

Is armored cable suitable for cable trays

Article Overview

Metal-Clad (MC) armored cables are suitable and commonly used in cable tray installations, while AC cables are generally limited to dry, indoor locations.

Compatibility with Cable Trays

Armored cables, especially MC cables, are designed with a metallic sheath that provides mechanical protection, making them ideal for environments where cables may be exposed to physical stress, abrasion, or vibration . According to NEC Article 392, cable trays are intended to support open-air rated conductors, and MC cables are explicitly permitted for use in these systems . MC cables include a dedicated insulated grounding conductor, which enhances safety and allows installation in both indoor and outdoor locations, including wet areas, when properly jacketed .

AC vs MC Cables in Cable Trays

- o AC (Armored Cable): Typically features an interlocked metal armor with an internal bonding strip. AC cables are limited to dry locations and are not generally recommended for outdoor or wet cable tray installations .
- o MC (Metal-Clad Cable): Contains a separate insulated ground wire and can be used in wet, dry, indoor, or outdoor environments. MC cables are widely used in industrial and commercial cable trays for power, lighting, and control circuits .

Installation Considerations

When installing armored cables in cable trays:

- o Ensure the cable is UL listed and marked as cable tray rated.
- o Maintain proper support and securing intervals, typically not exceeding six feet for MC cables .
- o Observe fill limits: power cables should not exceed 40% of the tray cross-section, and control cables should not exceed 50% .
- o Separate high-power and low-power cables to prevent electromagnetic interference (EMI), .
- o Avoid bending cables beyond their minimum bending radius to prevent damage to the armor or conductors .

Summary

MC armored cables are suitable and commonly used in cable trays, providing mechanical protection, grounding reliability, and compliance with NEC standards. AC cables can be used in cable trays but are restricted to dry, indoor environments. Proper installation, support, and adherence to NEC fill and separation



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requirements ensure safe and reliable operation .

Many cable tray cables include a crush test as part of the listing and are rated to leave the cable tray unsupported for distances up to

They are protected by either a plastic Jacket or metal armor over individual conductor insulations. They can be rated for outdoor,

Cable trays are not raceways, but they are treated as a structural component of a facility's electrical system. Cable trays are a part of

Whatever the design, cable trays have their own distinct requirements for effective operation and therefore necessitate

Cable Tray Systems Guide HUBBELL Hubbell Wiring Device-Kellems and Hubbell Premise Wiring are divisions of Hubbell

Compared to ordinary power cables, armored cables can resist external impacts, pressure,

Cable tray systems are engineered support structures designed to route, support, and protect insulated electrical

Understand the critical safety, code, and environmental factors that mandate the use of armored electrical cable.

Armored power cable and non-armored power cable are suitable for different installation conditions. Armored cable provides better

A distributor's guide to tray cable selection. Learn how jacket, conductor, shielding, layout,

Comprehensive Guide to Tray Cable Types. Explore various tray cable types, insulation, and

Learn what an armoured cable is, its types, uses, and benefits in electrical systems. Discover when you

This guide explores armored and unarmored cable solutions, cable tray systems, installation considerations, industry applications,

Armored, metal-clad cables installed in cable trays rather than non-armored cables protected by conduit are often

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When it comes to powering, automating and protecting facilities?from factories and petrochemical plants to data

Explore all types of cable trays--ladder, perforated, basket, solid, and channel. Learn their

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