

FIRE RESISTANT C A B L E

SHIELD[®]
TRUSTED WORLDWIDE



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SHIELD[®]
TRUSTED WORLDWIDE

FIRE RESISTANT CABLE

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INTRODUCTION

SHIELD provides wide range of fire resistant cables independently approved by LPCB and UL.

Fire Resistant Cable are used for fire resistant and circuit integrity, essentially to prevent life from smoke and noxious fumes, and where sensitive equipment may be damage by acid forming gases.

SHIELD fire resistant cable are manufactured in according to the major international standard; BS 6387 C-W-Z - BS 7629 - IEC 60331-21 - EN 50200 - BS 8434-2 and UL 1424.

The material and the structure used for this type of cables depends on the performance required: fire time exposition, fire temperature and extra burning events.

Fire performance classes: Flame retardant (FRLS), Low smoke fumes (LS), Fire resistant (FRHF), Low smoke, Halogen free and Fire retardant (HF), Flame Retardant Power-Limited (FPL, FPLR) .

Typical applications for this type of cables are transmission of analogue, digital signal and control systems.

Features

- Reduced Installation time and cost
- Easy to install and Superb Working Flexibility
- All in one - Easy to Strip Outer Sheath
- No Separate Foil
- No Additional Fibre Wraps
- Cable Construction Provides High Level Data Protection
- Better Reeling and damage resistant
- Weather and moisture resistant

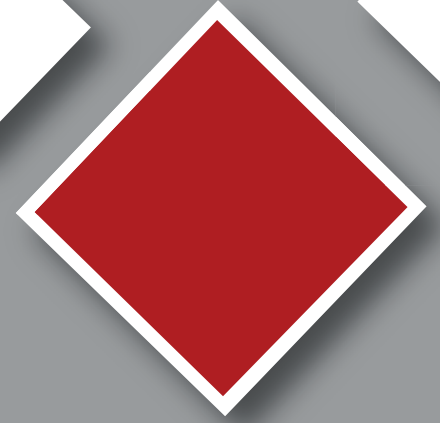
Range of Cables

Approved and certified by LPCB

- Premium Fire Resistant cable
- Premium-X Fire Resistant cable
- Premium-X Plus Fire Resistant cable

Approved and certified by UL

- Flame Retardant Power-Limited Fire Alarm Cable



FIRE RESISTANT CABLE

PREMIUM - SOLID CONDUCTOR CORE

Multi-Core, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath



APPLICATION

These special multicore cables are used for fire resistant and circuit integrity, and essentially to prevent life from smoke and noxious fumes, and where sensitive equipment may be damaged by acid forming gases.

CONSTRUCTION

Formation:

2 Cores

Section:

1,5 mm² , 2,5mm²

Conductor:

Plain annealed copper wire, solid acc. to EN 60228

Insulation:

Special mix Silicon Rubber type EI2 in acc. to BS EN 50363-1

Colour Code:

Blue, Brown

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PET tape over copper drain wire

Outer Sheath:

Low Smoke, Halogen Free - type LTS3 in acc. To BS 7655-6.1

Colour Outer Sheath:

Red or White

TECHNICAL DATA & STANDARD REFERENCES

Fire Propagation:

- Test on single cable	IEC 60332-1
- Test on bunched cables	IEC 60332-3
- Fire Performance*	BS EN 50200 PH120
- Fire Resistant Test	BS6387 C-W-Z

Limiting Oxygen Index (LOI)	(min 37%)
Smoke Density	IEC 61034
Amount of halogen acid gas:	IEC 60754-1 (max 0,5%)
Acidity (ph value) and conductivity:	IEC 60754-2

Construction Reference Standard:	BS 6387
Type of Cable:	Fire Resistant Cable
Low Voltage Directive:	2014/35/UE

OTHER REFERENCES:

- BS EN 60228
- BS 6234
- BS 50363
- BS 7655 1.1
- BS 7655 6.1
- EN 50200 - Annex E

IDENTIFICATION OF CORES

- 2 Cores : ● ●
- 3 Cores : ● ● ●
- 4 Cores : ● ● ● ●

FIRE RESISTANT CABLE

PREMIUM - SOLID CONDUCTOR CORE

ELECTRICAL DATA
CHARACTERISTICS

Conductor Cross-section	Nom.	1,5 mm ²	2,5 mm ²
DC Resistance per core at 20° C	max Ω/km	12,6	7,7
Insulation Resistance at 20° C	min MΩ*km	200	200
Mutual Capacitance	max nF/km	120	140
Inductance	max mH/km	1	1
Test Voltage - Core/Core	V	2000	2000
Test Voltage - Core/Screen	V	2000	2000
L/R Ratio	max μH/Ω	40	60
Operating Voltage	V	300/500	300/500
During Installation		-5° C up to +50° C	-5° C up to +50° C
Fixed Installation		-40° C up to +75° C	-40° C up to +75° C
Insulation Operation		-40° C up to +180° C	-40° C up to +180° C
Min. Bending Radius	mm	8 x cable diameter	8 x cable diameter

