PRYSMIAN
CABLES & SYSTEMS

PRODUCT DATASHEET & APPLICATIONS GUIDE



AFUMEX LSX™
LOW SMOKE ZERO HALOGEN SCREENED WIRING CABLES
BS8436

KEY BENEFITS:

- BASEC approved for the full size range of BS8436 (1.0mm² to 2.5mm²)
- Additionally tested for 600/1000 V rating by BASEC, certificate available upon request
- Suitable for use in thin walls and partitions as per clause 522.6 of the 17th Edition IEE Wiring Regulations (1.0mm² to 2.5mm²)
- Independently assessed by ERA for nail penetration tests (1.0mm² to 2.5mm²)
- Full 360° metal screen aids EMC compliance
- Low smoke emissions to BS EN 61034-2
- Acidic gas emission to BS EN 50267-2-1 (less than 0.5% acid gas)
- Reduced flame propagation to BS EN 50266-2-4

AFUMEX Wiring Cables

AFUMEX LSX™ with EARTHSHIELD Safety Screen Technology

BS 8436*

Additionally tested for 600/1000 V rating



Afumex LSX™

The AFUMEX LSX™ range was developed to address the specific needs of modern building services. For small power and lighting circuits, AFUMEX LSX™ has many applications, including **cables installed in thin walls and partitions**.

AFUMEX LSX™ is robust in design yet light in weight allowing it to be used in many instances where traditionally a bulky armoured cable would be installed, often with considerable cost savings. The dressable construction offers a combination of rigidity and ease of bending which keeps its shape during installation.

Key Features

- Easy to strip, terminate and gland
- Easy to install for surface clipped, tray and basket installations, giving reduced installation costs
- A robust screen that meets the nail penetration test given in BS 8436*
- 70°C operating and 250°C short circuit temperature
- Full size CPC conductor on 2, 3 and 4 core cables
- Provides excellent resistance to ignition and flame spread and produces very low levels of smoke and virtually no acidic gases when burnt, safeguarding human life and protecting equipment
- Dressable - retains shape when installed

Conductor

Plain annealed copper solid or stranded (class 1 or 2) conductor complying with BS EN 60228

Insulation

90°C cross linked XLPE insulation complying with BS7655 Type GP8

Screen

Laminated aluminium tape screen bonded to sheath and in contact with full size tinned annealed copper circuit protective conductor for 2, 3 & 4 core cables

Core Identification

oo brown-blue
ooo brown-black-grey
oooo blue-brown-black-grey

Sheath

Robust thermoplastic LSOH sheath. Colour - White.
Other colours are available to special order

Approvals

All Prysmian cables are manufactured under our ISO 9001 Quality System certified by BASEC.

BASEC Approved to **BS 8436** (1.0mm² to 2.5mm²)

Nail Penetration: ERA verified and tested

Specifications

*AFUMEX LSX™ screened wiring cables comply with **BS 8436 for 1.0mm² to 2.5mm²** and are additionally tested for 600/1000 V rating

AFUMEX LSX™ screened wiring cables are rated at **600/1000 V.** (4mm² and 6mm²)

Cable Characteristics

Temperature Range	Bending Radius	Mechanical Impact	Fire Performance	Flexibility	Halogen Free	Low Smoke Emissions	Nail Penetration
-20 to +90°C	Circular conductor r=6D	Medium	BS EN 60332-1-2 BS EN 50266-2-4	Rigid	BS EN 50267-2-1 BS EN 50267-2-3	BS EN 61034-2	BS 8436

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AFUMEX LSX™ Screened Wiring Cables

Cable Details

Nominal cross sectional area	Conceptual construction	Approx overall diameter	Approx cable weight	Max conductor resistance at 20°C	Current rating DC or single phase AC enclosed	Current rating, DC or single phase AC clipped direct	Current rating, DC or single phase AC perforated tray	Current rating, three phase AC perforated tray	Volt drop DC or single phase AC	Volt drop three phase AC
mm²	no./mm	mm	kg/km	ohms/km	Amps	Amps	Amps	Amps	mV/A/m	mV/A/m
AFUMEX LSX™										**BS8436**
					Two Core					
1.0	1/1.13	8.0	80	18.1	13	15	17	-	44	-
1.5	7/0.53	9.5	100	12.1	16.5	19.5	22	-	29	-
2.5	7/0.67	10.5	140	7.41	23	27	30	-	18	-
					Three Core					
1.0	1/1.13	8.5	105	18.1	13	15	17	14.5	44	38
1.5	7/0.53	9.5	120	12.1	16.5	19.5	22	18.5	29	25
2.5	7/0.67	10.5	170	7.41	23	27	30	25	18	15
					Four Core					
1.0	1/1.13	9.0	125	18.1	13	15	17	14.5	44	38
1.5	7/0.53	10.5	155	12.1	16.5	19.5	22	18.5	29	25
2.5	7/0.67	11.5	200	7.41	23	27	30	25	18	15
AFUMEX LSX™										
					Two Core					
4.0	7/0.85	12.0	190	4.61	30	36	40	-	11	-
6.0	7/1.04	13.0	260	3.08	38	46	51	-	7.3	-
					Three Core					
4.0	7/0.85	12.5	230	4.61	30	36	40	34	11	9.5
					Four Core					
4.0	7/0.85	13.5	280	4.61	30	36	40	34	11	9.5

Installation methods for current rating in accordance with BS7671/IEE Wiring Regulations.

