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**PRYSMIAN AFUMEX**  
**THE ULTIMATE LOW SMOKE ZERO HALOGEN RANGE**

**Afumex**  
www.afumexcables.co.uk

# THE PRYSMIAN **AFUMEX** RANGE, A GREAT INVESTMENT IN ANY BUILDING



AFUMEX cables were used in the Guggenheim Museum, Bilbao



Afumex used in Hospitals



LUL test regimes led to development of AFUMEX cables

## AFUMEX A PRONOUNCED EFFECT ON SAFETY. A DRAMATIC REDUCTION IN RISK

When it matters most, you can be sure of a company that has an unrivalled reputation for high quality, British Standard compliant and cost effective Low Smoke, Zero Halogen (LSOH) cables.

Our customers have consistently demonstrated a high level of confidence in our range of LSOH cables built on their proven performance and quality achieved over the last 30 years.

In today's market where concerns over cable quality have been raised by the Approved Cables Initiative (ACI) and non compliant cables have been discovered on sale, quality and safety are paramount.

**Selecting the AFUMEX range guarantees quality and offers the widest choice and the greatest safety.**

## PRYSMIAN SUPPORTS THE ACI

**The problems identified by the ACI**

- > 20% of the cable in the UK supply chain is unsafe, non approved or counterfeit
- > 27% of all electrical fires across England were attributed to faulty wires and cables (over 4000 a year)
- > 1200 non-fatal major accidents over the last 5 years
- > 15 deaths from faulty electric wires over the last 5 years

Statistics from Department of Communities and Local Government

### Recommendations

- > Installation of unsafe or counterfeit cables can result in substantial costs to replace and investigations by HSE leading to criminal proceedings
- > Never install unmarked cables - check markings on cable NOT JUST on packaging
- > Ensure there is full traceability on products specified and purchased, keep records
- > Insist on independent third party accredited and approved product AS A MINIMUM
- > If you are unsure of any cable product - the ACI will check and test these free of charge
- > If you request AFUMEX cables from Prysmian you are guaranteed safe risk free cables

## DEDICATED AFUMEX CABLES WEB SITE

Visit [www.afumexcables.co.uk](http://www.afumexcables.co.uk) for all the technical and background information you need on Prysmian's product range and industry issues. Product data sheets and other technical information can be viewed and downloaded.



AFUMEX used in Shard

Image courtesy of Sellar Property.



## THE AFUMEX RANGE



### HOW SAFE CAN YOU GET?

Safety, of course, is a paramount consideration for engineers deciding on materials and equipment to use in their projects.

Today's intelligent and complex buildings raise even more safety issues, cabling being one of them. Under fire conditions, cables can be a vehicle for flame propagation whilst generating smoke, corrosive and other toxic fumes. These characteristics can impede building evacuation, delay emergency services and present a hazard to personnel, property, equipment, and to the continuity of business. Major fires at Dusseldorf and Heathrow Airports, the London Underground and the Channel Tunnel were, unfortunately testament to this. Additionally, the use of sub standard cables may also be a direct cause of fire.

While there are now many cables in the marketplace which promote limited fire hazard or low smoke and fume properties, exactly how safe are they? Certainly, not necessarily as safe, as cables which provide protection against all aspects of fire hazard including smoke and gas emissions, flame spread and heat release.

The Afumex range of cables is a guarantee of quality and all products with this brand will comply with the highest standards of performance in terms of reaction to fire.

- > **Low Emission of smoke** meeting the requirements of BS EN 61034-2
- > **Low Acid Gas Emission** meeting the requirements of BS EN 50267-2-1 or BS EN 50267-2-2
- > **Flame retardant / Resistant to ignition** meeting the requirements of BS EN 60332-1-2
- > **Reduced flame propagation** meeting the requirements of BS EN 60332-3-24
- > **Cable Construction** meeting the requirements of BS7211, BS6724 or BS8436

Prysmian's R&D engineers developed materials to control a cable's reaction to fire and launched LSOH back in the 1980's. Since then we have continued to extend that performance and now Afumex is a proven, comprehensive range of energy cables for buildings that perform when it's needed most.



