Construction

1. Conductors
Plain annealed stranded copper to BS EN60228:2005.

2. Insulation
XLPE complying to BS7655 Type GP8.

3. CPC
Tinned annealed stranded copper to BS EN60228:2005.

4. Screen
Bonded aluminium tube, applied longitudinally.

5. Sheath
Low smoke, halogen free to BS EN50267-1:1998 & BS EN50268-2:2000. UV stable.

Technical Data

Voltage grades
Exoshield LD 300/500v
Exoshield 600/1000v

Standard core colours
2 core: Blue and brown
3 core: Brown, black and grey
4 core: Blue, brown, grey and black
5 core: Black, brown, grey, blue and green/yellow (or white with black numbers).

Bending radius
6 x Outside Diameter

Maximum continuous conductors operating temperature
+90°C

Minimum installation temperature
-30°C

Flame retardant
BS EN 60332-1-2:2004, IEC 60332-1:2000.

Smoke emissions
BS EN 50268-2:2000.

Acid gas emissions
BS EN 50267-2-1.

Physical data - Exoshield 600/1000v

Area** mm^2	Conductor no. of strands/mm	CPC no. of strands/mm	Nominal insulation thickness mm	Nominal cable diameter mm				Approx weight of cable kg/1000m			
				2 core	3 core	4 core	5 core	2 core	3 core	4 core	5 core
1.0	7/0.44	7/0.44	0.70	8.3	8.7	9.5	-	85	105	132	-
1.5	7/0.53	7/0.53	0.70	9.1	9.4	10.2	11.1	106	140	160	175
2.5	7/0.67	7/0.67	0.80	10.2	10.8	11.9	12.8	155	195	235	250
4.0	7/0.85	7/0.85	0.80	11.5	12.1	13.4	14.9	206	265	322	375
6.0	7/1.04	7/1.04	0.80	12.9	13.8	16.0	16.6	258	328	452	485

**10mm2 and 16mm2 available on request.

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Electrical data

Area mm²	Maximum DC resistance ohms/km @ 20°C	Nominal AC resistance ohms/km @ 90°C, at 50Hz	Inductive reactance ohms/km, at 50Hz	Maximum continuous conductor operating temperature °C	Short circuit rating in kA for 1 second*
1.0	18.1	23.16	0.103	90	0.14
1.5	12.1	15.30	0.100	90	0.21
2.5	7.41	9.43	0.097	90	0.35
4.0	4.61	5.86	0.092	90	0.57
6.0	3.08	3.93	0.088	90	0.85

*Based upon a K value of 143, taken from BS7671 table 43a. For short circuit durations of other than 1 second, divide the tabulated ratings by √t, where t is the duration in seconds. This calculation is valid for t between 0.2 and 5 seconds.

Temperature Correcting Factors

Correction for ambient temperature

Ambient Temp °C	25	35	40	45	50	55	60	65	70	75	80	85
Fuse to BS88 or BS1361 or circuit breakers to BS3871 or BS60898	1.02	0.96	0.91	0.87	0.82	0.76	0.71	0.65	0.58	0.50	0.41	0.29
Semi enclosed fuse to BS3036	1.02	0.98	0.95	0.93	0.91	0.89	0.87	0.85	0.79	0.69	0.56	0.39

Correction rating for grouping

No of cables	2	3	4	5	6	8	10	12
Clipped direct	0.8	0.7	0.65	0.6	0.57	0.52	0.48	0.45
On cable tray	0.86	0.81	0.77	0.75	0.74	0.73	0.71	0.7

Current Ratings

Ambient temperature at 30°C, conductor operating temperature 90°C as BS7671

Clipped direct - ref method 1

Area mm²	Two core cable, single phase AC or DC		Three or four core cable, three phase AC	
	Current rating amp	Volt drop mV per amp per M	Current rating amp	Volt drop mV per amp per M
1.0	19	46	17	40
1.5	24	31	22	27
2.5	33	19	30	16
4.0	45	12	40	10
6.0	58	7.9	52	6.8

On cable tray - ref method 11

Area mm²	Two core cable, single phase AC or DC		Three or four core cable, three phase AC	
	Current rating amp	Volt drop mV per amp per M	Current rating amp	Volt drop mV per amp per M
1.0	21	46	18	40
1.5	26	31	23	27
2.5	36	19	32	16
4.0	49	12	42	10
6.0	63	7.9	54	6.8

Current ratings are based on a 'single circuit' in accordance with the IEE Wiring Regulations BS7671, Table 4E2A. Where a conductor operates at a temperature exceeding 70°C it shall be ascertained that the equipment connected to the conductors is suitable for the conductor operating temperature. (BS7671 reg 512-02). The above-tabulated current ratings should be multiplied by the rating factor (0.8) when conductor-operating temperature has not to exceed a recommended terminal temperature of 70°C.

Installation

BS7671:2001 Wiring regulations should be followed in all instances, and clause 522-06-06 in particular for walls and partition applications. Standard low smoke zero halogen or brass stuffing glands and clips to be sized against relevant cable nominal ODs.