



# TUNNEL CABLES



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# Who we are

Specialcavi is a manufacturing company founded in 1990, specialized in the production of electrical cables. We operate throughout Europe and offer a wide range of cables designed for various applications, including data transmission, power, control and signaling, solar systems, fire-resistant solutions, for both civil and industrial uses. Moreover, we design and manufacture custom cables based on specific customer requirements.

## **INNOVATION AND PRODUCT QUALITY CONTROL**

We continuously upgrade our machinery, equipment, and instruments to keep pace with ongoing technological innovation.

All our cables undergo thorough internal quality checks in compliance with the latest Italian, European, and international standards.



## **QUALIFIED STAFF AND CUSTOMER-CENTRIC APPROACH**

Our goal is not only to be reliable suppliers, but exceptional partners for our clients.

We strive to ensure complete customer satisfaction through the quality and reliability of our products, supported by attentive and competent pre- and post-sales service.

## **CERTIFICATIONS AND QUALITY**

We have obtained major quality certifications and environmental sustainability ratings, demonstrating our commitment to excellence in cable manufacturing, sustainability, and corporate social responsibility.



## **OUR NEW WEBSITE: [www.specialcavi.it](http://www.specialcavi.it)**

We have redesigned our website to offer a clearer, more functional experience tailored to your professional needs.

The new structure simplifies access to product information and technical documentation.

Each section is designed to guide you in selecting the most suitable cable for your applications, with regularly updated and easily accessible content.

# About the cables

Electrical cables intended for tunnels, railway stations and metro systems are designed to ensure high levels of safety and reliability in particularly demanding environments, where **the risk of fire is higher**.

Manufactured using **low smoke and halogen-free** (LSZH) materials, these cables help limit the spread of toxic and corrosive substances in the event of a fire, facilitating evacuation procedures and protecting both people and infrastructure.

For applications where service continuity must be maintained during a fire, the range includes **fire-resistant cables** capable of ensuring circuit integrity for the period required by applicable standards and project specifications. This guarantees the proper operation of safety, signalling and emergency management systems when they are needed most.

Below is the list of tunnel cables manufactured by Specialcavi. For each product, you will find manufacturing characteristics, CPR classification, and application details, along with a dedicated QR code.

## HOW DOES THE QR CODE WORK?

By scanning the QR code with a smartphone or tablet, you will be redirected directly to the product page on our website.

It's a simple and immediate way to always have access to the most up-to-date information, wherever you are.

From there, you can access in real time:

- Technical datasheet
- Declaration of Performance (DoP)
- CE declaration
- Technical, application, and regulatory specifications

## FG18M16

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### MANUFACTURING CHARACTERISTICS

- **Conductor:** bare copper class 5 flexible, according to CEI 20-29 EN IEC 60228
- **Insulation:** LSZH crosslinked compound, G18 type, according to CEI 20-11
- **Outer sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Colour outer sheath:** black, based on RAL 9005
- **Cable geometry:** round

**CPR CLASS: EN 50575:2014+A1:2016 B2ca-s1a,d0,a1**

### APPLICATIONS

Single-core cable for energy, signalling and control, compliant with CPR EU 305/11, designed to limit the spread of fire and smoke. Suitable for high fire-risk areas with a high presence of people such as, tunnels, and subways. Must be protected from UV rays if stored or laid outdoor. Direct buried laying or buried laying with protection is allowed. Suitable for installation in road tunnels.

## FG18H2M16

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### MANUFACTURING CHARACTERISTICS

- **Conductor:** bare copper class 5 flexible, according to CEI 20-29 EN IEC 60228
- **Insulation:** LSZH crosslinked compound, G18 type, according to CEI 20-11
- **Wrapping and protection:** polyester tape
- **Screen:** bare copper braid
- **Outer sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Colour outer sheath:** black, based on RAL 9005
- **Cable geometry:** round

**CPR CLASS: EN 50575:2014+A1:2016 B2ca-s1a,d0,a1**

### APPLICATIONS

Single-core LSZH shielded energy cable, compliant with CPR EU 305/11, designed to limit the spread of fire and smoke. Suitable for high fire-risk areas with a high presence of people such as, tunnels, and subways. The shielding provides protection against electromagnetic interference. Must be protected from UV rays if stored or laid outdoor. Buried laying (direct and with protection) is allowed. Suitable for installation in road tunnels.

