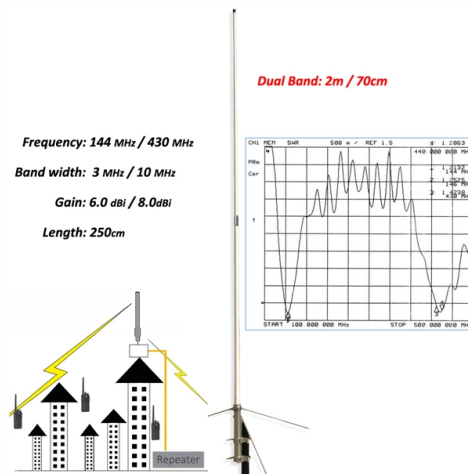


Types of grounding wires for distribution boxes



AI Overview

Copper or copper-clad grounding wires, sized according to local standards, are typically used in distribution boxes to ensure safe and effective grounding.

Wire Material

The most commonly used grounding conductors are copper, copper over welded steel, and in some cases aluminum conductor steel reinforced (ACSR), though copper is preferred for its high conductivity and long-term reliability . Galvanized steel is generally not recommended due to lower conductivity and susceptibility to corrosion . For buried or exposed runs, copper is the standard choice to maintain low resistance and durability .

Wire Size

Wire size depends on the system voltage, fault current, and regional standards:

- United States (NEC standards): Equipment grounding conductors are typically 10 AWG (5.26 mm²) for smaller circuits, with larger sizes like 6 AWG (13.29 mm²) used for higher fault current paths or longer cable runs .
- International markets: A minimum of 6 mm² is commonly used for general grounding .
- For connections between mounting plates and equipment, larger conductors (e.g., 16 mm²) may be required to maintain total ground resistance below 0.1 ohm

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2) For stabilizing the voltage to earth during normal operation. Thus, improper grounding could result in equipment damage and fire

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