The tabulated ratings are based upon a 30°C ambient temperature and 70°C operating temperature. For other ambient temperatures or where cables are grouped together, the appropriate rating factors should be applied.

These cables when connected to suitably rated equipment are capable of being operated at a conductor temperature of 90°C. If current ratings etc are required please contact us.

Cables installed in floors, ceilings, thin walls and partitions

When BS8436 cable is used to comply with BS7671:2008 clause 522.6.5 (ii), or 522.6.6 (i), or 522.6.8 (i), not only are the requirements of BS7671 on current rating, voltage drop, grouping etc. to be met but the recommendation of BS8436 for current rating and protective devices should also be followed.

Only Type B circuit breakers conforming to BS EN 60898 or Type B RCBOs conforming to BS EN 61009-12 should be used. They shall also have a maximum let-through energy (I^2t) not greater than 42000 A^2s for 1.0mm² and 1.5mm² cable and 60000 A^2s for 2.5mm² cables.

For 1.0mm² cable the largest rated circuit breaker that shall be used is 16 amps, and may be lower depending on how the cable is used and installed.
For 1.5mm² cable the largest rated circuit breaker that shall be used is 20 amps, and may be lower depending on how the cable is used and installed.
For 2.5mm² cable the largest rated circuit breaker that shall be used is 32 amps, and may be lower depending on how the cable is used and installed.

Temperature Rating Factors

Ambient Temperature °C	25	30	35	40	45	50	55	60
Rating Factor	1.03	1.00	0.94	0.87	0.79	0.71	0.61	0.50

Correction Factors for Groupings (Free Air Touching)

Number of circuits	2	3	4	5	6	7	8	9
Rating Factor	0.80	0.70	0.65	0.60	0.57	0.54	0.52	0.50

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AFUMEX LSX™ Applications Guide

Installations

- Minimum recommended installation temperature 0°C
- Automatic earthing of the screen is achieved by termination of circuit protective conductor
- Suitable for indoor and outdoor installations in suitably protected environments
- For external exposure white sheathed cable is recommended
- Should be installed in accordance with BS7671/IEE Wiring Regulations or other appropriate national regulations
- Suitable for surface wiring, direct burial in plaster, tray or other installations

Key Applications

AFUMEX LSX™ wiring cables are designed for power and lighting applications where a screened low smoke halogen free cable is required such as:

- IEE Wiring Regulations compliant cable for installation in thin walls and partitions **(clause 522.6 of 17th Edition)** (1.0mm^2 to 2.5mm^2)
- Lightweight replacement for armoured cable in cases where high level mechanical protection is not needed
- Fully screened cable for EMC compliance and clean power supply
- Robust alternative to surface mounted flat wiring cable
- Reduced flame propagation, low smoke halogen free fire performance for public access buildings

Cables Installed in Thin Walls and Partitions



AFUMEX LSX™ contains an earthed metallic screen, which is in contact with a full size, un-insulated circuit protective conductor.

This provides an earth fault path for the fault current if the cable is penetrated by a nail (or similar), and when connected to a suitably selected protective device offers electrical protection by this connection of the circuit.

This performance has been independently verified by nail penetration tests carried out by ERA.

Installation note: AFUMEX LSX™ cable combined with a suitable protective device provides a means of compliance with clause 522-6 of BS 7671:2008. AFUMEX LSX™ cable meets the requirements of BS8436 (1.0mm^2 to 2.5mm^2).

Total Installed Costs of LSX™ vs SWA Cable



AFUMEX LSX™ is lightweight and compact in design, allowing cost savings to be made by the selection of smaller, lighter fixings, supports and cable tray or basket. AFUMEX LSX™ is also quick to install and easily stripped, significantly reducing the first and second fix termination times when compared with SWA cable (Steel Wire Armoured).

Simple NYLON/LSOH glands may be used.

Installation note: A neat finish can be quickly and easily achieved. AFUMEX LSX™ is ideal for clipping direct to the metal frame structure of a pre-fabricated fast track building.