## MANUFACTURING CHARACTERISTICS

- **Conductor:** bare copper class 5 flexible, according to CEI 20-29 EN IEC 60228
- **Insulation:** LSZH crosslinked compound, G18 type, according to CEI 20-11
- **Armour:** galvanized steel braiding (braid wire nominal diameter  $\geq 0,24\text{mm}$ )
- **Outer sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Colour outer sheath:** black, based on RAL 9005
- **Cable geometry:** round

**CPR CLASS: EN 50575:2014+A1:2016 B2ca-s1a,d0,a1**

## APPLICATIONS

Single-core cable for energy, signalling and control, compliant with CPR EU 305/11, designed to limit the spread of fire and smoke. Suitable for high fire-risk areas with a high presence of people such as, tunnels, and subways. The armouring makes it ideal for heavy-duty applications in direct current circuits. Must be protected from UV rays if stored or laid outdoor. Buried laying (direct and with protection) is allowed. Suitable for installation in road tunnels.

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## MANUFACTURING CHARACTERISTICS

- **Conductor:** bare copper class 5 flexible, according to CEI 20-29 EN IEC 60228
- **Insulation:** LSZH crosslinked compound, G18 type, according to CEI 20-11
- **Outer sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Colour outer sheath:** black, based on RAL 9005
- **Cable geometry:** round

**CPR CLASS: EN 50575:2014+A1:2016 B2ca-s1a,d0,a1**

## APPLICATIONS

Multi-core LSZH cable for power or signalling and control, compliant with CPR EU 305/11, designed to limit the spread of fire and smoke. Suitable for high fire-risk environments such as stations, tunnels, and subways. Must be protected from UV rays if stored or laid outdoor. Buried laying (direct and with protection) is allowed. Suitable for installation in road tunnels.

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## FG18OH2M16



### MANUFACTURING CHARACTERISTICS

- **Conductor:** bare copper class 5 flexible, according to CEI 20-29 EN IEC 60228
- **Insulation:** LSZH crosslinked compound, G18 type, according to CEI 20-11
- **Wrapping and protection:** polyester tape
- **Screen:** bare copper braid
- **Outer sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Colour outer sheath:** black, based on RAL 9005
- **Cable geometry:** round

**CPR CLASS: EN 50575:2014+A1:2016 B2ca-s1a,d0,a1**

### APPLICATIONS

Single-core cable for energy, signalling and control, compliant with CPR EU 305/11, designed to limit the spread of fire and smoke. Suitable for high fire-risk areas with a high presence of people such as, tunnels, and subways. The shielding provides protection against electromagnetic interference. Must be protected from UV rays if stored or laid outdoor. Buried laying (direct and with protection) is allowed. AD7 water presence condition. Suitable for installation in road tunnels.

## FG18OM16AM16



### MANUFACTURING CHARACTERISTICS

- **Conductor:** bare copper class 5 flexible, according to CEI 20-29 EN IEC 60228
- **Insulation:** LSZH crosslinked compound, G18 type, according to CEI 20-11
- **Guaina intermedia:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Armour:** galvanized steel braiding (braid wire nominal diameter  $\geq 0,24\text{mm}$ )
- **Outer sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Colour outer sheath:** black, based on RAL 9005
- **Cable geometry:** round

**CPR CLASS: EN 50575:2014+A1:2016 B2ca-s1a,d0,a1**

### APPLICATIONS

Multi-core LSZH armoured, compliant with CPR EU 305/11, fire system (120 min.) for emergency power in fire-risk environments. Ideal for safety exits, emergency lighting, alarm signals, fire pumps, fire curtains, and other applications with operating voltage  $>100\text{V AC}$ . Buried laying (direct and with protection) and outdoor laying with UV protection are allowed. Suitable for installation in road tunnels.

