



British Standard Fire-Resistant Power Cables

BS 7846

Armoured Fire-Resistant Power Cable

600/1000 V SWA/AWA armoured fire-resistant LSZH power cable to BS 7846 (F2 & F120)



600/1000 V

BS 7846 F2 / F120

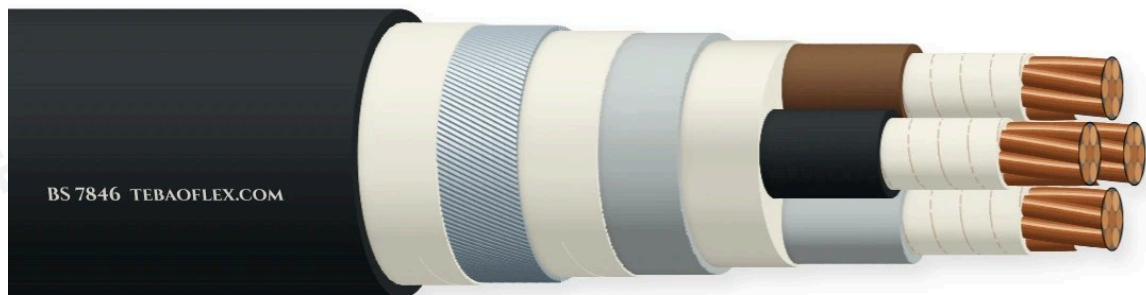
SWA / AWA Armoured

Application

BS 7846 is a 600/1000 V armoured fire-resistant power cable insulated with mica-glass tape and GP8 XLPE, protected by galvanized steel wire armour (SWA) or aluminium wire armour (AWA on single-core), and verified to BS 6387 CWZ (Category F2) and BS 8491 120-mi

Typical uses: Fire sprinkler & pump rooms, High-rise firefighting cores, Hospitals & critical care, Underground rail & metro, Data centres & airports

Construction



Cross-section, not to scale

1	Plain annealed copper	BS EN 60228
2	Mica-glass fire barrier	BS 7846
3	XLPE thermosetting insulation	BS 7655-1.3
4	LSZH extruded bedding	BS 7846
5	Metallic wire armour	BS EN 10257-1
6	Outer LSZH sheath	BS 7655-6.1

Technical data

Typical values

Rated voltage U0/U	600/1000 V	Routine AC test voltage	3.5 kV rms for 5 minutes
Conductor resistance	BS EN 60228 Class 2 plain copper	Max. conductor operating temp.	+90 °C
Max. short-circuit temp.	+250 °C (up to 5 s)	Fixed operating temp.	-25 °C to +90 °C
Min. installation temp.	0 °C	Min. internal bend radius	8 × overall cable diameter
Armour coverage & tensile strength	Galvanized steel wire per BS EN 10257-1	Cat. F2 fire survival	BS 6387 Cat. C (950 °C, 180 min), Cat. W (water), Cat. Z (shock)
Cat. F30 / F60 / F120 survival	BS 8491 direct flame (850 °C) + mechanical impact + water jet	Acid gas & smoke emission	BS EN 60754-1 (<0.5 % HCl) & BS EN 61034-2
Standards	BS 7846		

Sizes

14 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Designation	Cores × mm ²	Cross-section	Outer Ø ≈ mm	Copper kg/km	Total weight ≈ kg/km	Min. bend R fixed mm
BS 7846 standard series 14 sizes						
☐ BS 7846 F2 2×2.5 SWA	2×2.5	2.5 mm ²	13.6	48	360	109
☐ BS 7846 F2 3×2.5 SWA	3×2.5	2.5 mm ²	14.3	72	405	114
☐ BS 7846 F2 4×2.5 SWA	4×2.5	2.5 mm ²	15.2	96	465	122
☐ BS 7846 F2 4×4 SWA	4×4	4.0 mm ²	16.6	154	560	133
☐ BS 7846 F2 4×6 SWA	4×6	6.0 mm ²	18.0	230	685	144
☐ BS 7846 F120 4×10 SWA	4×10	10 mm ²	20.6	384	920	165
☐ BS 7846 F120 4×16 SWA	4×16	16 mm ²	23.0	614	1,210	184
☐ BS 7846 F120 4×25 SWA	4×25	25 mm ²	26.8	960	1,810	214
☐ BS 7846 F120 4×35 SWA	4×35	35 mm ²	29.5	1,344	2,260	236
☐ BS 7846 F120 4×50 SWA	4×50	50 mm ²	32.8	1,920	2,890	262
☐ BS 7846 F120 4×70 SWA	4×70	70 mm ²	37.0	2,688	3,920	296
☐ BS 7846 F120 4×95 SWA	4×95	95 mm ²	41.5	3,648	5,050	332
☐ BS 7846 F120 4×120 SWA	4×120	120 mm ²	45.8	4,608	6,320	366
☐ BS 7846 F120 1×185 AWA	1×185	185 mm ²	27.6	1,776	2,240	221

– Nominal outer diameters and weights are subject to manufacturing tolerances per BS 7846 / BS 8491.

Electrical data

14 sizes

Cores × mm ²	Max. DC R @ 20 °C Ω/km	Current in air A	Current in duct/tray A
2×2.5	7.410	36	31
3×2.5	7.410	31	27
4×2.5	7.410	31	27
4×4	4.610	42	36
4×6	3.080	53	46
4×10	1.830	73	63
4×16	1.150	96	83
4×25	0.727	127	109
4×35	0.524	157	135
4×50	0.387	190	163
4×70	0.268	242	208

Cores × mm ²	Max. DC R @ 20 °C Ω/km	Current in air A	Current in duct/tray A
4×95	0.193	293	252
4×120	0.153	339	292
1×185	0.099	450	387

– Current ratings apply at +30 °C ambient in free air and +25 °C in enclosed tray/conduit.

Standards and approvals

- ✓ BS 7846
- ✓ BS 8491 F30 / F60 / F120
- ✓ BS 6387 CWZ (Cat. F2)
- ✓ BS 8519 Cat. 1–3
- ✓ BS EN 60754-1 & BS EN 61034-2

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

+86 185 9591 3361

Email

info@tebaoflex.com

Web

tebaoflex.com/cables/bs-7846-armoured-fire-resistant-power-cable



Typical values for this cable type, based on BS 7846 / BS 8491. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.