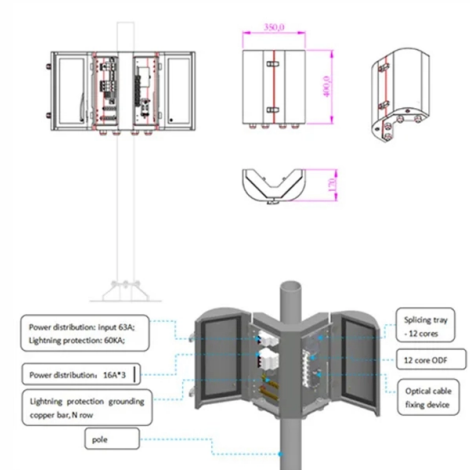


What material is a high-voltage electrical distribution box made of



AI Overview

High-voltage distribution boxes are typically made from robust metals like stainless steel or aluminum, and high-performance plastics such as polycarbonate or thermoset composites to ensure safety, durability, and insulation.

Metal Enclosures

High-voltage distribution boxes often use stainless steel or aluminum for their outer casing. These metals provide mechanical strength, impact resistance, and corrosion protection, making them suitable for harsh industrial, offshore, or outdoor environments. Stainless steel is particularly favored in wet or salty conditions due to its rust resistance, while aluminum offers a lighter alternative with good durability. Metal enclosures also support high ingress protection (IP) ratings, safeguarding internal components from dust and water.

Plastic and Composite Materials

For indoor or lighter-duty applications, engineering plastics such as polycarbonate, PVC, high-density polyethylene (HDPE), or thermoset plastics like SMC (Sheet Molding Compound) are commonly used. These materials are lightweight, non-corrosive, and can be engineered to be flame retardant and heat-resistant, which is critical for handling high-voltage surges and preventing tracking or electrical faults. Polycarbonate and epoxy-coated plastics are particularly strong and safe for electrical insulation purposes....

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