

Installation of Outdoor Cable Trays in Saudi Arabia



Overview

Matkel supplies engineered cable tray systems built for extreme operational loads and harsh environmental conditions.

Key Takeaways

Outdoor cable tray installations in Saudi Arabia require hot-dip galvanized or stainless steel trays, proper support spacing, strict cable segregation, and compliance with SEC, IEC, and SASO standards.

Standards and Compliance

Outdoor cable tray installations in Saudi Arabia typically follow a combination of Saudi Electricity Company (SEC) standards, International Electrotechnical Commission (IEC) standards, and Saudi Standards, Metrology and Quality Organization (SASO) requirements. Some projects, especially for Aramco or large industrial clients, may also reference IEEE or NEC guidelines. Compliance ensures safety, reliability, and long-term performance under harsh environmental conditions.

Cable Tray Types and Material Selection

- Ladder Type Trays (2-4 mm): Most commonly used for medium and high-voltage power cables due to excellent ventilation, which is critical in hot climates like Riyadh or Jeddah.
- Perforated Trays (1.5-2 mm): Suitable for low-voltage and control cables, providing moderate ventilation and support.

- Solid Bottom Trays (1.5–2 mm): Used in dusty or sandy environments to protect cables from debris, common in desert or industrial zones .

Material preferences for outdoor installations include:

- Hot-Dip Galvanized (HDG) Steel: Most common due to corrosion resistance and durability in high temperatures .
- Stainless Steel (304/316): Recommended for coastal areas with high humidity and salt exposure .
- Aluminum Trays: Lightweight and corrosion-resistant, sometimes used for specific applications .

Installation Practices

- Support Spacing: Typically 1.5 m to 3 m; closer spacing is required for heavy power cable trays .
- Cable Fill Capacity: Maintain 40–60% fill to allow heat dissipation and future expansion .
- Cable Segregation: Power, control, and signal cables must be separated to prevent electromagnetic interference (EMI). Separate trays or minimum spacing is enforced .
- Grounding and Bonding: Metallic trays must be properly grounded with continuous bonding between sections to prevent signal disturbance and ensure safety .
- UV and Dust Protection: Use UV-resistant cable ties and consider sand/dust protection for cables .
- Fire Safety: Fire-retardant cables are recommended in critical areas .
- Labeling: Proper labeling in Arabic and English is often required for identification and maintenance .

Accessories and Supports

Outdoor installations require a range of fittings, brackets, hangers, and hardware to ensure structural integrity. Weld-free supports, trapeze-type hangers, and custom brackets are commonly used to adapt to site-specific load requirements and environmental conditions .

Summary Recommendations

- Use ladder trays for power cables and perforated trays for control cables.
- Select HDG steel or stainless steel based on environmental exposure.
- Maintain 40–60% cable fill and proper segregation.
- Ensure strong supports, proper grounding, and UV/dust protection.
- Follow SEC, IEC, and SASO standards for compliance and safety.

By adhering to these guidelines, outdoor cable tray installations in Saudi Arabia can achieve durability, safety, and efficient cable management in extreme heat, dust, and UV conditions .

Article Content

Cable Tray Systems in Saudi Arabia | Complete Guide

Explore cable tray systems in Saudi Arabia, including ladder, perforated, wire mesh and solid bottom trays for industrial and

Cable Tray System in Saudi Arabia | Heavy Duty Cable Trays Supplier

Engineered with durability, adaptability, and ease of installation in mind, our systems cater to various requirements, ensuring

Cable Trays Saudi Arabia | Galvanized Steel & Ladder | Matkel

Matkel supplies engineered cable tray systems built for extreme operational loads and harsh environmental conditions. Our inventory

Cable Tray Installation Details Guide | PDF | Screw

The document outlines the specifications and installation details for cable tray support systems used in electrical applications by

Cable Tray Installation Method Statement

The document provides a method statement for cable tray installation. It outlines the purpose, scope of work, responsibilities, and

Cable Trays & Ladders Supplier in Saudi Arabia | GRP & FRP Cable

Secure and organize your cables with our GRP and FRP cable trays and ladders in Saudi Arabia. Designed for durability and ease of

Products

Effortlessly pull and support insulated electrical cables with Al Meer''s durable cable trays. These trays offer advantages over

CABLE TRAY

SFSP produces a variety of products ranging from cable management systems; cable trays, cable ladders, basket trays, trunkings

Cable Tray Installation Method Statement

This document provides a method statement for installing brown field and green field cable trays, ladder racks, and trunking at the

Cable Tray System in Saudi Arabia | Heavy Duty Cable Trays Supplier

What is a Cable Tray System? A cable tray system is a structural solution used to support insulated electrical cables for power

Cable Tray System

ADHWA CABLE TRAY is one of the leading cable tray suppliers in the KSA&Middle east, Adhwa supplies a broad line of high quality

Microsoft Word

12.2 Ambient Temperatures Outdoor Exposed To Sun (for exposed cables, cables in conduit, and cables in uncovered cable trays):

CABLE SUPPORT SYSTEM – Saudi Pultrusion Industries

Saudi Pultrusion Cable Support Systems is designed and manufactured to provide an efficient and cost effective solutions for

CABLE MANAGEMENT SYSTEMS CABLE TRAYS

Fiberglass Reinforced Plastic (FRP) Cable Tray / Ladder SFSP Fiberglass Reinforced Plastic (FRP) Cable Management Systems

METHOD STATEMENT FOR ELECTRICAL CABLE TRAY INSTALLATION

7. 6.1 Install necessary supports for cable tray as per installation detail. All permanent materials (including fabricated supports),

Saudi Arabia Substation Cable Tray Installation Standards

□□□□ Substation Cable Tray Practice in Saudi Arabia 1. Applicable Standards In Saudi Arabia, installations typically follow a mix of

Al Fareed Stars

Al Fareed Stars Factory, a trusted Saudi manufacturer of high-quality cable trays, steel boxes, meter boxes, trunking, and lighting

Cable Trays Saudi Arabia | Galvanized Steel & Ladder | Matkel

Industrial-Grade Cable Trays for Saudi Infrastructure Modern electrical networks in KSA demand more than basic metal racks.

Contact Us

Continue your research online:

Website: <https://coetzerinvestments.co.za>

Technical inquiry: <https://coetzerinvestments.co.za/contact.html>

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

