



BS 7846
Cert No. 814d; 1354c

FLAME-X 950 SERIES 4

600/1000V

BS 7846 - F2

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

APPLICATIONS

Fire resistant armoured cables for use in fixed installations in industrial areas, public buildings (as for example power plants, hospitals, shopping centres, theatres) and similar applications where maintenance of power supply during a fire is required for a defined period of time.

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

Conductors:	Circular, circular compacted or shaped, stranded, annealed copper conductor, class 2 acc. to BS EN 60228
Primary insulation:	A suitable wrapping of mica tape with a glass cloth
Insulation:	Cross-linked polyethylene (XLPE) of GP8 type acc. to BS 7655-1.3
Bedding:	Special low smoke zero halogen (LSOH) compound
Armour:	Single layer of galvanized steel wires applied helically over the bedding
Outer sheath:	Thermoplastic halogen free compound (LSOH) 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
Fire resistance:	Category F2 acc. to BS 7846, BS 6387 – Category C, W, Z
Flame propagation:	BS EN 60332-1-2, EN 60332-3-24
Low smoke emission:	BS EN 61034-2
Low corrosive and acid gas emission:	BS EN 60754-1, HCl content < 0.5% BS EN 60754-2, pH ≥ 4.3 & conductivity ≤ 10 µSmm-1
Minimum bending radius:	6 × D for cables with circular copper conductors and 8 × D for cables with shaped copper conductors; D – overall diameter of the cable

Approvals

BASEC	25 mm ² to 400 mm ² 2-core, 3-core, 4-core and 1,5 mm ² to 16 mm ² 2-core, 3-core, 4-core
LPCB	1,5 mm ² to 400 mm ² 2-core, 3-core, 4-core and 1,5 mm ² to 16 mm ² 2-core, 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		
n × mm²	mm	mm	mm	mm	kg/km	Ω/km	Amp	Amp	mV/A/m	mV/A/m
2 × 1.5	0.6	1.3	0.9	12.8	346	12.1	27	29	31.0	31.0
2 × 2.5	0.7	1.4	0.9	14.3	420	7.41	36	39	19.0	19.0
2 × 4	0.7	1.4	0.9	15.3	491	4.61	49	52	12.0	12.0
2 × 6	0.7	1.4	0.9	16.1	554	3.08	62	66	7.9	7.9
2 × 10	0.7	1.5	0.9	18.1	712	1.83	85	90	4.7	4.7
2 × 16	0.7	1.5	1.25	20.8	1032	1.15	110	115	2.9	2.9
2 × 25	0.9	1.6	1.25	24.8	1421	0.727	146	152	1.85	1.90
2 × 25	0.9	1.6	1.25	20.8	1097	0.727	146	152	1.85	1.90