Weight & Diameter Comparison			Accessory Selection	
Cable size	**SWA is heavier by %**	**LSX™ is smaller by %**	**LSOH Cable Gland Product Code**	**AP Clip Code**
2x1.0	-	-	251	AP7W
2x1.5	135	17	251	AP9W
2x2.5	128	19	252	AP10W
2x4	100	17	252	AP11W
2x6	109	17	254	AP12W
3x1.0	-	-	251	AP8W
3x1.5	115	16	251	AP9W
3x2.5	103	19	252	AP10W
3x4	80	19	252	AP12W
4x1.0	-	-	251	AP9W
4x1.5	100	15	252	AP10W
4x2.5	96	21	252	AP11W
4x4	73	21	254	AP13W

AFUMEX LSX™ is lighter in weight and smaller in diameter than 1 kV armoured cables

Screened Wiring Cables

AFUMEX LSX™ Applications Guide

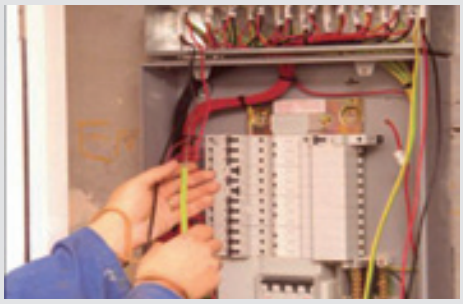
EMC and Clean Power Supply



AFUMEX LSX™ has a full 360° metal screen, aiding EMC compliance throughout the run of the cable. The full 360° metal screen makes AFUMEX LSX™ ideally suited for clean power supply use.

Installation note: AFUMEX LSX™ cables can be grouped with limited cross talk between cables.

Small Power - Ring Main & Radial Circuits



Ring main or radial circuit designs utilising optimum circuit breaker range.

Installation Note: XLPE 90°C rated conductor gives higher current ratings and improved design options.

Lighting - HPS, Tungsten & Fluorescent



HPS, tungsten and fluorescent lighting for office, retail and domestic applications.

Installation note: AFUMEX LSX™ can be easily refitted to accommodate merchandising floor area changes, making it suitable for HIGH CHURN environments.

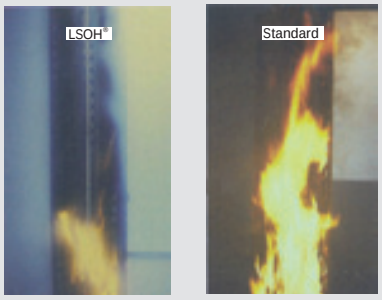
Fixed Applications



Air conditioning, fans, compressors, heaters and hand dryers etc.

Installation note: All cables include an un-insulated CPC equal in size to the phase conductor and in contact with the full 360° aluminium screen, which provides automatic screen earthing.

Public Access Buildings



AFUMEX LSX™ offers a pronounced effect on safety and a dramatic reduction in risk.

Installation note: AFUMEX LSX™ is part of the most comprehensive range of Low Fire Hazard cables available and has reduced flame propagation properties and offers significant improvements over standard cables in the event of a fire, preventing the spread of flames from one area to another.

Other Applications

- Point of sales equipment
- Ring mains power
- Clean Rooms
- Compressor supplies
- Stadium floodlights
- Fan motor supplies
- Air conditioning
- Temporary wiring requirements
- Ventilation systems
- Hospitals

Availability

- AFUMEX LSX™ cables can be obtained from all reputable UK wholesalers or Prysmian agents. We also hold stocks at our factory for immediate dispatch.

- The standard colour for AFUMEX LSX™ is white. Other colours can be supplied, such as black or purple to meet specific needs. A minimum order quantity may apply.

- Cable is usually supplied in 100 metre lengths. Other lengths can be made to special order.

A fire is bad enough, don't make it worse

Minimise the risk with AFUMEX LSX™

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Ref: AFUMEXLSX/10/09

BASEC
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Certificate No:
017/004/331

Issue No: 8

Certificate of Product Approval

Licensee:
Prysmian Cables & Systems Ltd

Chickenhall Lane, Eastleigh, SO50 6YU, Hampshire, United Kingdom

Factory:
Chickenhall Lane, Eastleigh, SO50 6YU, Hampshire, United Kingdom

Standard:
BS 8436:2011

Description:
Screened cables

Details:
N/A

Materials:
Insulation GP 8, Sheath LTS 3

Brand Name:
AFUMEX LSX

Origin Mark:
PRYSMIAN (B) or (B) PRYSMIAN

Permissible Approval Marks:

BASEC name | BASEC roundel

Signed for and on behalf of BASEC Group Limited

Date: 06/08/2026

Date of original issue: 29/07/2009
Check BASEC website to verify validity.

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UKAS PRODUCT CERTIFICATION 0004

Expiry date:
11/08/2029

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Certificate No:
017/004/331

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Type(s) and Range(s) of Approval

Table / Clause	Code Designation	Conductor Class	Range of Cores	Min Nominal Size -sqmm	Max Nominal Size - sqmm
1	N/A		2	1	4
1	N/A		3	1	4
1	N/A		4	1	4

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