## MANUFACTURING CHARACTERISTICS

- **Conductor:** bare copper class 5 flexible, according to CEI 20-29 EN IEC 60228
- **Insulation:** LSZH crosslinked compound, G18 type, according to CEI 20-11
- **Guaina intermedia:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Armour:** galvanized steel wire (nominal wire diameter  $\geq 0,60\text{mm}$ ) without counterspiral steel tape
- **Outer sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Colour outer sheath:** black, based on RAL 9005
- **Cable geometry:** round

**CPR CLASS: EN 50575:2014+A1:2016 B2ca-s1a,d0,a1**

## APPLICATIONS

Multi-core LSZH armoured cable for power or signalling and control, compliant with CPR EU 305/11, designed to limit the spread of fire and smoke. Suitable for high fire-risk environments such as stations, tunnels, and subways. The armoured makes it ideal for heavy-duty applications. Must be protected from UV rays if stored or laid outdoor. Buried laying (direct and with protection) is allowed. Suitable for installation in road tunnels.

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## MANUFACTURING CHARACTERISTICS

- **Conductor:** bare copper class 5 flexible, according to CEI 20-29 EN IEC 60228
- **Insulation:** LSZH crosslinked compound, G18 type, according to CEI 20-11
- **Inner sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Armour:** steel armouring tape (nominal thickness  $\geq 0,20\text{mm}$ )
- **Outer sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Colour outer sheath:** black, based on RAL 9005
- **Cable geometry:** round

**CPR CLASS: EN 50575:2014+A1:2016 B2ca-s1a,d0,a1**

## APPLICATIONS

Multi-core LSZH armoured cable for power or signalling and control, compliant with CPR EU 305/11, designed to limit the spread of fire and smoke. Suitable for high fire-risk environments such as stations, tunnels, and subways. The armoured makes it ideal for heavy-duty applications. Must be protected from UV rays if stored or laid outdoor. Buried laying (direct and with protection) is allowed. Suitable for installation in road tunnels.

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## FTG18M16

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### MANUFACTURING CHARACTERISTICS

- **Conductor:** bare copper class 5 flexible, according to CEI 20-29 EN IEC 60228
- **Fire protection:** mica tape
- **Insulation:** LSZH crosslinked compound, G18 type, according to CEI 20-11
- **Outer sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Colour outer sheath:** blue, based on RAL 5015
- **Cable geometry:** round

**CPR CLASS: EN 50575:2014+A1:2016 B2ca-s1a,d1,a1**

### APPLICATIONS

Fire system LSZH single-core cable, compliant with CPR EU Regulation 305/11, designed for emergency power supply in fire-risk environments (120 min fire resistant). Ideal for powering emergency exits, emergency lighting, alarm signals, fire pumps, fire curtains, and other applications with operating voltage >100V AC. Buried laying (direct and with protection) and outdoor laying with UV protection are allowed. Suitable for installation in road tunnels.

## FTG18H2M16

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### MANUFACTURING CHARACTERISTICS

- **Conductor:** bare copper class 5 flexible, according to CEI 20-29 EN IEC 60228
- **Fire protection:** mica tape
- **Insulation:** LSZH crosslinked compound, G18 type, according to CEI 20-11
- **Wrapping and protection:** polyester tape
- **Screen:** bare copper braid
- **Outer sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Colour outer sheath:** blue, based on RAL 5015
- **Cable geometry:** round

**CPR CLASS: EN 50575:2014+A1:2016 B2ca-s1a,d1,a1**

### APPLICATIONS

Fire system LSZH single-core shielded cable, compliant with CPR EU 305/11, designed to limit the spread of fire and smoke, for emergency power supply in fire risk environments (120 min fire resistant). Ideal for powering emergency exits, emergency lighting, alarm signals, fire pumps, fire curtains, and other applications with operating voltage >100V AC. Buried laying (direct and with protection) and outdoor laying with UV protection are allowed. Suitable for installation in road tunnels.

## MANUFACTURING CHARACTERISTICS

- **Conductor:** bare copper class 5 flexible, according to CEI 20-29 EN IEC 60228
- **Fire protection:** mica tape
- **Insulation:** LSZH crosslinked compound, G18 type, according to CEI 20-11
- **Outer sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Colour outer sheath:** blue, based on RAL 5015
- **Cable geometry:** round

**CPR CLASS: EN 50575:2014+A1:2016 B2ca-s1a,d1,a1**

## APPLICATIONS

Multi-core LSZH cable, compliant with CPR EU 305/11, designed to limit the spread of fire and smoke, fire-resistant for 120 minutes, designed for emergency power supply in fire-risk environments. Ideal for safety exits, emergency lighting, alarm devices, fire pumps, fire curtains, and other applications over 100V AC. Buried laying (direct and with protection) and outdoor laying with UV protection are allowed. Suitable for installation in road tunnels.

