

Thickness of wall-mounted electrical distribution box



Article Overview

Wall-mounted electrical distribution boxes typically have metal walls ranging from 1 mm to 2 mm thick, with mounting plates often slightly thicker for component support.

Typical Wall Thickness

For metal enclosures, the wall thickness usually ranges from 1 mm to 2 mm depending on the size, material, and protection rating. For example, a standard IP65-rated wall-mounted distribution box may have 1.2 mm thick steel walls with a 2 mm thick galvanized steel mounting plate for securing electrical components. Thicker walls provide better mechanical strength, durability, and protection against environmental factors. For plastic or polymer enclosures, wall thickness is generally 2–4 mm, depending on the size and impact resistance required. Plastic enclosures are lighter but may require slightly thicker walls to achieve similar structural integrity and IP/NEMA protection levels.

Factors Affecting Wall Thickness

- **Protection Rating:** Higher IP or NEMA ratings (e.g., IP65, NEMA 4X) often require reinforced walls, thicker doors, and gaskets to ensure dust and water ingress protection.
- **Size of the Enclosure:** Larger wall-mounted boxes may have thicker walls to maintain rigidity and prevent deformation.
- **Material Type:** Steel, stainless steel, aluminum, or polycarbonate enclosures have different strength-to-thickness ratios. Steel can be thinner than plastic for the same...

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