Fire Resistant


 Min. Bending Radius
 8 x cable diameter


Low Smoke Halogen Free



No. of Core	Conductor Size	Conductor Type	Outer Sheath	Ordering Part No
2 Core	1.5mm ²	Solid	Red	SD-XPC215-R
2 Core	2.5mm ²	Solid	Red	SD-XPC225-R
2 Core	1.5mm ²	Solid	White	SD-XPC215-W
2 Core	2.5mm ²	Solid	White	SD-XPC225-W

FIRE RESISTANT CABLE

PREMIUM - STRANDAD CONDUCTOR CORE

Multi-Core, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath



APPLICATION

These special multicore cables are used for fire resistant and circuit integrity, and essentially to prevent life from smoke and noxious fumes, and where sensitive equipment may be damaged by acid forming gases.

CONSTRUCTION

Formation:

2 Cores

Section:

1,5 mm², 2.5 mm², 4mm²

Conductor:

Plain annealed copper wire, Strand acc. to EN 60228

Insulation:

Special mix Silicon Rubber type EI2 in acc. to BS EN 50363-1

Colour Code:

Blue, Brown

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PET tape over copper drain wire

Outer Sheath:

Low Smoke, Halogen Free - type LTS3 in acc. To BS 7655-6.1

Colour Outer Sheath:

Red or White

TECHNICAL DATA & STANDARD REFERENCES

Fire Propagation:

- Test on single cable	IEC 60332-1
- Test on bunched cables	IEC 60332-3
- Fire Performance*	BS EN 50200 PH120
- Fire Resistant Test	BS6387 C-W-Z

Limiting Oxygen Index (LOI)	(min 37%)
Smoke Density	IEC 61034
Amount of halogen acid gas:	IEC 60754-1 (max 0,5%)
Acidity (ph value) and conductivity:	IEC 60754-2

Construction Reference Standard:	BS 6387
Type of Cable:	Fire Resistant Cable
Low Voltage Directive:	2014/35/UE

OTHER REFERENCES:




- BS EN 60228
- BS 6234
- BS 50363
- BS 7655 1.1
- BS 7655 6.1
- EN 50200 - Annex E

IDENTIFICATION OF CORES

- 2 Cores : ● ●
- 3 Cores : ● ● ●
- 4 Cores : ● ● ● ●

FIRE RESISTANT CABLE

PREMIUM - STRANDAD CONDUCTOR CORE

ELECTRICAL DATA					CHARACTERISTICS	
Conductor Cross-section	Nom.	1,5 mm ²	2,5 mm ²	4 mm ²		
DC Resistance per core at 20° C	max Ω/km	12,6	7,7	4,8	Fire Resistant	
Insulation Resistance at 20° C	min MΩ*km	200	200	200		
Mutual Capacitance	max nF/km	120	140	160		
Inductance	max mH/km	1	1	1	Min. Bending Radius	
Test Voltage - Core/Core	V	2000	2000	2000	8 x cable diameter	
Test Voltage - Core/Screen	V	2000	2000	2000		
L/R Ratio	max μH/Ω	40	60	60		
Operating Voltage	V	300/500	300/500	300/500	Low Smoke Halogen Free	
During Installation		-5° C up to +50° C	-5° C up to +50° C	-5° C up to +50° C		
Fixed Installation		-40° C up to +75° C	-40° C up to +75° C	-40° C up to +75° C		
Insulation Operation		-40° C up to +180° C	-40° C up to +180° C	-40° C up to +180° C		
Min. Bending Radius	mm	8 x cable diameter	8 x cable diameter	8 x cable diameter		

No. of Core	Conductor Size	Conductor Type	Outer Sheath	Ordering Part No
2 Core	1.5mm ²	Stranded	Red	ST-XPC215-R
2 Core	2.5mm ²	Stranded	Red	ST-XPC225-R
2 Core	4.0mm ²	Stranded	Red	ST-XPC240-R
2 Core	1.5mm ²	Stranded	White	ST-XPC215-W
2 Core	2.5mm ²	Stranded	White	ST-XPC225-W
2 Core	4.0mm ²	Stranded	White	ST-XPC240-W

FIRE RESISTANT CABLE

PREMIUM-X - SOLID CONDUCTOR CORE

Multi-Core, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath



APPLICATION

These special multicore cables are used for fire resistant and circuit integrity, and essentially to prevent life from smoke and noxious fumes, and where sensitive equipment may be damaged by acid forming gases.

CONSTRUCTION

Formation:

2 Cores

Section:

1,5 mm² , 2,5mm²

Conductor:

Plain annealed copper wire, solid

Insulation:

Special mix Silicon Rubber

Colour Code:

Blue, Brown

Wrapping:

at least 1 layer of plastic tape

Collective Screen:

Aluminium / PET tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free - LSZH.

