

# Metal Distribution Box Enclosure Thickness Standard



## AI Overview

Metal distribution box enclosures typically have wall thicknesses ranging from 1.0 mm to 2.0 mm for standard indoor use, with thicker walls for outdoor or high-protection applications.

**Typical Thickness Ranges**

Indoor, general-purpose enclosures: 1.0–1.2 mm steel is common for wall-mounted distribution boxes, providing adequate mechanical strength and protection against dust and minor impacts.

Heavy-duty or industrial enclosures: 1.5–2.0 mm steel is often used for floor-standing or larger enclosures to withstand mechanical stress, vibration, and environmental exposure.

High IP/NEMA-rated enclosures: Enclosures designed for IP65, IP66, or NEMA 4/4X protection may require thicker walls or reinforced panels to ensure dust-tight and water-resistant performance.

**Factors Affecting Wall Thickness**

**Protection Rating:** Higher IP or NEMA ratings generally require thicker metal to maintain structural integrity and seal effectiveness.

**Size of the Enclosure:** Larger enclosures may need thicker walls to prevent bending or deformation under load.

**Material Type:** Mild steel is most common, but stainless steel or aluminum may be used for corrosion resistance, which can influence thickness requirements.

**Environmental Conditions:** Outdoor, wet, or corrosive environments often necessitate thicker or coated metal to prevent rust and maintain durability.

**Industry Practices**

Manufacturers like Himel and Alfano provide enclosures with wall thicknesses tailored to the application, typically within the ranges mentioned above. For example, standard wall-mounted distribution boxes often use 1.0–1.2 mm steel, while industrial or outdoor enclosures may use 1.5–2.0 mm steel with powder coating or galvanization for added protection.

**Summary**

While there is no single global standard for metal distribution box thickness, the common practice is: 1.0–1.2 mm for standard indoor enclosures, 1.5–2.0 mm for industrial or outdoor enclosures.

## Article Content

### Metal Enclosure & Cabinet Gauge Guide

The definitive 2026 reference for sheet metal gauge in electrical enclosures, industrial control panels, NEMA-rated cabinets, server racks, washdown enclosures, and custom fabricated boxes.

### Distribution Box : Final Distribution

For seamless consolidation, distribution, and management of power supply. Find distribution boxes that are designed to perform and last longer. Our range of distribution boards provides utmost safety as

specifier\_handbook dd

When a standard enclosure isn't exactly what you need, Hammond can modify our designs for the ideal enclosure solution. Should you need some assistance specifying your enclosure, our experienced

### Sheet Metal Enclosure Design Guide – Key Tips And

The standard practice for sheet metal enclosure design is having an inside bend radius equal to material thickness. Some materials, like aluminum,

### Metal Enclosure Design Tips | Metal Thickness | Maysteel

For this month's enclosure design tips, we reviewed how to measure the thickness of various metals, and why it's important to choose the proper thickness for your

### Metal Enclosure & Cabinet Gauge Guide – Industrial Standards,

Metal Enclosure & Cabinet Gauge Guide – Industrial Standards, NEMA Ratings & 2026 Specifications The definitive 2026 reference for sheet metal gauge in electrical enclosures, industrial control panels,

### Manufacturing Requirements for Electrical Distribution Box & Switch

Distribution boxes and switch boxes shall be manufactured from cold-rolled steel sheet or flame-retardant insulating material. Steel Thickness: Switch box enclosures:  $\geq 1.2$  mm. Distribution

### Metalclad DB Enclosure – Sun Power

Material: Cold Roll Steel (Standard), Electro Galvanized (Upon request) Thickness: 1.2mm (1.5mm to 2mm and explosion proof upon request) Finishing: Epoxy Powder Coating Colour: Beige (SF160)

### Sheet Metal Enclosure Design Guide for Custom Projects

Q: How to choose sheet metal enclosure thickness for custom boxes? Choose thickness based on panel size, internal component weight, vibration exposure,

## Electrical Enclosures Sheet Metal Specs

Complete reference for CRCA, GI, SS 304 and SS 316 sheet metal thickness requirements for LT switchgear panels, junction boxes, motor control centres, distribution boards, and industrial

What gauge steel is used for the standard NEMA 1 I-Line panel ...

Issue: For Nema 1 I-line panel enclosures, What is the gauge of steel used? Product Line: I-line panelboards Environment: Products sold and used in the United States Cause: Product

## Electrical Enclosure Box Sizes and Selection Tips

Explore standard electrical enclosure box sizes, learn how IP ratings and materials affect design, and calculate the right dimensions for your project.

What is Electrical Enclosure Size?

For component protection and excellent working, it is necessary to select the right enclosure size. Proper sizing reduces risk of electrical hazards

### (C) Minimum Thickness of Enclosure Metal

The minimum thickness requirements for enclosure materials specify that sheet copper or aluminum must be no less than 0.51 mm (0.020 in.) thick. For sheet steel, the minimum thickness is set at 0.41

## Electrical Enclosure Sizes

However, the electrical enclosure size should allow for safe mounting of components and the free circulation of air for ventilation. Mostly, manufacturers offer custom

## DBSeT™ Catalog

"DBSeT is Schneider Electric's new range of metallic distribution boards for ratings up to 250A. DBSeT is a comprehensive range covering single

## Steel Enclosures | Steel Electrical Boxes NEMA Rated

Steel enclosures & electrical boxes by Polycase are durable, cost-effective and available in a wide range of NEMA-rated sizes to protect your electrical projects!

## Himel Metal Enclosure Distribution Box Brochure Sep 2023

Easy installation design with cable entry from bottom HJXF is a metal enclosure designed to be used with Himel MCCB, MCB, RCBO, RCCB and Surge Protection Devices HJXF can be widely used in

## Distribution Boards & Consumer Units

Distribution boards, together with modular ABB system pro M Compact protection devices and Modular Din Rail Components, can be used for many applications in electrical building installation.

CATALOGUE General purpose enclosures Heavy duty and industrial

General purpose enclosures Heavy duty and industrial enclosures Boxes for distribution systems and OEM applications Automation- and distribution boards

Electrical enclosure

Electro polished enclosure (control station), explosion-proof A municipal electrical enclosure Allen Bradley programmable logic controller (PLC) installed in an

NEC Reference Metallic Boxes

NEC® Reference Article 314 of the National Electrical Code® covers the installation and use of boxes. The article includes table references that guide the electrician in the selection of the proper box size

CATALOGUE General purpose enclosures Heavy duty and industrial

Polycarbonate boxes are available with a smooth surface (one single entry) or with multiple metric cutouts. xes are available with a smooth surface or with multiple metric Opaque gray or transparent

Standard Electrical Enclosure Sizes: Chart, Dimensions & Selection ...

Electrical enclosure sizes are not universal, but most manufacturers follow common size families. This guide explains typical wall-mount and floor-standing dimensions, how to read catalog

## Contact Us

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