

Article Overview

Bridge-type cable trays are manufactured using automated roll forming, punching, and cutting processes to create precise, ventilated, and structurally strong trays.

Material Selection

Bridge-type cable trays are typically made from steel, stainless steel, or aluminum sheets and coils, chosen for their strength, corrosion resistance, and suitability for the installation environment . Stainless steel and aluminum are preferred in corrosive or outdoor environments, while galvanized steel provides economical protection against rust .

Cutting and Shaping

The raw metal sheets or coils are cut into strips according to the tray width and height specifications. These strips are then shaped into the tray's bridge structure using roll forming machines, which progressively bend the metal through a series of dies to achieve the desired cross-section . Precision in cutting and shaping ensures structural integrity and proper fit for cable installation.

Punching and Ventilation

Bridge-type trays often feature perforations or holes along the bridge to allow heat dissipation and reduce weight. CNC punching units are used to create regularly arranged holes, with careful consideration of hole diameter, spacing, and array pattern to balance mechanical strength and ventilation . Proper punching can reduce cable temperature rise by 15-20% while maintaining load-bearing capacity.

Forming and Assembly

After punching, the tray sections are formed into the final bridge shape. This may involve bending, welding, or embossing depending on the design. Roll forming machines can produce ladder-type, ventilated channel, or solid channel bridge trays with high precision . Automated systems often include servo-electric pullers, rotary shears, and synchronized cutting stations to ensure consistent quality and repeatability.

Automation and Control

Modern production lines are equipped with PLC-based intelligent control panels, allowing operators to set parameters, monitor production, and perform fault diagnostics. Automated feeders, straighteners, and servo motors ensure continuous, stable, and high-precision operation, with forming accuracy typically controlled

Bridge-type cable tray manufacturing method

within $\pm 0.2\text{mm}$. Semi-automatic or fully automated lines can be customized for different tray widths, heights, and thicknesses.

Customization

Bridge-type cable trays can be customized for specific applications, including variations in width (50-1200mm), height (20-150mm), and thickness (0.4-2.0mm). Specialized processes like center spine forming, embossing, and automatic welding allow manufacturers to produce unique profiles for industrial or commercial installations.

Summary

The manufacturing of bridge-type cable trays involves material selection, precision cutting, roll forming, CNC punching, and assembly, often integrated into automated production lines. This method ensures structural strength, ventilation, and adaptability for various electrical installations while maintaining high production efficiency and quality control.

Amazing Manufacturing Process Of Cable Tray Manufacturing skills 92.3K subscribers

Our wind certification report provides you with list of acceptable B-Line series cable tray supports, fittings and covers based off of the

A cable tray system is ideal for protecting and organizing electrical connections in commercial and industrial

This document outlines the method statement for building a cable tray river crossing for a solar power plant in Gorontalo. It involves

Cable Tray Production Line The cable tray production line is an intelligent mechanical integrated system

In our life, there is a common cable tray cable trough, tray type, and ladder. Here are the characteristics

NEMA VE 1-2017 Specifies requirements for metal cable trays and associated fittings designed for use in accordance with the rules

The document provides information about cable tray systems, including: - The six main types of cable trays: ladder, solid bottom,

This automated roll forming machine is engineered for the high-volume production of bridge steel cable trays

Bridge-type cable tray manufacturing method

with exceptional

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According to different application scenarios, cable trays need to use curved cable trays in the specific manufacture. When

Learn fiberglass cable tray types and specs. Compare trough, tray, ladder and epoxy composite systems to choose the

Welcome to our step-by-step guide on installing cable trays! In this video, we'll explore the

This method statement covers the site installation of the cable tray & ladders and the requirements of checks to be

Build a cable management system with Cablofil wire mesh cable tray, ladder cable tray, prefab assemblies for branch circuit wiring,

Design and Planning Stage The production process of cable trays starts from design. Designers determine important

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