Galvanized Cable Tray Process



Overview

Proper Galvanization In Cable Tray Manufacturing and InstallationFrom understanding the type of cable tray they are installing to ensuring proper galvaniza.

Key Takeaways

Galvanized cable trays are processed through a series of steps including surface preparation, flux treatment, hot-dip zinc coating, and final inspection to ensure corrosion resistance and durability. 1.

Material Selection and Preparation

The process begins with selecting the appropriate steel, often cold-rolled for smoothness and strength, especially for interior or heavy-duty applications. The raw metal sheets are cut to size, and any surface imperfections are addressed to ensure uniformity and proper fit during assembly. 2.

Punching and Shaping

The steel sheets are then punched or slotted using CNC machines to create ventilation holes or cable access points. This step ensures proper airflow and prevents overheating of cables. After punching, the sheets are bent into the desired tray shape (C, U, or ladder types) using hydraulic presses, providing structural strength and precise alignment for connectors and elbows.

3.

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Surface Preparation

Before galvanization, the trays undergo thorough surface cleaning: Degreasing: Removes oils, grease, and dirt to ensure proper zinc adhesion. Water Washing: Rinses off residues from degreasing. Acid Pickling: Eliminates rust, oxidation, and scale.

Final Rinse: Removes acid residues, leaving a clean, roughened surface ready for coating. 4.

Flux Treatment

A chemical flux solution is applied to activate the steel surface, promoting strong bonding with molten zinc. The trays are then dried carefully to remove moisture and excess flux, preventing distortion or surface defects during galvanization. 5.

Hot-

Dip Galvanization

The prepared trays are immersed in a bath of molten zinc at approximately 450°C. This step coats all surfaces, including edges and corners, forming a thick, uniform zinc layer that provides excellent corrosion resistance. The coating thickness is monitored, typically ranging from 65 to 85 micrometers for heavy-duty applications.

6.

Cooling and Inspection

After galvanization, trays are cooled and inspected for coating uniformity, thickness, and mechanical integrity. Additional tests, such as load-bearing checks, ensure the tray meets structural requirements. Any excess zinc drips or dross are smoothed to maintain safety and aesthetics.

7.

Optional Finishing

Depending on the installation environment, trays may receive additional treatments such as powder coating or nickel-zinc plating for enhanced corrosion protection, especially in outdoor or coastal areas.

Summary

The galvanization process transforms raw steel into durable, corrosion-resistant cable trays through careful material selection, shaping, surface preparation, flux treatment, hot-dip zinc coating, and quality inspection. This ensures long-lasting performance, reduced maintenance, and suitability for both indoor and harsh outdoor environments.

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Article Content

Proper Galvanization In Cable Tray Manufacturing and Installation

From understanding the type of cable tray they are installing to ensuring proper galvanization done to it, our team of workers are available. The Galvanization of Cable Tray has to

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NEMA VE 1-2017 Specifies requirements for metal cable trays and associated fittings designed for use in accordance with the rules of Canadian Electrical Code, Part I and the National Electrical Code®

Galvanized Cable Tray Zinc Coating Standards and

The galvanization process is the primary anti-corrosion treatment for cable trays. The quality of the zinc coating directly determines the tray''s service

Pre_Post_Galv

The steel is punched and formed into the fi nal product e.g. cable tray, cable ladder or basket tray and then immersed in a molten zinc bath for galvanising. Hence the term post-galvanised, galvanised

How To Make Custom Galvanized Perforated Cable

Learn how to manufacture custom galvanized perforated cable trays with our professional guide. Master material selection, precision punching, and

CABLE TRAYS

There is a solution for each type of environment. This white paper compares the High Resistance (HR) and Hot-Dip Galvanising (HDG) solutions and highlights the new High Resistance range, ZnAl

Galvanized Cable Tray: Durable Industrial Solutions

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Galvanized coatings are achieved through processes like hot-dip galvanizing, where steel trays are submerged in molten zinc, forming a

Hot-dip galvanized steel cable trays | Technical guide for demanding ...

In this article, we explain what makes them different, how hot-dip galvanizing according to EN ISO 1461 relates to EN 61537 for cable tray systems, and in which types of projects it makes

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Why Galvanized Cable Tray is the Best Option for Industrial Applications

Galvanized cable trays are often considered the best option for these applications, offering excellent performance and longevity. In this article, we''ll explore why galvanized trays, particularly

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