

What are the required galvanization thickness for hot-dip galvanized cable trays

Article Overview

For hot-dip galvanized cable trays, the zinc coating thickness should generally be at least 45um for tray sheets 1.5-3mm thick, with heavier components requiring $\geq 55\text{um}$, in accordance with GB/T 13912-2020 and ASTM A123 standards.

Standard Requirements

Hot-dip galvanizing (HDG) provides a thick, durable zinc coating that protects steel from corrosion. The appropriate thickness depends on the steel thickness and component type:

- o Tray sheet metal (1.5-3mm thick): Minimum local zinc thickness of 45um, corresponding to a coating mass of at least 325 g/m².
- o Heavier components (brackets, supports >3mm): Minimum local zinc thickness of 55um.
- o Local thickness: The minimum value at any single test point, measured with a magnetic thickness gauge. All points must meet the requirement.
- o Mean coating mass: Average zinc mass per unit area of the entire workpiece, determined gravimetrically, ensuring uniform coverage.

Relevant Standards

- o GB/T 13912-2020: Specifies hot-dip galvanized coatings on fabricated iron and steel articles, including local thickness and mean coating mass requirements.
- o ASTM A123: Covers zinc coatings on iron and steel products, providing minimum coating thickness based on material type and thickness.
- o ISO 1461 / BS EN ISO 1461: International standard for HDG coatings, ensuring corrosion resistance and durability.

Measurement and Quality

- o Magnetic thickness gauges are commonly used for non-destructive testing, while optical microscopy is used for dispute resolution.
- o The coating should be continuous, uniform, and smooth, with minor dull or light grey areas permissible. Defects such as bare spots, blisters, or excessive zinc dross are not allowed.

Practical Considerations

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- o Thicker coatings provide longer corrosion protection, especially in harsh environments like coastal or industrial areas .
- o The steel composition, surface condition, and galvanizing process affect the final coating thickness .
- o For electro-galvanized trays, the minimum zinc thickness is much lower ($\approx 12\mu\text{m}$), but corrosion resistance is limited compared to HDG . In summary, for standard hot-dip galvanized cable trays, ensure a minimum zinc thickness of $45\mu\text{m}$ for typical tray sheets and $55\mu\text{m}$ for heavier components, following GB/T 13912-2020 and ASTM A123 specifications, with proper measurement and quality control to guarantee corrosion protection and compliance.

Scope This Guidance Note provides general information on hot dip galvanizing, its characteristics and properties, and highlights the

Learn ASTM A123 hot-dip galvanizing requirements: coating thickness grades, inspection steps, sampling, repair

Understand the 2024 revision of ASTM A123/A123M for hot-dip galvanized coatings. Learn about new coating requirements for

1461 : 2022 by a member of Galvanizers Association. This standard contains coating thickness requirements as shown in Table 1

1.1 This specification covers the requirements for zinc coating (galvanizing) by the hot-dip process on iron and steel products made

This document provides general guidelines for cable trays and their installation. It discusses the different types of

[Published October 2024] The European and International standard covering post-fabrication hot dip galvanizing of steelwork EN ISO

ASTM D7803: Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for

GALVANISED CABLE TRAY SUPPORT SYSTEM (WELDED): Hot dip Galvanized MS channels and angles listed in the BOQ

HOT-DIP GALVANIZED CABLE TRAYS H HUFÉ CABLE TRAYS; USED WITH HM SERIES

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MODULES.PLEASE CHECK

It is remarkable to think that a coating, just thicker than a sheet of A4 paper, can protect a steel structure for the better part of one

Coating Thickness There are two methods for measuring the zinc coating thickness of hot-dip galvanized

A Guide to Hot Dip Galvanizing to Standard BS EN ISO 1461 : 2009 The European and International standard covering post

Here are some other specifications for hot-dip galvanizing you occasionally see used in North America. These specifications have

This specification covers the standard requirements for hot-dip galvanized zinc coatings on iron and steel products

The amount of coating can be specified by thickness or weight per surface area. The specifications include tables

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