



FIRE RESISTANT CABLES



FP600S

**Ultimate Protection for
Electrical Emergency
Systems**

FIRE RESISTANT CABLES

FP 600S BS 7846-F120



FP600S is the ultimate fire resistant armoured power cable and it's the right choice to power life safety or fire fighting systems in large and complex buildings.

- > **BS 8519** – Category 1, 2 and 3
- > **BS 7846** – F120, 120 mins fire, water jet & direct impact
- > **BS 8491** – 120 mins fire, water jet & direct impact
- > **BASEC** – approved*
- > **LPCB** – approved*
- > **London Underground** – approved*
- > **Afumex** – Reduced flame propagation, low smoke and corrosive gas emission.

Designed, manufactured and tested by Prysmian in the UK to meet the demands of clients, engineers, regulators and installers.

FP600S is easy to install, requires no special tools and can be terminated, glanded and cleated like a standard armoured cable allowing significant savings compared with MICC.

* see www.fpcables.co.uk for certificates

CABLE CHARACTERISTICS



Temperature Range
-25 to +90°C



Bending Radius
Fixed
Circular and shaped
conductor $r = 8D$



Mechanical Impact
Very Good



Flame Propagation
BS EN 60332-1-2
BS EN 60332-3-24



Flexibility
Rigid



Halogen Free
BS EN 50267-2-1



Low Smoke Emissions
BS EN 61034-2



Fire Resistance
BS 7846 120 min
BS 8491 120 min

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Nominal cross sectional area	Approximate overall diameter	Approximate diameter under armour	Nominal diameter of armour wires	Approximate cable weight	Maximum conductor resistance at 20°C	Short circuit rating (1sec) of conductor	Current rating Three phase AC clipped direct	Current rating Three phase AC Free air	Volt drop Three phase AC	Recommended accessories	
										Claw Cleat Ref No.	Brass Gland Ref No.
mm²	mm	mm	mm	kg/km	ohms/km	kA	Amps	Amps	mV/A/m		
Three Core											
4	21	15	1.25	800	4.61	0.57	42	44	10	370CG04	LSF25CW
6	21	15	1.25	820	3.08	0.86	53	56	6.8	370CG04	LSF25CW
10	23	17	1.25	1050	1.83	1.4	73	78	4.0	370CG05	LSF25CW
16	24	19	1.25	1400	1.15	2.2	94	99	2.5	370CG06	LSF25CW
25	29	22	1.6	2000	0.727	3.6	124	131	1.65	370CG06	LSF32CW
35	31	24	1.6	2300	0.524	5.0	154	162	1.15	370CG07	LSF32CW
50	32	25	1.6	2800	0.387	7.1	187	197	0.87	370CG07	LSF40CW
70	36	29	1.6	3600	0.268	10	238	251	0.6	370CG08	LSF50SCW
95	40	32	2.0	4500	0.193	13.6	289	304	0.45	370CG08	LSF50SCW
120	43	35	2.0	5400	0.153	17.2	335	353	0.37	370CG08	LSF50SCW
150	48	39	2.5	6900	0.124	21.4	386	406	0.30	370CG09	LSF50CW
185	52	43	2.5	8200	0.0991	26.5	441	463	0.26	370CG09	LSF63CW
240	57	47	2.5	10100	0.0754	34.3	520	456	0.21	370CG09	LSF63CW
300	62	52	2.5	12200	0.0601	42.9	599	628	0.185	370CG11	LSF63CW
400	69	58	2.5	15000	0.0470	57.2	673	728	0.165	370CG12	LSF75CW
Four Core											
4	21	15	1.25	800	4.61	0.57	42	44	10	370CG04	LSF25CW
6	23	17	1.25	950	3.08	0.86	53	56	6.8	370CG05	LSF25CW
10	24	19	1.25	1200	1.83	1.4	73	78	4.0	370CG05	LSF25CW
16	27	20	1.25	1600	1.15	2.2	94	99	2.5	370CG06	LSF25CW
25	32	24	1.6	2400	0.727	3.6	124	131	1.65	370CG07	LSF32CW
35	35	27	1.6	2800	0.524	5.0	154	162	1.15	370CG07	LSF40CW
50	36	29	1.6	3200	0.387	7.1	187	197	0.87	370CG08	LSF40CW
70	41	32	2.0	4500	0.268	10	238	251	0.64	370CG08	LSF50SCW
95	44	36	2.0	5700	0.193	13.6	289	304	0.45	370CG09	LSF50SCW
120	49	40	2.5	7300	0.153	17.2	335	353	0.37	370CG09	LSF50CW
150	55	44	2.5	8600	0.124	21.4	386	406	0.30	370CG10	LSF63CW
185	59	48	2.5	10500	0.0991	26.5	441	463	0.26	370CG11	LSF63CW
240	64	54	2.5	12900	0.0754	34.3	520	546	0.21	370CG12	LSF75CW
300	70	59	2.5	15500	0.0601	42.9	599	628	0.185	370CG13	LSF75CW
400	79	66	3.15	20100	0.0470	57.2	673	728	0.165	370CG14	CW85K

Circular conductor 4.0-35mm²

Shaped conductor 50mm² and above

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

The tabulated ratings are based upon a 30°C ambient temperature and 90°C operating temperature.

For other ambient temperatures or where cables are grouped together, the following rating factors should be applied.