All products carrying the AFUMEX quality logo comply with the high standards of quality and performance in terms of reaction to fire.

AFUMEX cables were used in The Shard

Image courtesy of Sellar Property.

[www.afumexcables.co.uk](http://www.afumexcables.co.uk)

## LSOH CABLES



**A SINGLE CORE CABLE FOR CONDUIT, TRUNKING OR OTHER PROTECTED INSTALLATIONS AFUMEX 6491B OFFERS A COST EFFECTIVE MEANS OF ACHIEVING THE HIGHEST LEVELS OF PERFORMANCE.**

Designed to minimise the impact of a fire, providing excellent resistance to flame spread, very low levels of smoke and virtually no acidic gases, safe guarding human life and protecting equipment.

### CONDUIT WIRING CABLE

- > 450/750V
- > 90°C maximum operating temperature
- > Meets BS7211
- > BASEC approved
- > Low Smoke
- > Low Acid Gas
- > Reduced flame spread
- > Afumex approved



**AFUMEX TWIN FLAT WIRING CABLES ARE DESIGNED FOR A WIDE RANGE OF BUILDING APPLICATIONS INCLUDING POWER, LIGHTING AND SUB MAINS DISTRIBUTION.**

They produce very low levels of smoke, virtually no acidic gasses and offer excellent resistance to flame spread.

### SURFACE WIRING CABLE

- > 300/500V
- > 90°C maximum operating temperature
- > Meets BS7211
- > Direct replacement for PVC cables to BS6004
- > BASEC approved
- > Low Smoke
- > Low Acid Gas
- > Reduced flame spread
- > Afumex approved



### AFUMEX CABLES PREVENT

#### FLAME SPREAD

- > Can follow unprotected cable routes throughout a building
- > Can reduce evacuation routes available
- > Destroys property and the structure of a building
- > Causes panic

#### FIRE

- > One third of fires start with electrical equipment
- > Combustible materials in buildings can burn for up to 50 years
- > Depletes oxygen in restricted areas

# MINIMISE THE RISK FROM FIRE WITH AFUMEX



**TWO, THREE AND FOUR CORE ARMoured CABLES** DESIGNED FOR POWER DISTRIBUTION AND AREAS WHERE THE MECHANICAL ROBUSTNESS OF ARMoured CABLE IS ESSENTIAL.

Suitable for indoor and outdoor installations including direct burial and offer a direct alternative to standard BS5467 PVC sheathed cable.

## ARMoured POWER CABLES

- > 600/1000V
- > 90°C maximum operating temperature
- > Meets BS6724
- > Direct replacement for PVC cables to BS5467
- > Suitable for direct burial
- > BASEC approved
- > Low Smoke
- > Low Acid Gas
- > Reduced flame spread
- > Afumex approved

**ROBUST, LIGHTWEIGHT CONSTRUCTION,** ALLOWING IT TO BE USED IN MANY INSTANCES WHERE TRADITIONALLY BULKY ARMoured CABLE WOULD BE INSTALLED. **THE ORIGINAL FULLY SCREENED, MULTI-USE, HIGH PERFORMANCE WIRING CABLE. ERA ASSESSED FOR NAIL PENETRATION TEST.**

The lightweight dressable construction offers a combination of rigidity and ease of bending which keeps its shape during installation and allows quick and easy termination using nylon glands.