Colour Outer Sheath:

Red or White

TECHNICAL DATA & STANDARD REFERENCES

Fire Propagation:

- Test on single cable	IEC 60332-1
- Test on bunched cables	IEC 60332-3
- Fire Performance*	IEC 60331-21
- Fire Resistant Test	EN50200 PH120 + Annex E

Limiting Oxygen Index (LOI) (min 37%)

Smoke Density IEC 61034

Amount of halogen acid gas: IEC 60754-1 (max 0,5%)

Acidity (ph value) and conductivity: IEC 60754-2

Construction Reference Standard: BS 7629

Type of Cable: Fire Resistant Cable

Low Voltage Directive: 2014/35/UE

OTHER REFERENCES:

- BS 6387 - Cat. C-W-Z
- BS EN 50200 PH120
- BS EN 50267-2-1
- BS 6234
- BS 6360
- BS 7655 1.1
- BS 7655 6.1
- IES 60331-21

IDENTIFICATION OF CORES

- 2 Cores : ● ●
- 3 Cores : ● ● ●
- 4 Cores : ● ● ● ●

FIRE RESISTANT CABLE

PREMIUM-X - SOLID CONDUCTOR CORE

ELECTRICAL DATA
CHARACTERISTICS

Conductor Cross-section	Nom.	1,5 mm ²	2,5 mm ²
DC Resistance per core at 20° C	max Ω/km	12,1	7,4
Insulation Resistance at 20° C	min MΩ*km	200	200
Mutual Capacitance	max nF/km	120	140
Inductance	max mH/km	1	1
Test Voltage - Core/Core	V	2000	2000
Test Voltage - Core/Screen	V	2000	2000
L/R Ratio	max μH/Ω	40	60
Operating Voltage	V	300/500	300/500
Outer Sheath Nominal Value	mm	7,5	8,7

Fire Resistant


 Min. Bending Radius
 8 x cable diameter


Low Smoke Halogen Free


Temperature Range :

	°C	-5° C up to +50°C	-5° C up to +50°C
During Installation	°C	-5° C up to +50°C	-5° C up to +50°C
Fixed Installation	°C	-40° C up to +75°C	-40° C up to +75°C
Insulation Operation	°C	-40° C up to +180°C	-40° C up to +180°C
Min. Bending Radius	mm	8 x cable diameter	8 x cable diameter
Maximum Pulling Tension	N	143	238
Weight Approx	kg/km	97	140

No. of Core	Conductor Size	Conductor Type	Outer Sheath	Ordering Part No
2 Core	1.5mm ²	Solid	Red	SD-YPC215-R
2 Core	2.5mm ²	Solid	Red	SD-YPC225-R
2 Core	1.5mm ²	Solid	White	SD-YPC215-W
2 Core	2.5mm ²	Solid	White	SD-YPC225-W

FIRE RESISTANT CABLE

PREMIUM-X - STRANDED CONDUCTOR CORE

Multi-Core, Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath



APPLICATION

These special multicore cables are used for fire resistant and circuit integrity, and essentially to prevent life from smoke and noxious fumes, and where sensitive equipment may be damaged by acid forming gases.

CONSTRUCTION

Formation:

2 Cores

Section:

1,5 mm², 2,5mm², 4mm²

Conductor:

Plain annealed copper wire, 7 Stranded

Insulation:

Special mix Silicon Rubber

Colour Code:

Blue, Brown

Wrapping:

at least 1 layer of plastic tape

Collective Screen:

Aluminium / PET tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free - LSZH.

Colour Outer Sheath:

Red or White

TECHNICAL DATA & STANDARD REFERENCES

Fire Propagation:

- Test on single cable	IEC 60332-1
- Test on bunched cables	IEC 60332-3
- Fire Performance*	IEC 60331-21
- Fire Resistant Test	EN50200 PH120 + Annex E

Limiting Oxygen Index (LOI)	(min 37%)
Smoke Density	IEC 61034
Amount of halogen acid gas:	IEC 60754-1 (max 0,5%)
Acidity (ph value) and conductivity:	IEC 60754-2

Construction Reference Standard:	BS 7629
Type of Cable:	Fire Resistant Cable
Low Voltage Directive:	2014/35/UE

OTHER REFERENCES:




- BS 6387 - Cat. C-W-Z
- BS EN 50200 PH120
- BS EN 50267-2-1
- BS 6234
- BS 6360
- BS 7655 1.1
- BS 7655 6.1
- IES 60331-21

