# Requirements for Corrosion Protection Measures for Cable Trays and Hangers



## Overview

To ensure that cable trays perform well under diverse and challenging environmental conditions, selecting the right surface treatment and coating system is vital.

## Key Takeaways

Corrosion protection for cable trays and hangers requires selecting appropriate materials, applying protective coatings, and adhering to international standards such as IEC 61537 and BS EN 61537 to ensure durability and safety.

### Material Selection

Choosing the right material is the first step in corrosion protection. Common materials include: Stainless Steel: Highly resistant to corrosion, ideal for harsh or chemical environments. Galvanized Steel: Coated with zinc to prevent rust, suitable for industrial and outdoor applications.

Aluminum: Lightweight and naturally corrosion-resistant, often used in commercial buildings. Fiberglass: Non-metallic and immune to rust, suitable for highly corrosive environments.

### Protective Coatings

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Even with corrosion-resistant materials, additional surface treatments can enhance protection: Hot-dip galvanization for steel trays and hangers provides long-term resistance against moisture and chemicals. Powder coating or epoxy coatings can be applied to steel or aluminum to prevent surface corrosion in aggressive environments. Specialized chemical-resistant coatings may be required in industrial settings with exposure to acids, alkalis, or solvents.

## Standards and Compliance

Adhering to recognized standards ensures that cable trays and hangers meet safety and durability requirements: IEC 61537: Specifies construction, testing, and performance requirements for metallic cable tray systems, including corrosion resistance, mechanical strength, and electrical continuity.

## BS E

N 61537: The British standard equivalent, covering cable ladder and tray systems, emphasizing corrosion protection and proper installation practices. National certifications: CE marking in Europe, UL in the USA, and other local certifications ensure compliance with safety and corrosion protection requirements.

## Environmental Considerations

The environment where the cable trays are installed affects corrosion protection measures: Indoor commercial buildings: Aluminum or fiberglass trays may suffice due to lower exposure to moisture and chemicals. Industrial or chemical plants: Stainless steel or hot-dip galvanized steel is recommended to withstand harsh chemicals and high humidity. Marine or coastal areas: Stainless steel or specially coated trays are essential to resist saltwater corrosion.

## Installation Best Practices

Proper installation enhances corrosion protection: Avoid overloading trays beyond their rated capacity, which can stress protective coatings and accelerate corrosion. Ensure hangers and supports are compatible with the tray material to prevent galvanic corrosion. Maintain adequate ventilation and drainage to prevent water accumulation on trays.

Use system components designed and tested together to ensure long-term durability and safety.

## Summary

Effective corrosion protection for cable trays and hangers combines material selection, protective coatings, adherence to international standards, and proper installation practices. By considering environmental conditions and following IEC 61537 or BS EN 61537 guidelines, engineers and installers can ensure the longevity, safety, and reliability of cable support systems in any application.

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## Article Content

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IEC 61537:2023 | IEC

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IEC 61537:2023 specifies requirements and tests for cable tray systems and cable ladder systems intended for the support and accommodation of cables and possibly other electrical equipment in

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Attaching a channel cable tray by using the method illustrated in Figure 3-88 maintains the electrical requirements, and the bolted mechanical connection while providing a practical method for dropping

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This document provides a method statement for installing cable tray or trunking systems. It outlines the key steps, which include evaluating materials, properly

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