

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.



Construction

| | |
|-----------------------|--|
| 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

| | |
|--------------------|------------------|
| Min. Bend Radius | : 6 x OD |
| Temperature Rating | : -30°C to +70°C |
| Weight | : See table |

Standards

| | |
|----------------------|--|
| RoHS2 Compliant | : Yes |
| Flame Retardant | : BS EN 60332-1-2 |
| Low Smoke Generation | : BS EN 61034-2 |
| Halogen Gas Emission | : BS EN 60754-1&2 |
| CE Compliant | : LVD (2014/35/EU), CPR (305/2011) |
| CPR Classification | : E _{ca} (EN50575:2014+A1:2016) |



| Part No. | Cores x mm ² | 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 |

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.

Physical Data

| Nominal Area* sq.mm | 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 | 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

| Area sq.mm | 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 temp.°C | Short circuit rating in kA for 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 |

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.

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

Clipped direct – ref method C

| Nominal Area sq.mm | Two core cable, single phase AC or DC | | Three or four core cable, three phase AC | |
|-----------------------|---------------------------------------|-------------------------------|--|-------------------------------|
| | Current rating amps | Volt drop mV per amp per M | Current rating amps | Volt drop mV 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

| Nominal Area sq.mm | Two core cable, single phase AC or DC | | Three or four core cable, three phase AC | |
|-----------------------|---------------------------------------|-------------------------------|--|-------------------------------|
| | Current rating amps | Volt drop mV per amp per M | Current rating amps | Volt drop mV per amp per M |
| 1 | 17 | 44 | 14.5 | 38 |
| 1.5 | 22 | 29 | 18.5 | 25 |
| 2.5 | 30 | 18 | 25 | 15 |
| 4 | 40 | 11 | 34 | 9.5 |
| 6 | 51 | 7.3 | 43 | 6.4 |

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)