

Safe-T-Shield Cable BS 8436 Technical Datasheet

Description: Safe-T-Shield Low Smoke Halogen Free cable offers substantial advantages over

conventional wiring methods. Safe-T-Shield is manufactured and tested to the performance criteria of BS 8436. Because it is faster to install and lighter than small armoured cables or conduit, cost savings of up to 40% can be achieved.





Conductor Material : Bare Copper, Class 2 EN 60288

Conductor Insulation : Cross Linked Polyethylene to BS6899 (XLPE)

Drain Wire : Tinned Copper, Class 2

Overall Screen : Heavy Duty Aluminium Foil, applied longitudinally

Outer Sheath Material : Low Smoke Halogen Free (LSHF)

Outer Sheath Colour : White

Core Identification : 2 core: Blue and Brown

: 3 core: Brown, Black and Grey : 4 core: Blue, Brown, Grey and Black

Electrical Characteristics

Voltage Rating : 300/500V

Physical Characteristics

 $\begin{array}{lll} \mbox{Min. Bend Radius} & : 6 \mbox{ x OD} \\ \mbox{Temperature Rating} & : -30 \mbox{°C to } +70 \mbox{°C} \\ \mbox{Weight} & : \mbox{See table} \\ \end{array}$

Standards

RoHS2 Complaint : Yes

Flame Retardant : BS EN 60332-1-2
Low Smoke Generation : BS EN 61034-2
Halogen Gas Emission : BS EN 60754-1&2

 $\begin{array}{ll} \text{CE Compliant} & : \text{LVD (2014/35/EU), CPR (305/2011)} \\ \text{CPR Classification} & : \text{E}_{\text{CA}} \text{ (EN50575:2014+A1:2016)} \end{array}$

Part No.	Cores x mm²	O/D mm	Weight kg/km
38801502E-E00	2 E 1.5	8.6	105
38801503E-E00	3 E 1.5	9.5	140
38801504E-E00	4 E 1.5	10.2	160
38802502E-E00	2 E 2.5	9.5	155
38802503E-E00	3 E 2.5	11.1	195
38802504E-E00	4 E 2.5	12	235
38804002E-E00	2 E 4.0	11.1	206
38804003E-E00	3 E 4.0	12.1	265
38804004E-E00	4 E 4.0	13.4	322

EN 50575
CLASS E.a

INDEPENDENTLY
VERIFIED



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Physical I	Data										
Nominal	Conductor	CPC	Nominal		Nomina	al cable			Approx.	weight	:
Area*	no. of	no. of	insulation	ulation diameter			of cable				
sq.mm	strands/mm	strands/mm	thickness		m	m			kg/10	000m	
			mm	2	3	4	5	2	3	4	5
				core	core	core	core	core	core	core	core
1	7/0.44	7/0.44	0.7	8.3	8.7	9.5	_	85	105	132	_
1.5	7/0.53	7/0.53	0.7	8.7	9.6	10.2	11.1	98	135	201	241
2.5	7/0.67	7/0.67	0.7	9.6	11.2	12.1	12.8	143	199	221	250
4	7/0.85	7/0.85	0.8	11.2	12.2	13.3	14.9	193	244	304	375
6	7/1.04	7/1.04	1	13	13.9	15.9	16.6	284	355	428	485

^{* 10.0} sq.mm available on request

Electrical Data

Electrical Data					
Area	Maximum DC	Nominal AC	Inductive	Maximum	Short circuit
sq.mm	resistance	resistance	reactance	continuous	rating in
	ohms/Km	ohms/Km	ohms/Km,	conductor	kA for
	@20°C	@90°C, at 50Hz	at 50Hz	operating temp.°C	1 sec.*
1	18.1	23.6	0.103	70	0.11
1.5	12.1	15.3	0.100	70	0.17
2.5	7.41	9.43	0.097	70	0.29
4	4.61	5.86	0.092	70	0.46
6	3.08	3.93	0.088	70	0.69

^{*} Based upon a K value of 115, taken from BS7671:2008 table 43.1.

Temperature Correcting Factors for Cables in free air other than 30°C

Correction for ambient temperature

Ambient temp °C	25	35	40	45	50	55	60	
	1.03	0.94	0.87	0.79	0.71	0.61	0.5	

Correction rating for grouping

No of cables	2	3	4	5	6	8	9	12
Clipped direct	0.8	0.7	0.65	0.6	0.57	0.52	0.5	0.45
On cable tray	0.88	0.82	0.77	0.75	0.73	0.72	0.72	0.72

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Current Ratings - Ambient temp. at 30°C, conductor operating temp. 70°C as BS7671

Clipped direct – ref method C

Nominal Area	Two core cable, single	e phase AC or DC	Three or four core cable, three phase AC		
sq.mm	Current rating	Current rating Volt drop mV		Volt drop mV	
	amps	per amp per M	amps	per amp per M	
1	15	44	13.5	38	
1.5	19.5	29	17.5	25	
2.5	27	18	24	15	
4	36	11	32	9.5	
6	46	7.3	41	6.4	

On cable tray – ref method E

On cable tray – Tel method E								
Two core cable, single	e phase AC or DC	Three or four core cable, three phase AC						
Current rating	Current rating Volt drop mV		Volt drop mV					
amps	per amp per M	amps	per amp per M					
17	44	14.5	38					
22	29	18.5	25					
30	18	25	15					
40	11	34	9.5					
51	7.3	43	6.4					
	Two core cable, single Current rating amps 17 22 30 40	Two core cable, single phase AC or DC Current rating woll drop mV per amp per M 17 44 22 29 30 18 40 11	Two core cable, single phase AC or DC Current rating amps 17 44 14.5 22 29 18.5 30 18 25 40 11 34					

Current ratings are based on a "single circuit" in accordance with the IEE Wiring Regulations BS7671, Table 4D2A. 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 512.1.5)

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