

Requirements for Fire-Retardant Paint on Cable Trays

Article Overview

Fire-retardant paint on cable trays must be applied to certified substrates, meet specific fire ratings, follow manufacturer instructions, and comply with local building and fire codes.

Substrate and Tray Preparation

Cable trays should be made of steel, galvanized steel, or other approved materials suitable for fire-retardant coatings. Surfaces must be clean, dry, and free of corrosion or damage before application. Any existing coatings or structural modifications should not compromise the tray's integrity or fire performance. For outdoor or high-humidity environments, trays may require corrosion-resistant materials such as stainless steel or aluminum alloys.

Fire-Retardant Coating Selection

The paint must be tested and certified for fire resistance on the specific substrate. Common standards include ASTM E-119 for structural fire resistance and ASTM E-84 for surface burning characteristics. Intumescent coatings are widely used; they expand under heat to form an insulating char, slowing flame spread and heat transfer. Products like ALTIC 007 provide up to 4 hours of circuit integrity and are suitable for both indoor and outdoor applications.

Application Requirements

- o Thickness Control: Apply the coating to the manufacturer-specified thickness to achieve the required fire rating (e.g., EI 60, EI 90, EI 120),.
- o Uniform Coverage: Ensure a smooth, cavity-free surface to maintain fire performance and facilitate inspection.
- o Environmental Considerations: For outdoor or high-UV areas, select coatings resistant to UV, water, oil, and alkali.
- o Documentation: Maintain records of coating type, batch, application date, and fire rating certification for compliance verification.

Compliance and Regulatory Requirements

- o Local Authority Approval: Always consult the Authority Having Jurisdiction (AHJ) to confirm code compliance.
- o Project-Specific Standards: For UAE projects, ECAS certification may be required in addition to CE marking.

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- o Fire Barriers and Penetrations: When trays pass through walls or floors, use fire-rated penetration seals to maintain compartmentalization .
- o Inspection and Maintenance: Periodically inspect trays for coating integrity, corrosion, and mechanical damage. Reapply or repair coatings as needed to maintain fire performance .

Practical Considerations

- o New vs Retrofit Installations: Intumescent coatings are preferred for new builds and controlled environments, while fire wraps may be better for retrofits or irregular tray routing .
- o ATEX or Hazardous Areas: Coatings are often favored in dust or explosive zones due to smooth, cavity-free surfaces that support housekeeping and inspection .
- o Heat Dissipation: Use perforated or mesh trays to prevent heat accumulation, ensuring the coating's effectiveness is not compromised . By following these requirements, fire-retardant paint on cable trays can provide effective flame containment, heat insulation, and compliance with safety regulations, ensuring both personnel safety and protection of critical electrical infrastructure.

Water-based fireproof paint that substantially delays fire by combustion of the insulating coating of electrical cables.

This guide for engineers and installers has been developed by ABB as a practical reference regarding cable tray characteristics,

If not designed and installed properly, wiring inside cable trays may pose hazards such as

These special types of fire retardant paints can be applied on individual cables, cable bundles and cable trays etc. to retard fire

The following charts give the number of 3M pillows needed to completely firestop an opening that cable tray passes through.* Two

DC6150/DC310 Cable Coatings are non-halogenated, asbestos-free, non-toxic, flexible, ablative or intumescent, fire retardant cable

DC6150 Cable Coating DC6150 Cable Coating is a non-halogenated, asbestos-free, non-toxic flexible fire retardant cable coating.

Compared to both flame-retardant and fire-resistant cables, FS cable coating is a safer and more cost-efficient alternative. Typically,

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ALTIC 007 Intumescent Fire Retardant Coating for cables & trays. NTH Mumbai tested, 4-hour fire rating,

Fire protection solutions to protect cables, cable trays and cable systems. Discover our tested cable

For example, a cable tray may contain electrical cables powering essential services that are

1. SCOPE 1.1 This code of practice covers the requirements of fire safety in respect of cable runs in trenches, vaults, tunnels, shafts,

Supply and application of water-based acrylic protective AF CABLE COAT, certified under IEC 60332-3-10 and IEC 60332-3-22 for

Application: DC 6150 Cable Coating is a non-halogenated, asbestos-free, non-toxic, flexible, ablative fire retardant cable coating

By choosing fire-resistant FRP cable trays, incorporating flame-retardant additives, and following proper installation

Instead of writing fire-rated cable tray to IEC or UL 2431 cable tray, specify the exact product standard, the exact

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