

Article Overview

Cable trays are typically manufactured from steel, stainless steel, or aluminum, with grades selected based on mechanical strength, corrosion resistance, and environmental conditions.

Common Cable Tray Materials and Grades

1. Steel Cable Trays

- o Mild Steel: Often used for general indoor applications; can be pre-galvanized or hot-dip galvanized for corrosion protection .
 - o Galvanized Steel: Provides sacrificial protection against corrosion; zinc coating thickness determines durability .
 - o Hot-Dip Galvanized Steel: Preferred for outdoor or industrial environments due to superior corrosion resistance .
- ### 2. Stainless Steel Cable Trays

- o AISI 316L: High corrosion resistance, especially in marine or chemical environments; contains chromium and molybdenum to enhance durability .
 - o Other Stainless Grades: May include 304 or other alloys depending on environmental requirements, but 316L is standard for harsh conditions .
- ### 3. Aluminum Cable Trays

- o Aluminum Alloys (Aluminum Association Designation): Lightweight, corrosion-resistant, and suitable for indoor and outdoor use; commonly used in environments where weight reduction is important .
- o Corrosion Resistance: Aluminum naturally forms a protective oxide layer, making it highly resistant to atmospheric corrosion .

Standards and Compliance

- o IEC 61537: International standard specifying construction, testing, and performance requirements for metal cable tray systems .
- o NEMA and UL Standards: Common in the U.S., ensuring mechanical strength, electrical continuity, and safety .
- o European CE Marking: Indicates compliance with EU directives and safety standards .

Material Selection Considerations

- o Environment: Stainless steel or hot-dip galvanized steel for corrosive or outdoor environments; aluminum for lightweight or moderately corrosive conditions .
- o Load Requirements: Heavy-duty trays require thicker steel or reinforced designs; light-duty trays may use thinner steel or aluminum .
- o Electrical and Thermal Factors: Material choice affects grounding, heat dissipation, and electromagnetic



Standard Cable Tray Grade

interference protection . In summary, standard cable tray grades are chosen based on the combination of material type (steel, stainless steel, aluminum), corrosion resistance, mechanical strength, and compliance with international standards such as IEC 61537, NEMA, or UL. For harsh or outdoor environments, AISI 316L stainless steel or hot-dip galvanized steel is preferred, while aluminum alloys are common for lightweight and corrosion-resistant applications.

EzyStrut offers some of the strongest cable trays in their classes, and produces them to a very high structural and visual standard.

Not all cable trays are equivalent. The mechanical and electrical characteristics, tests, certifications, overall quality management,

Explore standard sizes by tray type, understand width and depth limits, and see how to calculate and choose compliant

The flexibility and scalability of cable trays make them an ideal choice for environments where cable density and

IEC 61537 is the internationally recognized benchmark for metal cable tray systems. It

Understanding the IEC Standard for Cable Tray Cable trays play a vital role in supporting

Cablofil® Products Cablofil is the global gold standard for total cable management. Explore the one-stop shop for innovative, fast,

Cablofil wire mesh tray and sup-ports are designed to support any cable load allowed by the NEC when supports are spaced on 8"

Core rules for selecting, installing, grounding, and filling cable trays--clearances, materials,

Cable Tray Systems Guide HUBBELL Hubbell Wiring Device-Kellems and Hubbell Premise Wiring are divisions of Hubbell

We partnered with the Eaton B-Line series experts for this article detailing the NEMA

This document specifies requirements and tests for cable tray systems and cable ladder systems intended for the support and

In designing supports for a cable tray system, consideration should be given to the loads associated with future



Standard Cable Tray Grade

cable additions and

Cable Tray Technical Guide A practical guide to product selection and installation This guide for engineers and installers has been

Whether you're an engineer, contractor, facilities manager or simply curious, this ultimate guide provides an in-depth

Cable Trays and Accessories are designed to meet most requirements of cable and electrical wire installations and comply to local

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