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## MANUFACTURING CHARACTERISTICS

- **Conductor:** bare copper class 5 flexible, according to CEI 20-29 EN IEC 60228
- **Fire protection:** mica tape
- **Insulation:** LSZH crosslinked compound, G18 type, according to CEI 20-11
- **Wrapping and protection:** polyester tape
- **Screen:** bare copper braid
- **Outer sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Colour outer sheath:** blue, based on RAL 5015
- **Cable geometry:** round

**CPR CLASS: EN 50575:2014+A1:2016 B2ca-s1a,d1,a1**

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## APPLICATIONS

Fire system LSZH multi-core shielded cable, compliant with CPR EU 305/11, designed to limit the spread of fire and smoke, for emergency power supply in fire risk environments (120 min fire resistant). Ideal for powering emergency exits, emergency lighting, alarm signals, fire pumps, fire curtains, and other applications with operating voltage >100V AC. Buried laying (direct and with protection) and outdoor laying with UV protection are allowed. Suitable for installation in road tunnels.

## FTG18OM16AM16

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### MANUFACTURING CHARACTERISTICS

- **Conductor:** bare copper class 5 flexible, according to CEI 20-29 EN IEC 60228
- **Fire protection:** mica tape
- **Insulation:** LSZH crosslinked compound, G18 type, according to CEI 20-11
- **Guaina intermedia:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Armour:** galvanized steel braiding (braid wire nominal diameter  $\geq 0,24\text{mm}$ )
- **Outer sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Colour outer sheath:** blue, based on RAL 5015
- **Cable geometry:** round

**CPR CLASS: EN 50575:2014+A1:2016 B2ca-s1a,d1,a1**

### APPLICATIONS

Multi-core LSZH armoured, compliant with CPR EU 305/11, fire system (120 min.) for emergency power in fire-risk environments. Ideal for safety exits, emergency lighting, alarm signals, fire pumps, fire curtains, and other applications with operating voltage  $>100\text{V AC}$ . Buried laying (direct and with protection) and outdoor laying with UV protection are allowed. Suitable for installation in road tunnels.

## FTS32OAM16

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### MANUFACTURING CHARACTERISTICS

- **Conductor:** bare copper class 5 flexible, according to CEI 20-29 EN IEC 60228
- **Fire protection:** mica tape
- **Insulation:** LSZH crosslinked compound, S32 type, according to CEI 20-11
- **Guaina intermedia:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Armour:** galvanized steel braiding (braid wire nominal diameter  $\geq 0,24\text{mm}$ )
- **Outer sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Colour outer sheath:** purple, based on RAL 4005
- **Cable geometry:** round

**CPR CLASS: EN 50575:2014+A1:2016 B2ca-s1a,d1,a1**

### APPLICATIONS

Fire resistant (PH120) LSZH armoured cable, for fixed automatic fire detection and fire alarm systems, compliant with EU CPR Regulation 305/11. Designed to limit the spread of fire and smoke. Suitable for fixed installation in surface-mounted or concealed conduits and similar enclosed systems within buildings and civil engineering structures, including road tunnels. Also suitable for applications such as gas detection systems,  $\text{O}_2$  deficiency detectors in HVAC systems, emergency lighting, emergency control circuits, and electric locking devices with an operating voltage  $\leq 100\text{ V AC}$ .

## MANUFACTURING CHARACTERISTICS

- **Conductor:** bare copper class 5 flexible, according to CEI 20-29 EN IEC 60228
- **Fire protection:** mica tape
- **Insulation:** LSZH crosslinked compound, E32 type, according to CEI 20-11
- **Wrapping and protection:** polyester tape
- **Screen:** aluminum/polyester tape, with flexible bare copper drain wire
- **Guaina intermedia:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Armour:** galvanized steel braiding (braid wire nominal diameter  $\geq 0,24\text{mm}$ )
- **Outer sheath:** LSZH thermoplastic compound, M16 type, according to CEI 20-11
- **Colour outer sheath:** red based on RAL 3000
- **Cable geometry:** round