IDENTIFICATION OF CORES

- 2 Cores : ● ●
- 3 Cores : ● ● ●
- 4 Cores : ● ● ● ●

FIRE RESISTANT CABLE

PREMIUM-X - STRANDED CONDUCTOR CORE

ELECTRICAL DATA					CHARACTERISTICS	
Conductor Cross-section	Nom.	1,5 mm ²	2,5 mm ²	4 mm ²		
DC Resistance per core at 20° C	max Ω/km	12,1	7,4	4,6	Fire Resistant	
Insulation Resistance at 20° C	min MΩ*km	200	200	200		
Mutual Capacitance	max nF/km	120	140	160		
Inductance	max mH/km	1	1	1	Min. Bending Radius 8 x cable diameter	
Test Voltage - Core/Core	V	2000	2000	2000		
Test Voltage - Core/Screen	V	2000	2000	2000		
L/R Ratio	max μH/Ω	40	60	60		
Operating Voltage	V	300/500	300/500	300/500	Low Smoke Halogen Free	
Outer Sheath Nominal Value	mm	7,8	9,3	10,6		
Temperature Range :						
During Installation	°C	-5° C up to +50° C	-5° C up to +50° C	-5° C up to +50° C		
Fixed Installation	°C	-40° C up to +75° C	-40° C up to +75° C	-40° C up to +75° C		
Insulation Operation	°C	-40° C up to +180° C	-40° C up to +180° C	-40° C up to +180° C		
Min. Bending Radius	mm	8 x cable diameter	8 x cable diameter	8 x cable diameter		
Maximum Pulling Tension	N	143	236	379		
Weight Approx	kg/km	101	151	210		

No. of Core	Conductor Size	Conductor Type	Outer Sheath	Ordering Part No
2 Core	1.5mm ²	Stranded	Red	ST-YPC215-R
2 Core	2.5mm ²	Stranded	Red	ST-YPC225-R
2 Core	4.0mm ²	Stranded	Red	ST-YPC240-R
2 Core	1.5mm ²	Stranded	White	ST-YPC215-W
2 Core	2.5mm ²	Stranded	White	ST-YPC225-W
2 Core	4.0mm ²	Stranded	White	ST-YPC240-W

ENHANCED FIRE RESISTANT CABLE

PREMIUM-XPLUS - SOLID CONDUCTOR CORE

Multi-Core, Mica-XLPE+ Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath



APPLICATION

These special multicore cables are used for fire resistant and circuit integrity, and essentially to prevent life from smoke and noxious fumes, and where sensitive equipment may be damaged by acid forming gases.

CONSTRUCTION

Formation:

2 Cores

Section:

1,5 mm² , 2,5mm²

Conductor:

Plain annealed copper wire, solid

Insulation:

Mica Tape + Crossed Linked polyethylene - XLPE + Silicon Rubber

Colour Code:

Blue, Brown

Wrapping:

at least 1 layer of plastic tape

Collective Screen:

Aluminium / PET tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free - LSZH.

Colour Outer Sheath:

Red or White

TECHNICAL DATA & STANDARD REFERENCES

Fire Propagation:

- Test on single cable	IEC 60332-1
- Test on bunched cables	IEC 60332-3
- Fire Performance*	IEC 60331-21
- Fire Resistant Test	BS 8434-2 / EN50200 PH120

Limiting Oxygen Index (LOI)	(min 37%)
Smoke Density	IEC 61034
Amount of halogen acid gas:	IEC 60754-1 (max 0,5%)
Acidity (ph value) and conductivity:	IEC 60754-2
Sunlight resistance	UL 1581 section 1200

For enhanced fire resistant cable in fire detection and fire alarm systems building	BS 5839-1 : 2003 (clause 26.2e Enhanced)
Construction Reference Standard:	BS 7629-1:2015
Type of Cable:	Fire Resistant Cable
Low Voltage Directive:	2014/35/UE
Reference Standard for Circuit Integrity	
-	BS 5266-1:2016
-	BS 8519

OTHER REFERENCES:




- BS 8434-2	- BS 6234
- BS 6387 C-W-Z	- BS 6360
- BS EN 50200	- BS 7655 1.1
- BS EN 50267-2-1	- BS 7655 6.1

IDENTIFICATION OF CORES

- 2 Cores : ● ●
- 3 Cores : ● ● ●
- 4 Cores : ● ● ● ●

ENHANCED FIRE RESISTANT CABLE

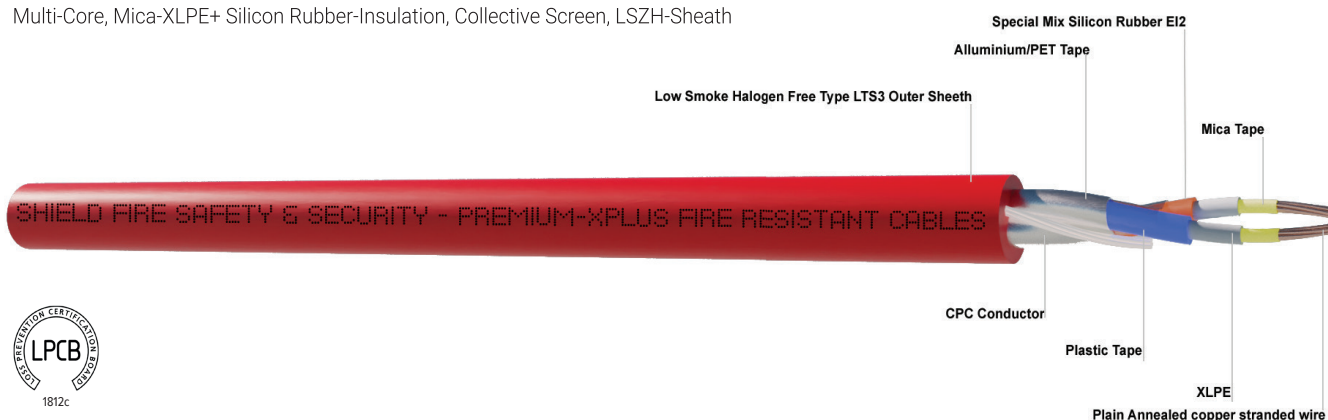
PREMIUM-XPLUS - SOLID CONDUCTOR CORE

ELECTRICAL DATA				CHARACTERISTICS	
Conductor Cross-section	Nom.	1,5 mm ²	2,5 mm ²		
DC Resistance per core at 20° C	max Ω/km	12,3	7,6	Fire Resistant	
Insulation Resistance at 20° C	min MΩ*km	1000	1000		
Mutual Capacitance	max nF/km	150	150		
Inductance	max mH/km	1	1	Min. Bending Radius	
Test Voltage - Core/Core	V	2000	2000	10 x cable diameter	
Test Voltage - Core/Screen	V	2000	2000		
L/R Ratio	max μH/Ω	40	60		
Operating Voltage	V	300/500	300/500	Low Smoke Halogen Free	
Outer Sheath Nominal Value	mm	10,3	11,3		
Temperature Range :					
During Operation	°C	-30° C up to +90°C	-30° C up to +90°C		
During Installation	°C	-5° C up to +50°C	-5° C up to +50°C		
Min. Bending Radius	mm	10 x cable diameter	10 x cable diameter		
Maximum Pulling Tension	N	143	238		
Weight Approx	kg/km	141	186		

No. of Core	Conductor Size	Conductor Type	Outer Sheath	Ordering Part No
2 Core	1.5mm ²	Solid	Red	SD-ZPC215-R
2 Core	2.5mm ²	Solid	Red	SD-ZPC225-R
2 Core	1.5mm ²	Solid	White	SD-ZPC215-W
2 Core	2.5mm ²	Solid	White	SD-ZPC225-W

ENHANCED FIRE RESISTANT CABLE PREMIUM-XPLUS - STRANDED CONDUCTOR CORE

Multi-Core, Mica-XLPE+ Silicon Rubber-Insulation, Collective Screen, LSZH-Sheath



APPLICATION

These special multicore cables are used for fire resistant and circuit integrity, and essentially to prevent life from smoke and noxious fumes, and where sensitive equipment may be damaged by acid forming gases.

CONSTRUCTION

Formation:

2 Cores

Section:

1,5 mm² , 2,5mm², 4mm²

Conductor:

Plain annealed copper wire, 7 stranded

Insulation:

Mica Tape + Cross Linked Polyethylene - XLPE + Silicon Rubber

Colour Code:

Blue, Brown

Wrapping:

at least 1 layer of plastic tape

Collective Screen:

Aluminium / PET tape over copper drain wire

Outer Sheath:

Thermoplastic Low Smoke, Halogen Free - LSZH.

Colour Outer Sheath:

Red or White

TECHNICAL DATA & STANDARD REFERENCES

Fire Propagation:

- Test on single cable	IEC 60332-1
- Test on bunched cables	IEC 60332-3
- Fire Performance*	IEC 60331-21
- Fire Resistant Test	BS 8434-2 / EN 50200 PH120

Limiting Oxygen Index (LOI)	(min 37%)
Smoke Density	IEC 61034
Amount of halogen acid gas:	IEC 60754-1 (max 0,5%)
Acidity (ph value) and conductivity:	IEC 60754-2
Sunlight resistance	UL 1581 section 1200

For enhanced fire resistant cable in fire detection and fire alarm systems building	BS 5839-1 : 2003 (clause 26.2e Enhanced)
Construction Reference Standard:	BS 7629-1:2015
Type of Cable:	Fire Resistant Cable
Low Voltage Directive:	2014/35/UE
Reference Standard for Circuit Integrity	
-	BS 5266-1:2016
-	BS 8519

OTHER REFERENCES:




- BS 8434-2	- BS 6234
- BS 6387 C-W-Z	- BS 6360
- BS EN 50200	- BS 7655 1.1
- BS EN 50267-2-1	- BS 7655 6.1

IDENTIFICATION OF CORES

2 Cores:	● ●
3 Cores:	● ● ●
4 Cores:	● ● ● ●

ENHANCED FIRE RESISTANT CABLE

PREMIUM-XPLUS - STRANDED CONDUCTOR CORE

ELECTRICAL DATA					CHARACTERISTICS	
Conductor Cross-section	Nom.	1,5 mm ²	2,5 mm ²	4 mm ²	Fire Resistant	
DC Resistance per core at 20° C	max Ω/km	12,3	7,6	4,7		
Insulation Resistance at 20° C	min MΩ*km	1000	1000	1000	Min. Bending Radius 10 x cable diameter	
Mutual Capacitance	max nF/km	150	150	150		
Inductance	max mH/km	1	1	1	Low Smoke Halogen Free	
Test Voltage - Core/Core	V	2000	2000	2000		
Test Voltage - Core/Screen	V	2000	2000	2000		
L/R Ratio	max μH/Ω	40	60	60		
Operating Voltage	V	300/500	300/500	300/500		
Outer Sheath Nominal Value	mm	10,6	11,7	13,0		

