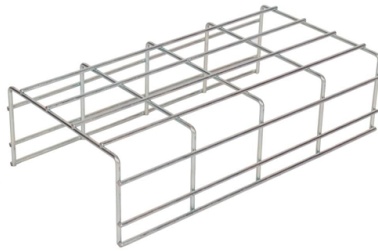


Assembly Principles of Factory Electrical Distribution Boxes



AI Overview

Factory electrical distribution boxes are assembled following precise design, material, and safety principles to ensure reliability, efficiency, and compliance with international standards.

Design and Engineering

The assembly process begins with detailed design and engineering, using CAD drawings and 3D models to define dimensions, material thickness, IP/NEMA protection levels, and component layout. Designs are tailored to the application, whether industrial automation, renewable energy, or commercial buildings, ensuring compatibility and operational reliability . Key considerations include load capacity, voltage levels, and protection requirements to prevent overloads or electrical faults .

Material Selection and Preparation

High-quality materials are critical. Steel, stainless steel, or aluminum sheets are chosen based on indoor or outdoor use, with surface treatments like powder coating, galvanization, or anti-rust finishes to enhance durability . Each batch undergoes thickness, hardness, and corrosion resistance tests to ensure long-term performance.

Cutting, Forming, and Surface Treatment

Sheets are cut, bent, stamped, and drilled using CNC laser cutters and punching machines for precision and consistency . Surface finishing, including powder coating or painting, ensures corrosion resistance and aesthetic quality. Salt spray tests may be conducted to verify outdoor durability.

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