

MAX  
+90°C



RoHS



F120



BS 7846  
Cert No. 1354a

# FLAME-X 950 SERIES 6

## 600/1000V

BS 7846 - F120

Armoured fire resistant electric power and control cable having low emission of smoke and corrosive gases when affected by fire

## APPLICATIONS

Enhanced fire resistant armoured cables for use in life safety and fire fighting systems of public buildings (hospitals, shopping centres, theatres, stadiums) and similar applications where maintenance of power supply during a fire is critical.

Standard length cable packing: 500 or 1,000 m on drums.  
Other forms of packing and delivery are available on request.

## CONSTRUCTION

<b>Conductors:</b>	Circular, circular compacted or shaped stranded, annealed copper conductor, class 2 acc. to BS EN 60228
<b>Primary insulation:</b>	Fire resistant mica tape with a glass cloth
<b>Insulation:</b>	Cross-linked polyethylene (XLPE) of GP8 type acc. to BS 7655-1.3
<b>Cable core:</b>	Insulated conductors twisted together wrapped by fire resistance tape (optional also by polyester film)
<b>Bedding:</b>	Thermoplastic zero halogen low smoke compound (LSOH) wrapped by fire resistance tape
<b>Armour:</b>	Galvanized steel wires applied helically (optional polyester film over the armour)
<b>Outer sheath:</b>	Thermoplastic zero halogen low smoke compound of LTS1 type acc. to BS 7655-6.1



# CHARACTERISTICS

Colour of sheath:	Black. Other colours are available on special request.
Core identification:	2 – core: brown, blue 3 – core: brown, black, grey 4 – core: blue, brown, black, grey
Maximum conductor operating temperature	+90°C
Lowest installation temperature:	0°C
Minimum operating temperature after installation without movement:	-40°C
Maximum short-circuit conductor temperature:	+250°C
Minimum bending radius:	6 × D for cables with circular copper conductors 8 × D for cables with shaped copper conductors D – overall diameter

## Fire performance

Fire resistance:	BS 8491	Category F120
	BS 8519	Category 1, 2 and 3
Flame propagation:	BS EN 60332-1-2	
	BS EN 60332-3-24	
Smoke density:	BS EN 61034-2	
Corrosive and acid gases emission:	BS EN 60754-1 <sup>1)</sup>	HCl content < 0.5%
	BS EN 60754-2 <sup>1)</sup>	pH ≥ 4.3 & conductivity ≤ 10 μSmm <sup>-1</sup>

1) BS EN 60754-1 & BS EN 60754-2 standards replace BS EN 50267-2-1

## Approvals

BASEC	4 mm <sup>2</sup> to 16 mm <sup>2</sup> 3-core, 4-core and 25 mm <sup>2</sup> to 400 mm <sup>2</sup> 2-core, 3-core, 4-core;
LPCB	4 mm <sup>2</sup> to 16 mm <sup>2</sup> 3-core, 4-core and 25 mm <sup>2</sup> to 400 mm <sup>2</sup> 3-core, 4-core