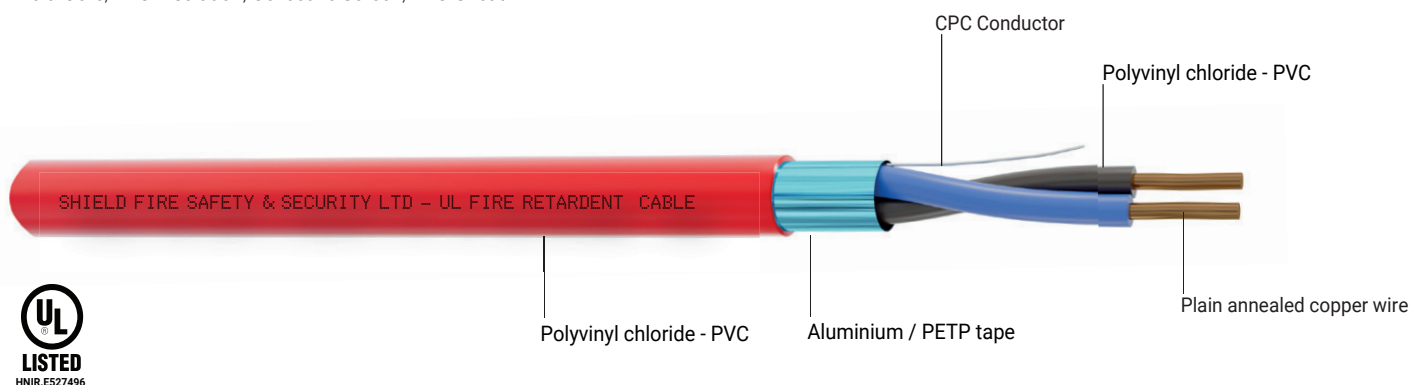
Temperature Range :

During Operation	°C	-30° C up to +90°C	-30° C up to +90°C	-30° C up to +90°C
During Installation	°C	-5° C up to +50°C	-5° C up to +50°C	-5° C up to +50°C
Min. Bending Radius	mm	10 x cable diameter	10 x cable diameter	10 x cable diameter
Maximum Pulling Tension	N	143	236	379
Weight Approx	kg/km	145	191	259

No. of Core	Conductor Size	Conductor Type	Outer Sheath	Ordering Part No
2 Core	1.5mm ²	Stranded	Red	ST-ZPC215-R
2 Core	2.5mm ²	Stranded	Red	ST-ZPC225-R
2 Core	4.0mm ²	Stranded	Red	ST-ZPC240-R
2 Core	1.5mm ²	Stranded	White	ST-ZPC215-W
2 Core	2.5mm ²	Stranded	White	ST-ZPC225-W
2 Core	4.0mm ²	Stranded	White	ST-ZPC240-W

FLAME RETARDANT POWER-LIMITED FIRE ALARM CABLE

Multi-Core, PVC-Insulation, Collective Screen, PVC-Sheath



APPLICATION

These cables are designed to connect electronic instrumentation, analog and digital signal circuits. This cable does not spread flame to the top of the tray in the Vertical-Tray Flame Test in UL 1666.

CONSTRUCTION

Formation:

2 Cores

Section:

14AWG

Conductor:

Plain annealed copper wire, solid

Insulation:

Polyvinyl chloride - PVC

Colour Code:

Black,Red

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinned copper drain wire

Outer Sheath:

Polyvinyl chloride - PVC

Colour Outer Sheath:

Red

TECHNICAL DATA & STANDARD REFERENCES

Fire Propagation:

- Test on single cable	IEC 60332-1
- Test on bunched cables	IEC 60332-3

Limiting Oxygen Index (LOI)	(min 30%)
Smoke Density	IEC 61034
Amount of halogen acid gas:	IEC 60754-1 (max 15%)
Acidity (ph value) and conductivity:	IEC 60754-2

Construction Reference Standard:	UL-1424
Type of Cable:	Fire Alarm cable
Low Voltage Directive:	2014/35/UE
Vertical Tray Flame Test	UL1666




OTHER REFERENCES:

