered" bend, involves cutting, bending, and

How to make cable tray elbows?

Making cable tray elbows requires certain professional knowledge and skills, as well as attention to safety and environmental

How to Bend Cable Tray Elbow — Practical Guide

A clear, step-by-step cable tray elbow guide covering types, installation, bend formulas, DIY vs. pre-fab trade-offs, and

INSTALLATION GUIDE

Vertical cable tray elbows at the top of runs should be supported at each end. At the bottom of runs, they should be supported at the

Document DICOS

Attaching a channel cable tray by using the method illustrated in Figure 3-88 maintains the electrical requirements, and the bolted

Cable Tray SOP

SECTION C: STORAGE All tray items whether stored outside or indoors, should be placed on sufficient support, to enable future

Full cable tray systems specification document

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

How to Produce Wire Mesh Cable Trays and Complex Connectors

This article provides an in-depth guide on how to produce wire mesh cable trays and their complex connectors, such

Cable Tray Technical Guide A practical guide to product selection

A practical guide to product selection and installation This guide for engineers and installers has been developed by ABB as a

Cable routing | Tips for proper cabling | Simply explained

A common method is to use cable trays, which are installed on the ceiling and act as open structures to accommodate cables. These

B-Line series Cable Tray Design Considerations

Is your cable tray system optimized for safety, dependability, space and cost savings? Cable tray (or cable ladder) systems are a

CABLE TRAY SYSTEMS GUIDE

The Ladder Tray features light, rugged, tubular steel construction. It is designed for mechanical support and strain relief in long runs

7 Types of Cable Trays: How to Choose the Right One

Cable tray systems are engineered support structures designed to route, support, and protect insulated electrical

Cable Tray Installation Guidelines for Engineers

Cable Tray Installation Guidelines for Engineers Cable trays shall be installed according to the latest revision of the NEC, NEMA VE

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