## SCREENED WIRING CABLES

- > 300/500V and 600/1000V
- > 90°C maximum operating temperature
- > Meets BS8436
- > BASEC approved
- > Low Smoke
- > Low Acid Gas
- > Reduced flame spread
- > Afumex approved
- > Suitable for 17th Edn circuits to clause 522.6



thin buildings  
cables fuel the fire  
duced from 15 to 3 minutes  
icted spaces

## ACID GASES

- > Cause choking, coughing and vomiting
- > Dissolve in bodily fluids forming liquid acid solutions on the skin
- > Burn skin, eyes, throat and lungs
- > Common cause of death in the event of fire

## SMOKE

- > Incapacitates people if inhaled causing coughing, choking and vomiting
- > Obscures evacuation routes and exit signs
- > Irritates vision restricting movement and judgement
- > Is a common cause of death in the event of fire

# CABLE SPECIFICATIONS

## REACTION TO FIRE - TERMINOLOGY

All products carrying the AFUMEX quality logo comply with the highest standards of quality and performance in terms of reaction to fire:-

### Low Smoke Emission

Traditional PVC cables, when burnt, give off thick black smoke which obscures escape routes and causes asphyxiation, reducing peoples' ability to respond in an emergency which can result in panic. Tests developed from the original LUL 3 metre cube tests and Prysmian ensure that AFUMEX cables dramatically limit smoke produced when burnt.

### Low Corrosive Gas Emission

Although often invisible, when burnt, PVC emits acidic HCl gas. This can cause corrosion and failure of electrical equipment, corrosion of building structures and incapacitate those trying to evacuate the burning building. AFUMEX cables produce less than 0.5% HCl, meeting the test requirements.

### Flame Retardant

This test measures, upon direct exposure to flame, that a single cable shall limit the spread of flame and that it shall self extinguish when the source of flame is removed.

### Reduced Flame propagation

This test is to measure, when exposed to a direct flame, that bunched cables shall limit the spread of the flame and they all shall self extinguish when the flame source is removed.



## AFUMEX A PRONOUNCED EFFECT ON SAFETY. A DRAMATIC REDUCTION IN RISK

### STANDARDS AND APPROVALS

	LOW SMOKE	ZERO HALOGEN		FLAME RETARDANCE
		ACID GAS EMISSIONS	DEGREES OF ACID GAS EMISSION	
AFUMEX 6491B	BS EN 61034-2	BS EN 50267-2-2	pH min 4.3 conductivity max 10µS/mm	BS EN 60332-1-2
AFUMEX 6242B	BS EN 61034-2	BS EN 50267-2-1	<0.5% HCL	BS EN 60332-1-2
AFUMEX BS6724	BS EN 61034-2	BS EN 50267-2-1	<0.5% HCL	BS EN 60332-1-2 BS EN 60332-3-24
AFUMEX LSX EARTHSHIELD	BS EN 61034-2	BS EN 50267-2-1	<0.5% HCL	BS EN 60332-1-2 BS EN 60332-3-24

### STANDARD DEFINITION

BS EN 50267-2-1	BS EN 50267-2-1:1999 Common test methods for cables under fire conditions. Tests on gases evolved during combustion of materials from cables. Part 2-1: Procedures for the determination of the amount of halogen acid gas. Replaces BS 6425-1:1990
BS EN 50267-2-2	BS EN 50267-2-2:1999 Common test methods for cables under fire conditions. Tests on gases evolved during combustion of materials from cables. Part 2-2: Procedures for the determination of degree of acidity of gases for materials by measuring pH and conductivity.
BS EN 60332-1-2	BS EN 60332-1-2:2004 Tests on electric and optical fibre cables under fire conditions. Part 1-2: Test for vertical flame propagation for a single insulated wire or cable. Procedure for 1 kW pre-mixed flame. Replaces BS EN 50265-2-1:1999
BS EN 60332-3-24	BS EN 60332-3-24:2009 Tests on electric and optical fibre cables under fire conditions. Part 3-24: Test for vertical flame spread of vertically-mounted bunched wires or cables. Category C. Replaces: BS EN 50266-2-4:2001
BS EN 61034-2	BS EN 61034-2: 2005 Measurement of smoke density of cables burning under defined conditions. Part 2: Test procedure and requirements Replaces: BS EN 50268-2:2000