

How to install cable trays underground

Article Overview

Underground cable tray installation requires careful trench preparation, corrosion-resistant materials, proper support, and protective measures to ensure long-term safety and reliability.

Planning and Design

Before installation, plan the route of the cable trays, considering cable separation, load capacity, and future maintenance access. Review approved shop drawings to determine tray layout, length, and location, ensuring compliance with electrical standards such as BS EN 61537 for cable trays and BS 6946 for support systems . Factor in environmental conditions, soil type, and potential water ingress.

Material Selection

Use corrosion-resistant materials such as galvanized steel, stainless steel, or aluminum for underground trays to withstand moisture and soil chemicals . Select tray types based on load and cable type: ladder trays allow airflow and easy cable entry, while solid-bottom trays provide additional protection against debris and water . Ensure all materials are inspected for damage before installation .

Trench Preparation

Excavate a trench with sufficient depth and width to accommodate the tray, bedding material, and protective cover. Lay a sand or fine gravel bed to provide a stable, level base and prevent point loads that could damage the tray. Ensure proper drainage to avoid water accumulation.

Support and Alignment

Install supports or brackets at regular intervals, typically 1.5 to 3 meters apart, depending on tray type and load . Supports can be concrete pads, steel rods, or adjustable brackets anchored in the trench. Align trays straight and level, using connectors and fittings to maintain continuity. For long runs, consider using rollers or temporary supports to prevent sagging during installation.

Protection Measures

- o Cover trays with concrete slabs, protective panels, or cable vaults to prevent mechanical damage.
- o Waterproofing: Apply sealants or use trays with integrated covers to minimize water ingress.
- o Corrosion protection: Use coatings or select inherently corrosion-resistant materials.
- o Bend radius: Maintain minimum bend radius for cables exiting the tray to prevent damage .



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Installation and Testing

Lay cables carefully, avoiding kinks or sharp bends. Secure cables with appropriate clamps or ties, ensuring spacing and separation requirements are met. Conduct inspections and testing according to the project's QA/QC plan to verify alignment, support integrity, and compliance with specifications .

Maintenance Considerations

Provide access points or removable covers for future inspection and maintenance. Document tray layout and cable routing for reference during upgrades or repairs. By following these techniques, underground cable tray systems can achieve durability, safety, and ease of maintenance, while protecting cables from environmental and mechanical hazards .

Looking to improve your cable organization and create a clean, safe workspace? In this

Where cable tray crossing building expansion joint, the tray shall be installed suitably to provide expansion/contraction

Install underground electrical wiring the right way. Expert guide covers NEC burial depth, cable selection, trenching,

A professional guide to installing electrical cable tray systems per NEC Article 392. Covers support,

Learn everything about cable tray installation with our complete guide. Discover types, steps, and safety tips for

Metallic Cable Trays Cable tray may be used as the Equipment Grounding Conductor (EGC)

Learn about the benefits and applications of cable trays, and the specific advantages of using Snake Tray products.

Tray cables can be buried underground, but only if they are specifically designed and rated for direct burial. Not all

Metal cable trays must be grounded and electrically continuous system. Cable tray installation will be completed and will be

Learn how to install cable trays for large-scale projects with our professional, step-by-step

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Tray and Trunking joints are to be positioned as close to the supports as possible. Install 12.5mmx1.5mm copper earth bonding

Step-by-step cable tray and conduit installation method with safety, quality and inspection

To solve this issue, the underground cable installation method is used worldwide. Today,

When properly installed, cable trays prevent damage to cabling and the area's structural integrity. When

Welcome to our step-by-step guide on installing cable trays! In this video, we'll explore the different types of cable trays

This method statement covers the site installation of the cable tray & ladders and the requirements of checks to be

Web: <https://www.in-au.co.za>

