

## Article Overview

Fire-resistant cable trays are typically made from steel, stainless steel, aluminum, or fiberglass with specialized fire-resistant coatings to ensure safety and maintain functionality during a fire.

## Common Fire-Resistant Materials

1. **Steel and Stainless Steel** Steel is widely used for cable trays due to its strength and durability. Stainless steel offers superior corrosion resistance and maintains structural integrity under high temperatures, making it suitable for high-risk environments like hospitals, data centers, and industrial plants. Hot-dip galvanized steel provides corrosion protection but has limited fire resistance because zinc melts at relatively low temperatures, so it is better suited for low-risk areas.

2. **Aluminum** Aluminum trays are lightweight and resistant to corrosion, often used in outdoor or high-humidity environments. While aluminum has good mechanical properties, it has a lower melting point than steel, so additional fire-resistant coatings or intumescent layers are recommended for high-risk applications.

3. **Fiberglass-Reinforced Plastic (FRP)** FRP trays are non-conductive, corrosion-resistant, and can be enhanced with intumescent or fire-resistant coatings to improve fire performance. These trays are ideal for corrosive or high-humidity environments and can maintain cable integrity during fire events.

## Fire-Resistant Coatings and Treatments

1. **Intumescent Coatings** Products like FLAMMOTECT-A and DG-CR 0.7 form a protective barrier around cables and trays, preventing flame propagation and maintaining functionality during a fire. These coatings can be applied to steel, aluminum, or fiberglass trays to enhance fire resistance.

2. **Firestop Materials** For penetrations and openings, moldable putty, firestop caulks, and pillows (e.g., 3M FSP-SLP-M) are used to seal gaps around cable trays, preventing fire and smoke spread through walls or floors. These materials are UL-listed and conformable to various tray shapes.

## Installation Considerations

- o **Indoor vs. Outdoor:** Painted or galvanized steel is common indoors, while stainless steel, aluminum, or FRP is preferred outdoors or in corrosive environments.
- o **Tray Width and Load:** Ensure mechanical strength is sufficient to prevent deformation under full cable load.
- o **Fire-Rated Systems:** Fire-rated trays should comply with standards such as ISO 834-1, EN 1363-1, DIN 4102-12, and AS/NZS 3013:2005, offering fire ratings up to 2 hours at temperatures up to 1050°C.
- o **Segregation:** Power and signal cables should be routed separately to reduce fire risk and electromagnetic interference.

## Summary

# Fire-resistant treatment for cable trays

For high-risk environments, stainless steel, aluminum with fire-resistant coatings, and fiberglass-reinforced trays are the most effective fire-resistant materials. Applying intumescent coatings and using firestop products at penetrations further enhances safety, ensuring cables remain functional and fire spread is minimized. Proper material selection, coating application, and compliance with fire safety standards are critical for protecting both infrastructure and occupants .

Check out detailed instructions on fire-resistant installations on our brochure [Download brochure in](#)

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Proper fire protection for cable trays is crucial for maintaining building safety. Find out more

Fire-resistant trunking and cable trays are specifically engineered to withstand high temperatures and prevent the spread of flames.

Use fire-retardant cable jackets or fireproof coatings to inhibit ignition. Conduct regular inspections and cleaning to

The Daken Fire-Resistant Cable Tray (DFCT ) is a new-generation cable protection system that integrates fire



# Fire-resistant treatment for cable trays

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