

Fireproof 3C for cable tray type



Overview

The electrical cable is suitable for Class 1 Division 2 applications and for an exposed run in 3 or more conductors.

Key Takeaways

Fireproof 3C cables for cable trays are typically constructed with flame-retardant insulation and jackets, meeting UL 1277, IEEE 383, or IEC 60332 standards to ensure circuit integrity during fire exposure. Cable Construction and Types

3C tray cables (three-conductor) are commonly used in control, power, and instrumentation applications. A typical example is the XLP/PVC 10-3C cable, which features:

- Conductors: Stranded bare copper
- Insulation: Flame-retardant XLPE (cross-linked polyethylene)
- Jacket: Oil- and moisture-resistant PVC
- Temperature range: -40°C to +90°C
- Voltage rating: 600V

- Applications: Exposed runs, Class 1 Division 2 hazardous locations, control circuits, telemetering, and power lighting Other tray cables, such as those from Prysmian, meet UL 1277, IEEE 383, and ICEA vertical tray flame tests, ensuring fire resistance in vertical tray installations and compliance with NEC Article 318 .

Fireproofing and Circuit Integrity

For enhanced fire protection, especially in critical facilities like petrochemical plants, FyreWrap® Cable Insulation can be applied around cable trays:

- Core material: Insulfrax® high-temperature, noncombustible insulation
- Encapsulation: Aluminum foil with fiberglass-reinforced scrim for moisture and tear resistance
- Performance: Maintains circuit integrity during hydrocarbon fires, FM Global approved, meets ASTM E-1725 and E-1529 standards For retrofitting existing cable trays, devices like the EZ Path® Cable Tray Retrofit Device provide a fast, code-compliant solution to restore firestopping performance without removing cables, suitable for trays with up to 100% visual fill .

Standards and Testing

Fireproof 3C cables are evaluated under international and national standards:

- UL 1277: Vertical tray flame test for power and control cables
- IEEE 383: Fire endurance for electrical cables in nuclear and industrial applications
- IEC 60332: Flame propagation tests for single and bunched cables, including categories C and D for vertical tray installations These standards ensure that cables resist flame spread, limit smoke and heat release, and maintain electrical continuity during fire events.

Summary

When selecting fireproof 3C cables for cable trays, consider:

- Insulation and jacket materials: XLPE/PVC or other flame-retardant compounds
- Compliance with fire standards: UL 1277, IEEE 383, IEC 60332
- Application environment: Hazardous locations, temperature range, and chemical exposure
- Fireproofing solutions: FyreWrap or retrofit devices for critical installations Using these cables and fireproofing systems ensures circuit integrity, safety, and regulatory compliance in industrial and commercial cable tray installations.

Article Content

12 AWG 3C Tray Cable 600V Low Smoke Zero Halogen Cable

The electrical cable is suitable for Class 1 Division 2 applications and for an exposed run in 3 or more conductors. The maximum

14 AWG 3C BC Tray Cable Low Smoke Zero Halogen Cable 600V

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XLP/PVC 16-3C Tray Cable | Allied Wire & Cable

The XLP/PVC 16-3C cable's construction consists of three 7/.0192 stranded bare copper conductors. The insulation is made from

XHHW-2 or RW90/EnviroPlus® (LSZH), 3 Conductor | Tray Cable

Three copper conductors, stranded and insulated with heat and moisture resistant, chemically crosslinked

Tray & TC Cable

TC Tray Cables are installed in cable trays, ducts and conduit; they can also be used in direct burial applications. They are

#350-3C THHN-PVC Tray Cable with Ground

#350-3 THHN-PVC Tray Cable with Ground. Sold by the foot cut to length. Same day shipping and best

Firestop

3M Fire Barrier Moldable Putty+ is a one-part, halogen-free product designed to firestop electrical outlet boxes and a wide variety of

Fire Resistant Cable Tray: Specification Guide for Safer Electrical Routes

A practical specification guide for choosing fire resistant cable tray systems in commercial and industrial electrical projects.

