Does a fire protection system need cable trays

Overview

Cable trays and busways at floor level or at slab penetrations shall have a waterstop no less than 50 mm in height.

Key Takeaways

Yes, fire protection systems require cable tray supports to ensure cables are properly supported and remain functional during a fire.Regulatory Requirements

Fire protection and life-safety cables must be supported in a manner that prevents premature collapse in the event of a fire. According to BS 7671, wiring systems must be supported so they are not liable to fail under fire conditions, and non-metallic clips or ties alone are insufficient for exposed or suspended cables . This ensures that critical circuits, such as fire alarms or emergency lighting, remain operational during emergencies .

Purpose of Cable Tray Supports

Cable trays and ladder systems are designed to support cables mechanically, accommodating their weight and preventing undue strain on terminations . They are not intended as walkways or for supporting personnel, but they provide a stable framework that maintains cable integrity, especially for fire-resistant cables like FP600 . Proper support also facilitates maintenance and ensures compliance with separation and containment requirements.

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Installation Considerations
• Material: Supports must be made of fire-resistant or non-combustible materials to prevent failure during a fire .

• Spacing: Cables should be supported at intervals that prevent sagging or mechanical stress, with distances determined by cable type and diameter .

• Separation: Life-safety circuits often require separation from other circuits, either by barriers or adequate spacing, which can be achieved using supported cable trays .

• Firestopping: When trays pass through walls or slabs, firestopping materials must be used to maintain compartmentation .
Summary

In essence, cable tray supports are mandatory for fire protection systems to maintain the mechanical integrity of cables, ensure circuit reliability during a fire, and comply with UK electrical and fire safety standards. Properly designed and installed supports, combined with fire-rated cables and firestopping measures, are essential for the safe operation of life-safety systems.

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Firestop

The resulting barrier retards the transmission of smoke, fire, and toxic gases from spreading between adjacent rooms and floors for

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Our existing cable tray system is heavy bonded and grounded. If this is a code violation, could you refer me to the publication?

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