

Standard Requirements for Soot Blowing of Cable Trays

Article Overview

Soot blowing of cable trays must follow mechanical, electrical, and fire safety standards to prevent damage, maintain continuity, and ensure safe operation.

Key Considerations

Mechanical Integrity: Cable trays must withstand external forces during cleaning. IEC 61537 specifies load testing and deflection limits to ensure trays can handle mechanical stress without sagging or deformation, which is critical when using air or steam for soot removal. Ladder, ventilated, solid-bottom, and wire mesh trays have different load capacities, so the cleaning method should be compatible with the tray type.

Electrical Continuity: Cable trays often serve as grounding paths. IEC 61537 requires that electrical continuity across joints be maintained, with resistance typically below 0.1 ohms. Soot blowing should avoid dislodging bonding plates, clamps, or coatings that ensure grounding. Post-cleaning verification of continuity is recommended.

Fire and Heat Safety: Cable trays may carry power or control cables sensitive to heat. Soot blowing using high-temperature air or steam must not exceed the tray's fire resistance rating or compromise insulation. Solid or ventilated trays should allow adequate airflow to prevent overheating during cleaning.

Environmental and Material Considerations: Trays made of steel, stainless steel, aluminum, or fiberglass have different corrosion and thermal tolerances. Cleaning methods should avoid abrasive or chemically reactive agents that could damage coatings or structural integrity.

Installation and Access: Ensure that trays are accessible for cleaning without removing critical supports or compromising cable spacing. NEMA VE 2 provides guidance on safe handling, shipping, and installation practices that can be adapted for maintenance operations.

Operational Guidelines:

- o Use low-pressure air or vacuum systems for light soot accumulation.
 - o Avoid direct high-pressure jets on joints or cable bundles.
 - o Schedule cleaning during low-load periods to minimize electrical hazards.
 - o Inspect trays for corrosion, loose fittings, or damaged insulation before and after cleaning.
- Documentation and Compliance:** Maintain records of cleaning procedures, inspections, and continuity tests to comply with safety standards and facilitate audits. By adhering to these principles, soot blowing can be performed safely while maintaining the mechanical strength, electrical continuity, and fire safety of cable tray systems.

Soot blowing refers to the periodic removal of soot deposits from furnace and heat-exchanging surfaces in steam-generating plants

Focusing on the technical aspects of cable tray systems, IEC 61537 outlines strict requirements and regulatory

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Specifies requirements for metal cable trays and associated fittings designed for use in accordance with the rules of Canadian

IEC 61537:2023 specifies requirements and tests for cable tray systems and cable ladder systems intended for the support and

Home Letters of Interpretation Requirements for working clearances and spaces around electrical equipment, e.g.,

Fire Resistance Testing of Cable Trays ensures they don't fuel fires or emit

Core rules for selecting, installing, grounding, and filling cable trays--clearances, materials, separation, and bonding

A generic guideline developed by the Cable Tray Institute indicates that cable trays should not be filled in excess of 40-50% of the

Cable Tray Technical Guide A practical guide to product selection and installation This guide for engineers and installers has been

This standard specifies the requirements for nonmetallic cable trays and associated fittings designed for use in accordance with the

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

Cable tray installation must comply with specific technical standards to ensure electrical safety, system

The type of cable tray (e.g., solid, ventilated), ampacity (current-carrying limit) requirements, and the type and voltage rating of cable

Trust Well offers a complete range of Soot Blowers to suit various requirements of the Boiler for different

3.4 Inspection and Test Plan/ Method Statement 3.4.1 SATIP-P-104-03 Cable Tray Fittings and Accessories
3.5 Latest Revision of

The flexibility and scalability of cable trays make them an ideal choice for environments where cable density and

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