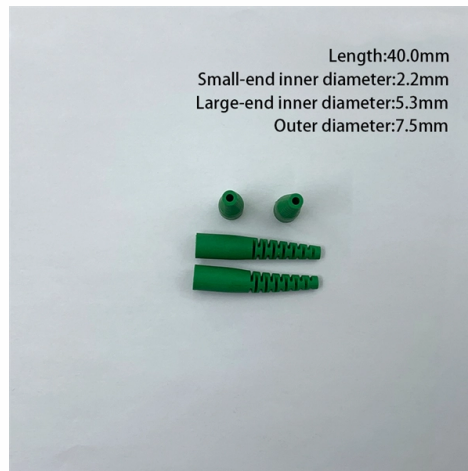


Cable tray splicing trench



Overview

Trenwa is the original manufacturer of precast concrete trench and offers the broadest line of proven trench systems.

Key Takeaways

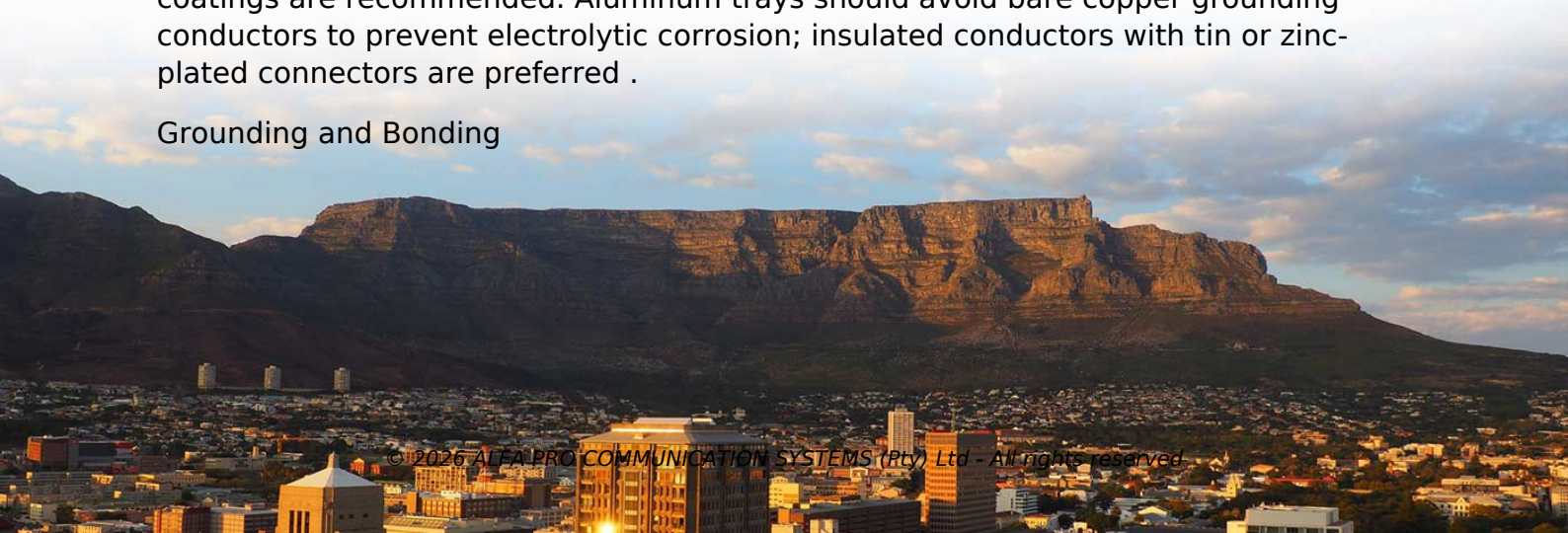
Cable tray splicing in trenches involves securely joining tray sections using splice plates, proper supports, and grounding to ensure mechanical stability and electrical safety. Splice Plate and Connection

When installing cable trays in a trench, splice plates are used to connect two sections of tray. These plates are typically bolted across the flanges of adjacent tray sections to maintain alignment and structural integrity. The spacing of supports should follow manufacturer recommendations, often every 1.5 to 3 meters depending on tray type and load, to prevent sagging or deformation under cable weight. Proper alignment ensures smooth cable pulling and reduces stress on the cables.

Material and Environmental Considerations

Cable trays can be made of steel, aluminum, or stainless steel, with finishes selected based on environmental conditions such as moisture, chemical exposure, or corrosive soils. For underground or trench installations, corrosion-resistant materials or coatings are recommended. Aluminum trays should avoid bare copper grounding conductors to prevent electrolytic corrosion; insulated conductors with tin or zinc-plated connectors are preferred.

Grounding and Bonding



All metallic cable trays must be grounded according to electrical codes, even if the tray itself is used as the equipment grounding conductor (EGC), . Grounding clamps can bond the EGC to each tray section, providing both electrical continuity and mechanical anchoring to withstand fault currents. This is particularly important in trench installations where vibration or soil movement could stress connections.

Installation Best Practices

- Ensure continuous support along the trench to prevent tray deflection.
- Maintain proper separation of power, control, and data cables to reduce electromagnetic interference (EMC) issues .
- Use ventilated or solid-bottom trays depending on cable type and environmental exposure .
- Allow for thermal expansion and contraction by leaving small gaps or using expansion joints in long runs .
- Verify that all splice bolts are tightened and corrosion-protected to maintain long-term reliability.

EMC and Safety Considerations

In trench installations, cable trays should be solidly bonded to reduce electromagnetic perturbations and ensure safe operation of sensitive equipment . Proper segregation of cable types and adherence to EMC guidelines helps prevent interference and maintains system reliability. By following these practices, cable tray splicing in trenches can achieve mechanical stability, electrical safety, and long-term reliability for industrial and commercial installations .

Article Content

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Cable tray manual

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Resources for Cable tray and ladder systems

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Cable Tray System and Joints

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A. General: Except as otherwise indicated, provide metal cable trays, of types, classes and sizes indicated; with splice plates, bolts,

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