- NEC code, sec. FPLR,
- UL 1666
- ASTM D 1239
- NF C 32-020
- IRAM IAP

IDENTIFICATION OF CORES

- 2 Cores : ● ●
- 3 Cores : ● ● ●
- 4 Cores : ● ● ● ●

FLAME RETARDANT POWER-LIMITED FIRE ALARM CABLE

ELECTRICAL DATA					CHARACTERISTICS	
Conductor Cross-section	Nom.	14AWG	16AWG	18AWG	Fire Resistant	
DC Resistance per core at 20° C	max Ω/km	8,5	13,5	22,4		
Insulation Resistance at 20° C	min MΩ*km	100	100	100	Min. Bending Radius 8 x cable diameter	
Mutual Capacitance	max nF/km	250	250	250		
Inductance	max mH/km	1	1	1	Low Smoke Halogen Free	
Test Voltage - Core/Core	V	3000	3000	3000		
Test Voltage - Core/Screen	V	2000	2000	2000		
L/R Ratio	max μH/Ω	60	40	40		
Operating Voltage	V	300	300	300		
Outer Sheath Nominal Value	mm	5,8	4,5	4,3		

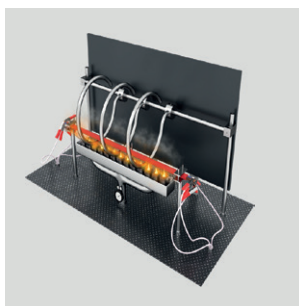
Temperature Range :

During Installation	°C	-5° C up to +50°C	-5° C up to +50°C	-5° C up to +50°C
Fixed Installation	°C	-30° C up to +70°C	-30° C up to +70°C	-30° C up to +70°C
Insulation Operation	°C	-30° C up to +105°C	-30° C up to +105°C	-30° C up to +105°C
Min. Bending Radius	mm	8 x cable diameter	8 x cable diameter	8 x cable diameter
Maximum Pulling Tension	N	209	133	82
Weight Approx	kg/km	73	46	36

No. of Core	Conductor Size	Conductor Type	Outer Sheath	Ordering Part No
2 Core	14AWG	Solid	Red	SD-ULR214
2 Core	16AWG	Solid	Red	SD-ULR216
2 Core	18AWG	Solid	Red	SD-ULR218

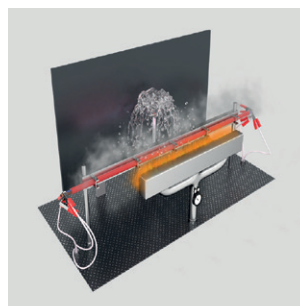
STANDARDS FOR FIRE TEST

FIRE RESISTANCE (Cat. C)



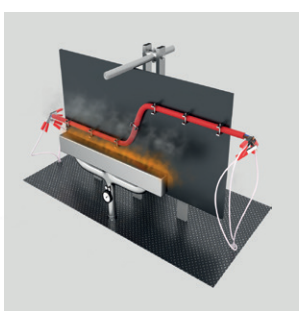
The cable is exposed to fire at the 950°C for 180 minutes.

FIRE AND WATER RESISTANCE (Cat. W)



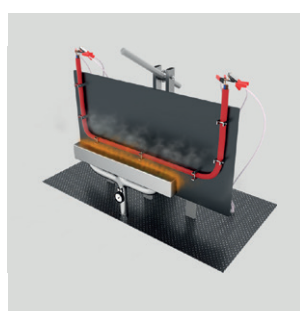
The cable is exposed for 15 minutes to flame at 650°C and for additional 15 minutes to fire and water spray.

FIRE RESISTANCE WITH MECHANICAL SHOCKS (Cat. Z)



The cable is mounted on a vertical panel and shocked with a steel bar for 15 minutes while submitted to the action of a flame.

FIRE RESISTANCE (EN 50200 PH 15-30-60-90-120)

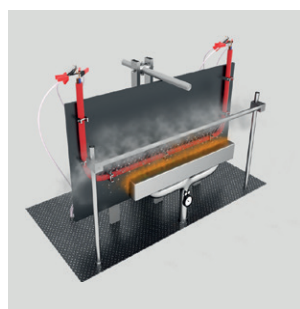


This test is carried out to verify the circuit integrity of cables exposed to fire at 830°C and mechanical shocks.

CLASSIFICATION

EN 50200 PH 15	Flame exposure for 15 min
EN 50200 PH 30	Flame exposure for 30 min
EN 50200 PH 60	Flame exposure for 60 min
EN 50200 PH 90	Flame exposure for 90 min
EN 50200 PH 120	Flame exposure for 120 min

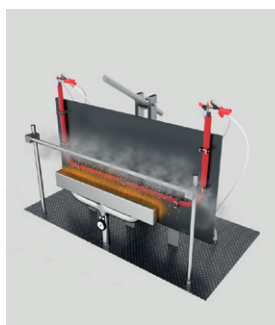
FIRE RESISTANCE BS EN 50200 annex E



This test is carried out to verify circuit integrity during a fire. The cable is exposed to a flame at 830°C and mechanical shocks for 15 minutes and additional 15 minutes to flame, mechanical shocks and water spray.