Types of Cable Typically Used in Cable Tray

TC cables are rated for 600 volts and can be used in industrial power or control circuits, where flame retardant cables are desired.

Tray Cable UL Type TC / TC-ER - 600V

THHN/THWN-2 Insulation – with Ground – PVC Jacket APPLICATION: g circuits in commercial and industrial environments. Suitable

Fire-Rated Cable Tray Supplier: Safety Compliant

Need a Fire-Rated Cable Tray Supplier? Find solutions for safe, compliant cable systems

Fire Rated Cable Tray, Heavy-Duty Cable Tray Manufacturer

Fire Rated Cable Trays that are crafted from premium materials like stainless steel, galvanized steel, tempered glass, and fire

Technical Guidelines for Cable Tray Installation and

6. Fireproofing Measures for Cable Trays 6.1 Material Requirements Fire-resistant trays must be made

How Does Fire Protection for Cable Trays Contribute to Overall ...

Properly protected cable trays help to prevent the spread of fire, reducing damage and safeguarding both personnel

0.6/1 kV, Copper, Multi

Pioneer since 1984 in the Wire and Cable industry in the Middle East. Riyadh Cables" affiliates extend to 22 domestic/regional locations.

FIRE RESISTANT PROOF CABLE TRAY, DIN STANDARD E90 ...

Cablofil cable tray is the preferred choice for the cable containment of low and high voltage electric cables where fire resistance is

Basor Electric

These standards define the test conditions to verify that the system, made up of fire resistant trays,

14 AWG 3C Tray Cable 600V Low Smoke Zero Halogen Cable

The LSZH Low Smoke Zero Halogen jacket protects the cable from chemically and physically harsh conditions due to being lead

Tray Cable | Tray Cable Inventory for Industrial Use

OmniCable offers an industry-leading inventory of tray cables for power and control applications. Our

B-Line series Cable Tray Design Considerations

As an industry leader in cable tray, Eaton offers one of the widest ranges of cable management solutions available in the market

Electrical Cable Tray Fire Protection

Maintenance Electrical Cable Tray Fire Protection One of the most significant fire protection

Tray Cable UL Type TC / TC-ER - 600V

UL 1685 Vertical-Tray Fire-Propagation and Smoke-Release Test Approved for Class 1 or 2, Division 2 industrial hazardous locations

Trunking and Cable Tray Protection

Trunking and cable trays are designed to house and protect electrical wiring, which can be vulnerable to damage from environmental

12 AWG 3C VNTC Black /White/ Green Exposed Run Tray Cable

Specification: VNTC Tray cable is a Vinyl nylon tray cable designed for power distributions for wirings serving 300 volts. This cable is

Fireproof Cable Tray for Industrial Cable Protection and Fire Safety

A fireproof cable tray system provides an additional layer of protection by combining structural cable support with fire-resistant

Cable tray manual

Where cable tray wiring systems with current carrying conductors are installed in a dust environment, ladder type cable trays should

Tray Cable

Our selection of THHN-PVC Tray Cable comes with multiconductor options, with and without ground. All can be cut to length and

Fire Safety Considerations for Cable Trays: Protecting Your Electrical ...

Learn about essential fire safety measures for cable trays to safeguard your electrical infrastructure. Discover expert

CTI Technical Bulletin

The types of wiring methods permitted in cable trays are listed in NEC section 318-3 along with the corresponding NEC article that

Cable Tray SHIB NAL

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

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SWIFTS CABLE TRAY

Swifts® cable tray the quick fit choice for flexibility. Available in four types, this strong, durable system has been designed with fast-fit

The Ultimate Guide to Tray Cables: Types, Applications and

When it comes to powering, automating and protecting facilities—from factories and petrochemical plants to data

3/C CU 600V PVC THHN PVC Power Cable Type TC-ER

APPLICATIONS AND FEATURES: Southwire's 600 Volt Type TC-ER power cables are suited for use in wet and dry areas, conduits,

Basor Electric

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