LOW VOLTAGE 600/1000V

Nominal cross sectional area	Approximate overall diameter	Approximate diameter under armour	Nominal diameter of armour wires	Approximate cable weight	Maximum conductor resistance at 20°C	Current rating DC or single phase AC clipped direct	Current Rating DC or single phase AC Free Air	Voltage drop DC	Volt drop single phase AC	Recommended accessories	
mm²	mm	mm	mm	kg/km	ohms/km	Amps	Amps	mV/A/m	mV/A/m	Claw Cleat Ref No.	Brass Gland Ref No.
Two Core											
4	21	15	1.25	800	4.61	41	52	12	12	370CG04	LSF25CW
6	21	15	1.25	800	3.08	62	66	7.9	7.9	370CG04	LSF25CW
10	22	16	1.25	800	1.83	85	90	4.7	4.7	370CG04	LSF25CW
16	23	17	1.25	1000	1.15	110	115	2.9	2.9	370CG05	LSF25CW
25	26	20	1.25	1300	0.727	146	152	1.85	1.90	370CG06	LSF25CW
35	30	23	1.6	1800	0.524	180	188	1.35	1.35	370CG06	LSF32CW
50	31	24	1.6	2200	0.387	219	228	0.98	1.0	370CG06	LSF32CW
70	33	26	1.6	2600	0.268	279	291	0.67	0.69	370CG07	LSF32CW
95	35	27	2.0	3400	0.193	338	354	0.49	0.52	370CG07	LSF40CW
120	39	30	2.0	4100	0.153	392	410	0.39	0.42	370CG08	LSF50SCW
150	42	33	2.0	4700	0.124	451	472	0.31	0.35	370CG08	LSF50SCW
185	46	36	2.5	6100	0.0091	515	539	0.25	0.29	370CG09	LSF50CW
240	51	41	2.5	7500	0.0754	607	636	0.795	0.24	370CG09	LSF50CW
300	56	45	2.5	9000	0.0601	698	732	0.155	0.21	370CG10	LSF63CW
400	61	50	2.5	11000	0.0470	787	847	0.120	0.19	370CG11	LSF63CW

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KEY APPLICATIONS

Electrical supplies for fire fighting, life safety and property protection systems. Active fire safety systems part of a Fire Safety Engineering solution rely on an effective electrical supply remaining operational during a fire as described in BS8519:2010.

Greater emphasis is now being given to the integrity of electrical circuits which maintain the functional safe working conditions of such equipment and systems. FP600S is a new generation fire resistant power cable designed to meet the much more onerous fire survival requirement now considered appropriate for such applications.

Examples of circuits which are required to remain operational under such conditions include:

- > Fire-fighting lift shafts
 - > Pressurization
 - > Emergency lighting
 - > Lift power suppliers
- > Fire suppression systems
 - > Watermist
 - > Sprinkler pumps
 - > Hose reel
- > Escape systems
 - > Smoke and fire barriers
 - > Smoke fans
 - > Smoke curtains and sliding doors

BS8519 requires fire resistant power cable to meet category 1, 2 or 3 of BS8491, the integrated fire, shock and water jet test.

FP600S meets all three categories and achieves the highest 120 minute fire test rating.

CABLE DESCRIPTION

CONDUCTOR

Plain annealed copper stranded circular (4-35 mm²) or shaped (50-400 mm²) conductor complying with BS EN 60228 Class 2.

INSULATION

Primary Insulation:

Mineral ceramic (Mica/Glass) fire resistant tape

Secondary Insulation:

90°C cross - linked insulation

CORE IDENTIFICATION

- brown-blue
- brown-black-grey
- blue-brown-black-grey

BEDDING

Thermoplastic LSOH bedding compound

ARMOUR

Single layer of galvanised steel wires

SHEATH

Robust thermoplastic LSOH sheath. Colour - black.
Other colours to special order

INSTALLATION

Minimum recommended installation temperature 0°C. Suitable for indoor and outdoor installations. For external exposure the use of a Black sheath is recommended.

Should be installed in accordance with BS7671/IEE Wiring Regulations or any other appropriate national regulations.

Suitable for direct burial, trough, tray, ladder or other installations requiring a robust armoured cable.

BENDING RADIUS

A minimum internal radius of bend of 8 x cable diameter is recommended during installation for cables with circular conductors and shaped conductors.

ACCESSORIES

No special accessories are required for the installation of FP600S.

Standard brass armoured cable glands and cast iron cleats may be used.

When the cable is required to maintain circuit integrity in a fire, it is important that any accessory used to support the cable can also withstand that fire. The use of the appropriate BICON® gland or cleat is recommended.

Correction factors for Ambient temperatures

Ambient Temperature °C	25	30	35	40	45	50	55	60
Correction Factor	1.02	1.0	0.96	0.91	0.87	0.82	0.76	0.71

Correction factors for grouping of cables

Installation Method		Number of circuits or multi-core cables							
		2	3	4	5	6	7	8	9
Single layer clipped to a non-metallic surface	Touching	0.85	0.79	0.75	0.73	0.72	0.72	0.71	0.70
	Spaced*	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Single layer multicore on a perforated metal cable tray, vertical or horizontal	Touching	0.86	0.81	0.77	0.75	0.74	0.73	0.73	0.72
	Spaced*	0.91	0.89	0.88	0.87	0.87	-	-	-

*Spaced by a clearance between adjacent surfaces of at least one cable diameter.

Where the horizontal clearance between adjacent cables exceeds 2 cable diameters no correction factor need be applied.

Note: Standard conditions of grouping as stated in BS791 (IEE Wiring Regs) apply.

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