Cable tray ground wire on top

AI Overview

A cable tray can serve as an equipment grounding conductor (EGC), and a ground wire may be placed on top of the tray if properly bonded and installed according to NEC and best practices.Using the Cable Tray as a Grounding ConductorMetallic cable trays can be used as the equipment grounding conductor (EGC) if they meet the minimum cross-sectional area requirements specified in NEC Table 392.60(A) and are properly bonded across sections . This allows the tray itself to safely carry fault currents to ground. However, if the tray's metal area is insufficient for the protective device rating, a separate grounding conductor must be installed.Installing a Ground Wire on Top of the TrayPlacing a bare or insulated ground wire on top of the cable tray is acceptable and often recommended for additional safety . Key considerations include:Bonding: The ground wire should be bonded to each or alternate tray sections using grounding clamps. This ensures electrical continuity and mechanically secures the wire to prevent displacement under fault current conditions .Material Selection: Use copper or tin/zinc-plated connectors for bonding. Avoid bare copper in aluminum trays to prevent electrolytic corrosion; insulated conductors are preferred with insulation removed only at bonding points .Continuous Path: Running a full-length grounding conductor along the tray provides a reliable low-impedance path for fault currents .Mechanical Stability: Grounding clamps not only provide electrical connection but also anchor the wire to resist magnetic forces during fault conditions .Safety and ComplianceNEC Compliance: All metallic trays must be grounded as required by NEC Article 250.96, regardless of whether the tray is used as an EGC .Resistance: Ensure the grounding system maintains a low resistance, ideally 4 ohms or less, to effectively divert fault currents .Environmental Considerations: Keep the ground wire clear of moisture, corrosive environments, and flammable materials to maintain long-term safety and reliability .Best PracticesUse insulated conductors in...

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This article provides a comprehensive framework that governs various aspects of cable tray installations, including the types of cables that are deemed acceptable for use, requirements for

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