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		
n × mm²	mm	mm	mm	mm	kg/km	Ω/km	Amp	Amp	mV/A/m	mV/A/m
2 × 35	0.9	1.7	1.6	28.2	1944	0.524	180	188	1.35	1.35
2 × 35	0.9	1.7	1.6	23.5	1494	0.524	180	188	1.35	1.35
2 × 50	1.0	1.8	1.6	25.7	1830	0.387	219	228	0.98	1.00
2 × 70	1.1	1.9	1.6	28.7	2370	0.268	279	291	0.67	0.69
2 × 95	1.1	2.0	2.0	32.6	3239	0.193	338	354	0.49	0.52
2 × 120	1.2	2.1	2.0	35.1	3823	0.153	392	410	0.39	0.42
2 × 150	1.4	2.2	2.0	38.1	4534	0.124	451	472	0.31	0.35
2 × 185	1.6	2.4	2.5	42.9	5856	0.0991	515	539	0.25	0.29
2 × 240	1.7	2.5	2.5	46.7	7155	0.0754	607	636	0.195	0.24
2 × 300	1.8	2.6	2.5	50.7	8555	0.0601	698	732	0.155	0.21
3 × 1.5	0.6	1.3	0.9	13.4	377	12.1	210	23	25	27.0
3 × 2.5	0.7	1.4	0.9	15	465	7.41	350	31	33	16.0
3 × 4	0.7	1.4	0.9	16.1	544	4.61	570	42	44	10.0
3 × 6	0.7	1.4	0.9	16.9	628	3.08	850	53	56	6.8
3 × 10	0.7	1.5	1.25	19.7	944	1.83	1400	73	78	4.0
3 × 16	0.7	1.6	1.25	22.1	1215	1.15	2200	94	99	2.5
3 × 25	0.9	1.7	1.6	27.5	1887	0.727	3575	124	131	1.65
3 × 25	0.9	1.7	1.6	25	1637	0.727	3575	124	131	1.65
3 × 35	0.9	1.8	1.6	30	2314	0.524	5005	154	162	1.15
3 × 35	0.9	1.8	1.6	27.4	2025	0.524	5005	154	162	1.15
3 × 50	1.0	1.8	1.6	29.8	2472	0.387	7150	187	197	0.87
3 × 70	1.1	1.9	1.6	33.5	3237	0.268	10010	238	251	0.60
3 × 95	1.1	2.1	2.0	38	4434	0.193	13585	289	304	0.45
3 × 120	1.2	2.2	2.0	41.1	5287	0.153	17160	335	353	0.37
3 × 150	1.4	2.3	2.5	46.5	6768	0.124	21450	386	406	0.30
3 × 185	1.6	2.4	2.5	50.4	8094	0.0991	26455	441	463	0.26
3 × 240	1.7	2.6	2.5	55.4	10053	0.0754	34320	520	546	0.21
3 × 300	1.8	2.7	2.5	60.2	11949	0.0601	42900	599	628	0.185

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		
n × mm²	mm	mm	mm	mm	kg/km	Ω/km	Amp	Amp	mV/A/m	mV/A/m
3 × 400	2.0	2.9	2.5	66.8	14895	0.0470	57200	673	728	0.165
4 × 1.5	0.6	1.3	0.9	14.4	422	12.1	210	23	25	27.0
4 × 2.5	0.7	1.4	0.9	16.1	522	7.41	350	31	33	16.0
4 × 4	0.7	1.4	0.9	17.4	628	4.61	570	42	44	10.0
4 × 6	0.7	1.5	1.25	19.1	848	3.08	850	53	56	6.8
4 × 10	0.7	1.5	1.25	21.3	1091	1.83	1400	73	78	4.0
4 × 16	0.7	1.6	1.25	24	1440	1.15	2200	94	99	2.5
4 × 25	0.9	1.7	1.6	29.9	2240	0.727	3575	124	131	1.65
4 × 25	0.9	1.7	1.6	27.7	2028	0.727	3575	124	131	1.65
4 × 35	0.9	1.8	1.6	32.6	2769	0.524	5005	154	162	1.15
4 × 35	0.9	1.8	1.6	30.3	2491	0.524	5005	154	162	1.15
4 × 50	1.0	1.9	1.6	33.3	3111	0.387	7150	187	197	0.87
4 × 70	1.1	2.1	2.0	38.9	4418	0.268	10010	238	251	0.60
4 × 95	1.1	2.2	2.0	42.6	5607	0.193	13585	289	304	0.45
4 × 120	1.2	2.3	2.5	47.9	7216	0.153	17160	335	353	0.37
4 × 150	1.4	2.4	2.5	51.9	8559	0.124	21450	386	406	0.30
4 × 185	1.6	2.6	2.5	56.6	10275	0.0991	26455	441	463	0.26
4 × 240	1.7	2.7	2.5	62.4	12855	0.0754	34320	520	546	0.21
4 × 300	1.8	2.9	2.5	67.4	15307	0.0601	42900	599	628	0.185
4 × 400	2.0	3.2	3.15	77.0	19826	0.0470	57200	673	728	0.165

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