

Fireproof Sealing Process for Cable Trays



Overview

FIRSTO is specifically suitable for the fire resistant ducting of cables and/or cable trays through wall and floor penetrations.

Key Takeaways

Fireproof sealing for cable trays involves using intumescent pillows, fire-resistant coatings, and penetration seals to prevent fire spread while maintaining cable functionality.

Key Fireproofing Methods



1. **Intumescent Fireproof Pillows** Intumescent pillows, such as AF BAGS, are designed to seal cable tray penetrations in walls, floors, or sandwich panels. They expand under heat to block flames and smoke, providing protection up to EI 240 according to EN 1366-3 standards. These pillows are encased in non-combustible fiberglass and contain intumescent compounds, thermal insulators, and water-release products to minimize sealing depth. They are suitable for cables up to 21 mm in diameter and can be repositioned for maintenance or modifications .

2. **Fire-Resistant Coatings and Tapes** Products like FLAMMOTECT-A and DG-CR 0.7 fire protection tape form a protective shield around cables, preventing flame propagation and maintaining cable operation during a fire. These coatings are resistant to environmental factors such as UV radiation, moisture, and chemicals, making them suitable for both indoor and outdoor installations .

3. **Penetration Seals** Fire-rated penetration sealing materials are used where cable trays pass through walls or floors. Systems like KBS® penetration seals and KBS® Foamcoat ensure that flames and smoke cannot spread to adjacent compartments. These solutions maintain steel tube temperatures below critical limits during fire events and are widely used in power plants, industrial facilities, and high-rise buildings .

Installation and Maintenance Considerations

- **Tray Material and Design:** Use fireproof or corrosion-resistant trays (galvanized steel, stainless steel, or FRP) and ensure proper structural integrity .
- **Sealing Depth and Coverage:** Measure cable tray dimensions accurately and select the appropriate number and size of fireproof pillows or coating layers to fully close penetrations .
- **Routine Inspection:** Periodically check for corrosion, coating integrity, and sealing effectiveness, especially in outdoor or humid environments .
- **Heat Dissipation:** Maintain adequate spacing and use perforated trays to prevent heat accumulation, which can compromise fireproofing performance .

Additional Recommendations

- Avoid modifying or damaging tray coatings during installation.
- For humid or corrosive environments, select materials with high impermeability and corrosion resistance, such as 316L stainless steel or FRP trays .
- Ensure compliance with local fire safety codes and international standards (EN 1366-3, EI 120/180/240 ratings). By combining intumescent pillows, fire-resistant coatings, and proper penetration sealing, cable trays can achieve robust fire protection, maintain operational integrity during fire events, and comply with safety regulations.

Article Content

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