

Article Overview

The allowable deviation of cable tray thickness depends on the material, type, and width of the tray, with national standards specifying minimum thickness tolerances for steel and aluminum trays.

General Thickness Standards

Cable trays are manufactured in various materials, primarily steel and aluminum, and in different types such as trough, ladder, and ventilated trays. The thickness of a tray includes the base/pallet, side plates, cover plates, and connecting plates. Typical thicknesses for steel trays are 1.0mm, 1.2mm, 1.5mm, 2.0mm, and 2.2mm, while aluminum trays are slightly thicker, ranging from 1.2mm to 2.5mm depending on the application and load requirements .

Allowable Deviations by Standard

JB/T 10216-2000 (Outdoor Hot-Dip Galvanized)

- o For steel trays less than 100mm wide, the minimum thickness deviation of the tray and cover plate must not be less than 1.0mm.
- o For steel trays greater than 800mm wide, the minimum thickness deviation must not be less than 2.5mm .

JB/T 10216-2013 (Indoor Cold-Dip Galvanized)

- o For steel trays up to 150mm wide, the minimum thickness deviation of the pallet and cover must not be less than 1.0mm.
- o For steel trays greater than 800mm wide, the minimum thickness deviation must not be less than 2.2mm .

Ladder Cable Trays

- o The side plate thickness of steel ladder trays follows the same nominal thicknesses as trough trays.
- o Zinc coating thickness for galvanized ladder trays is also specified: thin layer ≥ 12 microns, thick layer ≥ 65 microns .

International Standards (IEC 61537)

While IEC 61537 does not specify exact thickness deviations, it requires that all trays undergo coating thickness tests and meet durability and mechanical performance requirements. Compliance ensures that trays maintain structural integrity under load and environmental conditions .



Allowable deviation of cable tray thickness

Practical Considerations

- o Tray width and load: Wider trays require thicker material to maintain strength and reduce deflection.
 - o Material selection: Aluminum trays are more corrosion-resistant but may require slightly higher thickness to achieve equivalent strength.
 - o Installation environment: Outdoor or corrosive environments may require hot-dip galvanization or thicker coatings to meet durability standards.
- In summary, the allowable deviation of cable tray thickness is determined by the tray type, material, width, and applicable standard. For steel trays, deviations typically range from 1.0mm for narrow trays to 2.5mm for wide trays, while aluminum trays follow similar proportional tolerances. Compliance with these standards ensures safety, structural integrity, and long-term performance .

The cable ampacity installed in solid tray will be similar to cable installed without spacing in accordance with CEC Rule 12-1210 (3).

As per the NEC, the maximum allowable rung spacing is 9 inches (230 mm) when cable tray carries single-conductor cables of 1/0

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It specifies that cable trays shall be constructed from hot-dipped galvanized mild steel with a minimum thickness of 1.5mm. Tray

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As an industry leader in cable tray, Eaton offers one of the widest ranges of cable management solutions available in the market

Proper tray and ladder sizing ensures safe, efficient, and maintainable electrical installations in all engineering applications. IEC

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

2013 standard requires that the width of steel bridge is less than or equal to 150mm, the minimum thickness deviation

Allowable deviation of cable tray thickness

This guide covers cable ladder systems, cable tray systems, channel support systems and associated supports intended for the

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

The data sheet provides specifications for standard cable trays and accessories. Standard cable trays are 2.5 meters in length with a

Cable tray size calculation is important for ensuring safe cable installation, proper heat

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

The national standard for cable tray thickness specifies the minimum allowable plate thickness for different

Cable tray depth directly impacts both cable capacity and installation practicality. Deeper electrical cable tray

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