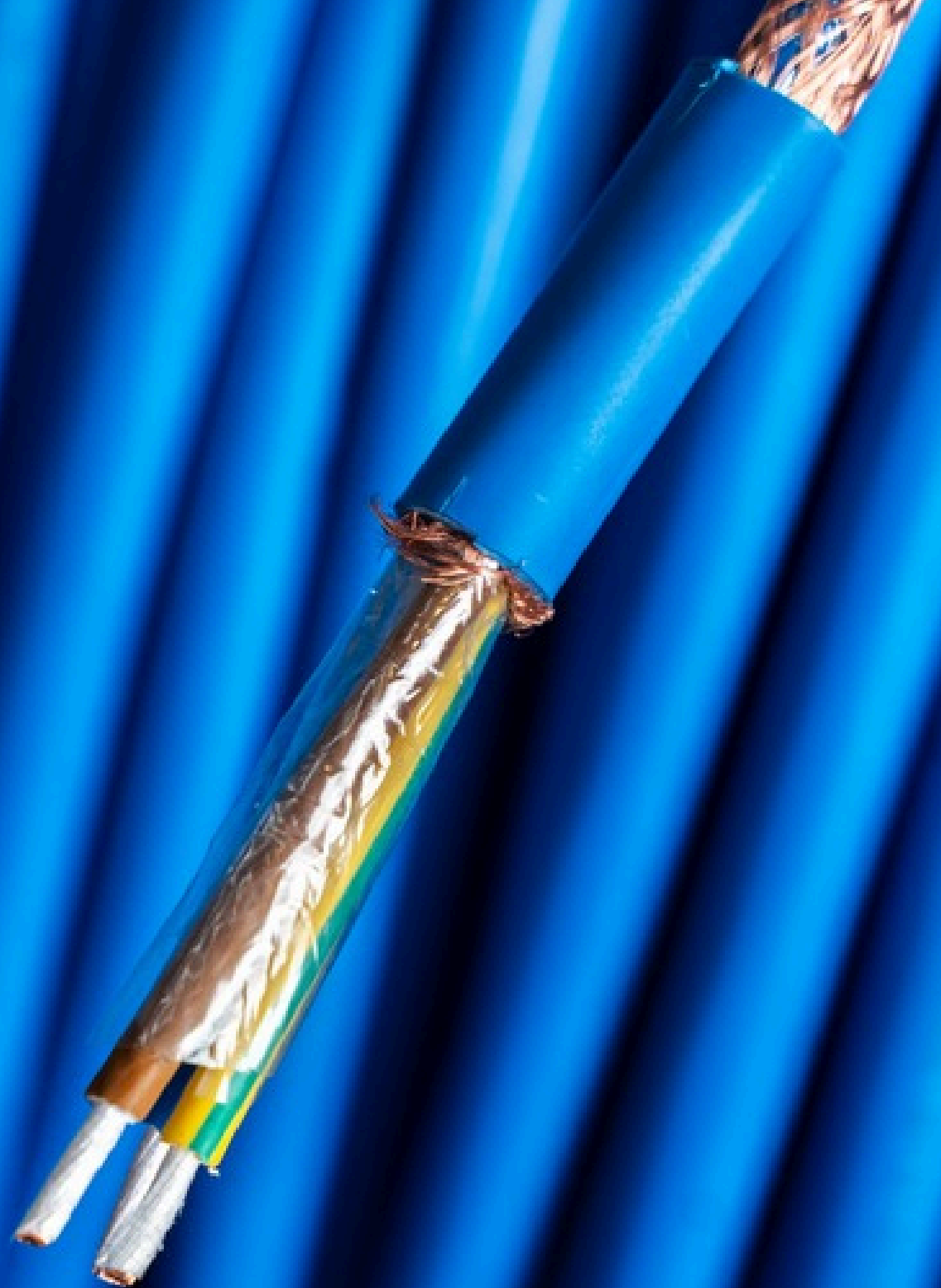
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## APPLICATIONS

Fire resistant (PH120) LSZH shielded and armoured cable, for fixed automatic fire detection and fire alarm systems, compliant with EU CPR Regulation 305/11. Designed to limit the spread of fire and smoke. Suitable for fixed installation in surface-mounted or concealed conduits and similar enclosed systems within buildings and civil engineering structures, including road tunnels. Also suitable for applications such as gas detection systems, O<sub>2</sub> deficiency detectors in HVAC systems, emergency lighting, emergency control circuits, and electric locking devices with an operating voltage  $\leq 100\text{ V AC}$ .







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