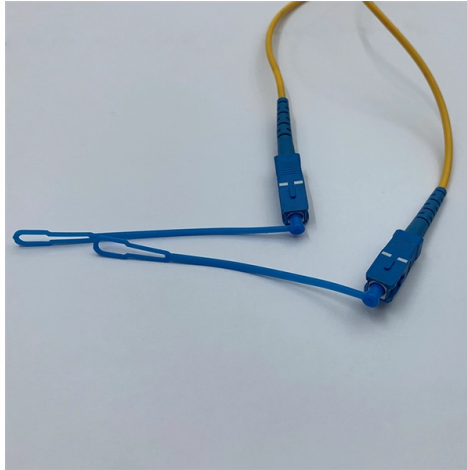


Method for connecting the ground wire of a secondary distribution box



Overview

Correct Connection Method Of Grounding Wire Of Generally, copper core wire is selected as the ground wire and connected to the PE wiring How to Properly Gr.

Key Takeaways

Proper grounding of a secondary distribution box involves connecting a dedicated ground wire to the PE or grounding bar, keeping it separate from the neutral, and ensuring all metal components are safely bonded. Key Steps for Grounding a Subpanel



1. **Locate the Grounding Bar (PE Bar):** Open the distribution box and identify the grounding bar or the position marked with "PE" (Protective Earth). This is the designated point for connecting all ground wires inside the box . 2. **Connect the Ground Wire from the Main Panel:** Run a copper ground wire from the main service panel's ground bus to the subpanel's PE bar. Strip the wire to the appropriate length, insert it into the terminal, and tighten the screw to ensure a secure connection . The wire should be yellow-green insulated and meet the minimum cross-sectional area specified for your system, typically 10 AWG (5.26 mm²) in the US or 6 mm² in other regions . 3. **Ground Internal Components:** Any electrical components within the subpanel that require grounding should be connected to the PE bar using copper wires. This ensures that all metal parts are at the same potential and reduces the risk of electric shock . 4. **Maintain Neutral-Ground Separation:** In a subpanel, the neutral bus must not be bonded to the panel enclosure or the ground bus. The neutral is only bonded at the main service panel. This prevents neutral current from flowing on metal parts and ensures safety . 5. **Verify Grounding Effectiveness:** The grounding system should provide a low-resistance path for fault currents. For industrial or complex installations, the total ground resistance should be less than 0.1 ohm between system parts . Ground rods or a ground mat may be used to achieve proper grounding, especially in areas with high soil resistivity . 6. **Additional Precautions:**

- Ensure all connections are tight and clearly marked for inspection.
- Use appropriate wire sizes for the load and distance.
- Avoid any loose or corroded connections to maintain long-term safety .

Summary

Proper installation of a ground wire in a secondary distribution box involves connecting a dedicated copper ground wire to the PE bar, grounding all internal components, keeping the neutral separate, and ensuring a low-resistance path to earth. Following these steps ensures compliance with electrical codes and enhances safety for both equipment and personnel .

Article Content

How to Properly Connect Ground Wires Together

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