# Technical and Electrical Characteristic

Number and CSA of conductor	Nominal thickness of insulation	Nominal thickness of outer sheath	Nominal diameter of armour wires	Approx. overall diameter	Approx. net weight of cables	Maximum conductor resistance at 20°C	Current rating single-phase A.C. or D.C. *		Voltage Drop D.C.*	Voltage Drop single-phase A.C.*
							Clipped direct	Free Air		
<b>n × mm<sup>2</sup></b>	<b>mm</b>	<b>mm</b>	<b>mm</b>	<b>mm</b>	<b>kg/km</b>	<b>Ω/km</b>	<b>Amp</b>	<b>Amp</b>	<b>mV/A/m</b>	<b>mV/A/m</b>
2 × 4 RM	0.7	1.4	1.25	20.1	712	4.61	49	52	12.0	12.0
2 × 6 RM	0.7	1.4	1.25	20.1	744	3.08	62	66	7.9	7.9
2 × 10 RM	0.7	1.5	1.25	20.9	839	1.83	85	90	4.7	4.7
2 × 16 RM	0.7	1.5	1.25	22.9	1027	1.15	110	115	2.9	2.9
2 × 25 RM	0.9	1.6	1.25	26.4	1425	0.727	146	152	1.85	1.90
2 × 35 RM	0.9	1.7	1.6	29.8	1929	0.524	180	188	1.35	1.35
2 × 50 SM	1.0	1.8	1.6	27.1	1963	0.387	219	228	0.98	1.00
2 × 70 SM	1.1	1.9	1.6	31.0	2552	0.268	279	291	0.67	0.69
2 × 95 SM	1.1	2.0	2.0	34.0	3392	0.193	338	354	0.49	0.52
2 × 120 SM	1.2	2.1	2.0	36.5	4014	0.153	392	410	0.39	0.42
2 × 150 SM	1.4	2.2	2.0	39.5	4717	0.124	451	472	0.31	0.35
2 × 185 SM	1.6	2.4	2.5	44.3	6069	0.0991	515	539	0.25	0.29
2 × 240 SM	1.7	2.5	2.5	48.1	7390	0.0754	607	636	0.195	0.24
2 × 300 SM	1.8	2.6	2.5	52.1	8772	0.0601	698	732	0.155	0.21
2 × 400 SM	2.0	2.8	2.5	59.6	11120	0.047	787	847	0.120	0.19
3 × 4 RM	0.7	1.4	1.25	20.2	832	4.61	570	42	44	10.0
3 × 6 RM	0.7	1.4	1.25	20.1	803	3.08	850	53	56	6.8
3 × 10 RM	0.7	1.5	1.25	21.8	985	1.83	1400	73	78	4.0
3 × 16 RM	0.7	1.6	1.25	24.2	1241	1.15	2200	94	99	2.5
3 × 25 RM	0.9	1.7	1.6	29.1	1930	0.727	3575	124	131	1.65
3 × 35 RM	0.9	1.8	1.6	31.6	2328	0.524	5005	154	162	1.15
3 × 50 SM	1.0	1.8	1.6	31.2	2629	0.387	7150	187	197	0.87
3 × 70 SM	1.1	1.9	1.6	34.9	3394	0.268	10010	238	251	0.60
3 × 95 SM	1.1	2.1	2.0	39.4	4617	0.193	13585	289	304	0.45
3 × 120 SM	1.2	2.2	2.0	42.5	5486	0.153	17160	335	353	0.37
3 × 150 SM	1.4	2.3	2.5	47.9	7003	0.124	21450	386	406	0.30
3 × 185 SM	1.6	2.4	2.5	51.8	8352	0.0991	26455	441	463	0.26

Number and CSA of conductor	Nominal thickness of insulation	Nominal thickness of outer sheath	Nominal diameter of armour wires	Approx. overall diameter	Approx. net weight of cables	Maximum conductor resistance at 20°C	Current rating single-phase A.C. or D.C.*		Voltage Drop D.C.*	Voltage Drop single-phase A.C.*
							Clipped direct	Free Air		
<b>n × mm<sup>2</sup></b>	<b>mm</b>	<b>mm</b>	<b>mm</b>	<b>mm</b>	<b>kg/km</b>	<b>Ω/km</b>	<b>Amp</b>	<b>Amp</b>	<b>mV/A/m</b>	<b>mV/A/m</b>
3 × 240 SM	1.7	2.6	2.5	56.8	10299	0.0754	34320	520	546	0.21
3 × 300 SM	1.8	2.7	2.5	61.6	12262	0.0601	42900	599	628	0.185
3 × 400 SM	2.0	2.9	2.5	68.9	15520	0.0470	57200	673	728	0.165
4 × 4 RM	0.7	1.4	1.25	20.1	869	4.61	570	42	44	10.0
4 × 6 RM	0.7	1.5	1.25	21.2	906	3.08	850	53	56	6.8
4 × 10 RM	0.7	1.5	1.25	23.4	1140	1.83	1400	73	78	4.0
4 × 16 RM	0.7	1.6	1.25	26.1	1466	1.15	2200	94	99	2.5
4 × 25 RM	0.9	1.7	1.6	31.5	2261	0.727	3575	124	131	1.65
4 × 35 RM	0.9	1.8	1.6	34.2	2752	0.524	5005	154	162	1.15
4 × 50 SM	1.0	1.9	1.6	34.7	3271	0.387	7150	187	197	0.87
4 × 70 SM	1.1	2.1	2.0	40.3	4605	0.268	10010	238	251	0.60
4 × 95 SM	1.1	2.2	2.0	44.0	5789	0.193	13585	289	304	0.45
4 × 120 SM	1.2	2.3	2.5	49.3	7460	0.153	17160	335	353	0.37
4 × 150 SM	1.4	2.4	2.5	53.3	8785	0.124	21450	386	406	0.30
4 × 185 SM	1.6	2.6	2.5	58.0	10528	0.0991	26455	441	463	0.26
4 × 240 SM	1.7	2.7	2.5	63.8	13141	0.0754	34320	520	546	0.21
4 × 300 SM	1.8	2.9	2.5	68.8	15622	0.0601	42900	599	628	0.185
4 × 400 SM	2.0	3.2	3.15	79.1	20575	0.0470	57200	673	728	0.165

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