FLAME-X 950 SERIES 1 450/750V

BS 8592, BS 6387

— Single core non-sheathed fire resistant cable having low emission of smoke and corrosive gases when affected by fire

Applications: For use in fixed installations, where cable is protected by conduit or trunking. Fire resistant cables intended to provide circuit integrity in case of fire.

Standard length cable packing: 500 or 1000m on drums. Other forms of packing and delivery are available on request

Construction

Conductors	Circular or compacted circular, stranded, annealed copper conductor, class 2 acc. to BS EN 60228
Primary insulation	Fire resistant mica tape with a glass cloth
Insulation	Special thermosetting LSOH compound of EI5 type acc. to BS EN 50363-5

Characteristics

Core identification	Green/yellow, blue, black, brown, grey, red, yellow. Other colours are available on special request
Maximum conductor operating temperature	+90°C
Lowest installation temperature	-5°C
Maximum short-circuit conductor temperature	+250°C
Minimum bending radius	6 × D (D – overall diameter of the cable)

Fire performance

Fire resistance	IEC 60331-3 BS 6387[1)]	IEC Circuit integrity - tested 120 min. at 830°C Category C – resistance to fire: 3 h at 950°C Category W – resistance to fire with water: 15 min at 650°C plus 15 min with water spray Category Z – resistance to fire with mechanical shock: 15 min at 950°C
Flame propagation	BS EN 60332-1-2	
Smoke density	BS EN 61034-2	
Corrosive and acid gases emission	BS EN 60754-1[2)] HCl content < 0.5% BS EN 60754-2[2)] pH ≥ 4.3 & conductivity ≤ 10 μSmm^{-1}	

[1)] *Category C, W, Z for cables up to and including 95mm^2. Category C for cables above and including 120mm^2.*

[2)] *BS EN 60754-1 & BS EN 60754-2 standards replace BS EN 50267-2-1*

Technical and Electrical Characteristic

Nominal cross-sectional area of conductor	Radial thickness of insulation	Approximate overall diameter	Approximate net weight	Maximum resistance of conductor at temperature 20°C
mm²	**mm**	**mm**	**mm**	**Ω/km**
1.5	0.7	3.76	27.1	12.1
2.5	0.8	4.39	39.8	7.41
4	0.8	4.91	55.42	4.61
6	0.8	5.27	74.2	3.08

Current Ratings and Voltage Drop

Nominal cross-sectional area of conductor	Short circuit current ratings (1 sec)	Current Rating* Two cables, single phase A.C. or D.C.	Current Rating* Three or four cables, three phase A.C.	Voltage Drop** Two cables D.C.	Voltage Drop** Two cables, single phase A.C.	Voltage Drop** Three or four cables, three phase A.C.
mm²	**Amps**	**Amps**	**Amps**	**mV/A/m**	**mV/A/m**	**mV/A/m**
1.5	210	23	20	31	31	27
2.5	350	31	28	19	19	16
4	570	42	37	12	12	10
6	850	54	48	7.9	7.9	6.8

* *Installation reference method 3 (enclosed in conduit on a wall or in trunking etc.,) as per BS 7671, Appendix 4, Conductor operating temperature 90°C, Ambient temperature 30°C*

** *Installation reference methods 3 and 4 (enclosed in conduit, etc., in or on a wall) as per BS 7671, Appendix 4, Conductor operating temperature 90°C, Ambient temperature 30°C*

Correction Factors for Ambient Temperature

Ambient Temperature, °C	25	30	35	40	45	50	55	60	65	70	75	80	85
Correction Factor	1.02	1.00	0.96	0.91	0.87	0.82	0.76	0.71	0.65	0.58	0.50	0.41	0.29

Correction Factors for Groups

Number of Circuits	2	3	4	5	6	7	8	9	10	12	14	16	18
Correction Factor	0.80	0.70	0.65	0.60	0.57	0.54	0.52	0.50	0.48	0.45	0.43	0.41	0.39