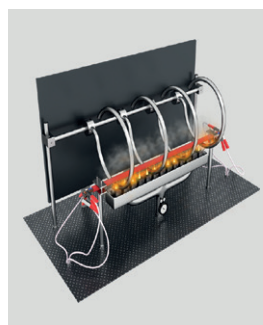
STANDARDS FOR FIRE TEST

FIRE RESISTANCE (BS 8434-2)



This test is carried out to verify circuit integrity during a fire. The cable is exposed to a flame at 930°C and mechanical shocks for 60 minutes and additional 60 minutes to flame, mechanical shocks and water spray..

FIRE RESISTANCE (IEC 60331-21, CEI 20-36)



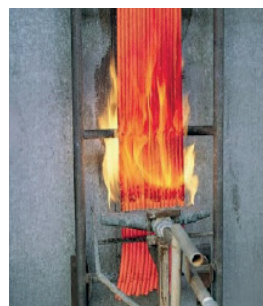
This test is carried out to verify circuit integrity even during a fire. A sample of cable is held on a flame at about 750°C for a period of minimum 90 min, under rated voltage.

FLAME PROPAGATION TEST ON A SINGLE CABLE (IEC 60332-1)



A 60 cm long sample of cable is vertically fixed with two clamps inside a small cabin, open on the front. The cable is subjected to the action of a flame produced by a calibrated Bunsen burner. The application time of the flame is according to the cable diameter (60-480 seconds). At the end of the test the burnt portion of cable must not be 50 mm close to the higher clamp.

FIRE PROPAGATION TEST ON BUNCHED CABLES (IEC 60332-3)



Samples of cables 3,5 m long in quantities required by standard are installed on a ladder inside a metallic cabinet. They are subjected to the action of a flame at 750°C for a specific time (20 or 40 minutes). Cables must not burn for more than 2,5 m.

BS EN 60754-1:2014

To comply with this standard the cable must emit Zero Halogens (less than 0.5mg) when subjected to fire conditions.

BS EN 61034-2:2005

To comply with this standard the cable must have Low Smoke Emission when subjected to fire conditions

LAB APPROVALS

LPCB® www.redbooklive.com

Certificate of Product Approval
Certificate Number: 1812a Issue: 01

LOS PREVENTION CERTIFICATION BOARD
LPCB

Shield Fire, Safety and Security Ltd

Unit 3
Endeavour Drive
Basildon
Essex
SS14 3WF
United Kingdom

is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s) Cable Types as listed below: Premium Fire Resistant Cable	Standard(s) (see Appendix for details) BS 6387-2013 (CWZ) EN 60754-1:2014 EN 60754-2:2014 EN 61034-2:2005+A2:2020 EN 50200:2015 (Class PH120) EN 50200:2015 Annex E (30 minutes) IEC 60331-21:1999
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This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Obada Piracha Senior Certification Manager 29 August 2024 29 August 2024
Signed for BRE Global Ltd Date of Issue Date of First Issue

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PREMIUM FIRE RESISTANT CABLE

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Certificate of Product Approval
Certificate Number: 1812b Issue: 01

LOS PREVENTION CERTIFICATION BOARD
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United Kingdom

is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s) Cable Types as listed below: Premium-X	Standard(s) (see Appendix for details) BS 7629-1:2015 (Standard 60) BS 6387:2013 (Category CWZ) EN 50200:2015 (Class PH120) EN 50200:2015 Annex E (30 mins) BS 5839-1:2013 (Clause 26.2d Standard) EN 60754-2:2014
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Signed for BRE Global Ltd Date of Issue Date of First Issue

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PREMIUM-X FIRE RESISTANT CABLE

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Certificate of Product Approval
Certificate Number: 1812c Issue: 01

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LPCB

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SS14 3WF
United Kingdom

is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s) Cable Types as listed below: Premium-Xplus	Standard(s) (see Appendix for details) BS 7629-1:2015 Enhanced 120 EN 50200:2015 (Class PH120) BS 8424-2:2003+A2:2009 (120 mins) BS 5839-1:2013 (Clause 26.2e Enhanced) BS 6387:2013 Category CWZ EN 60332-3-24:2009
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PREMIUM-XPLUS FIRE RESISTANT CABLE

LAB APPROVALS

CERTIFICATE OF COMPLIANCE

Certificate Number E527496
Report Reference E527496-20220414
Issue Date 2022-APRIL-14

Issued to: SHIELD FIRE SAFETY & SECURITY LTD
Unit 3, Endeavour Dr
Basildon, SS14 3WF United Kingdom

This certificate confirms that POWER-LIMITED FIRE ALARM CABLE
representative samples of Models FPL, FPLR

Have been evaluated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 1424

Additional Information: See UL Product iQ[®] at <https://iq.ulprospector.com> for additional
information.

This Certificate of Compliance indicates that representative samples of the product described in the certification
report have met the requirements for UL certification. It does not provide authorization to apply the UL Mark. Only
the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides
authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's
Follow-Up Services.

Look for the UL Certification Mark on the product.

||

B. Mahneholz

Bruce Mahneholz, Conformity Assessment Director
UL LLC

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FLAME RETARDANT POWER-LIMITED FIRE ALARM CABLE CABLE



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TRUSTED WORLDWIDE

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