



BS EN 50382 High-Temperature Railway Rolling-Stock Power Cables

EN 50382-2

High-Temperature Rolling Stock Power Cable

BS EN 50382-2 1.8/3 kV & 3.6/6 kV high-temperature silicone rubber (+120 °C / +150 °C) EN



BS EN 50382-2

1.8/3 kV & 3.6/6 kV AC

-50 to +150 °C

Application

EN 50382-2 is a halogen-free high-temperature railway rolling-stock traction power cable engineered to BS EN 50382-2 for 1.8/3 kV and 3.6/6 kV AC (up to 2.7/4.5 kV and 5.4/9 kV DC) locomotive, high-speed train, and metro bogie power circuits. Constructed with

Typical uses: Bogie Traction Motor Jumper Leads, Traction Converter & Roof Braking Resistor Wiring, Underground Metro & Tunnel Passenger Trains

Construction



Cross-section, not to scale

1	Conductor	BS EN 50382-2
2	Tape	BS EN 50382-2
3	Insulation	BS EN 50382-2
4	Sheath	BS EN 50382-2

Technical data

Typical values

Rated voltage (U0/U)	1.8/3 kV & 3.6/6 kV AC	Max. operating voltage	3.6 kV / 7.2 kV AC (5.4 kV / 9 kV DC)
Dielectric test voltage	6500 V AC (1.8/3 kV) / 11000 V AC (3.6/6 kV)	Insulation resistance	≥ 500 MΩ·km at +20 °C
Operating temperature range	-50 °C to +150 °C	Dynamic / flexing temperature	-40 °C to +150 °C
Max. short-circuit temperature	+300 °C	Min. bend radius (fixed)	4 × D
Min. bend radius (flexing)	6 × D	Max. tensile pulling load	15 N/mm ²
Vibration & mechanical duty	Bogie-to-carbody dynamic movement	Flame retardancy	EN 45545-2 R15/R16 Hazard Level HL3; IEC 60332-1-2; IEC 60332-3-24; IEC 61034-2; IEC 60754-1/2
Oil & fluid resistance	EN 50382-1 mineral oil, transformer fluid, acid & alkali resistant	UV, weather & ozone	UV, ozone & extreme sub-zero (-50 °C) cold-impact resistant
Chemical & environmental	Zero halogen, ultra-low smoke density, non-corrosive combustion gases (EN 60754-2)	Standards	BS EN 50382-2 (2008) — Railway applications — Cabling of rolling stock having special fire performance — High temperature power cables — Part 2: Single core silicone rubber insulated cables

Sizes

8 standard constructions

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

Designation	Size / Configuration	Stranding · Wall	Nom. OD mm	Copper kg/km	Total mass ≈ kg/km	Min. bend R mm
EN 50382-2 size schedule 8 sizes						
☐ EN 50382-2 1×10 (1.8/3 kV)	1×10 (1.8/3 kV)	0.21 · 2.3 mm	9.60	84.1	145.0	57.6
☐ EN 50382-2 1×25 (1.8/3 kV)	1×25 (1.8/3 kV)	0.21 · 2.3 mm	11.80	171.1	295.0	70.8
☐ EN 50382-2 1×50 (1.8/3 kV)	1×50 (1.8/3 kV)	0.31 · 2.3 mm	14.50	310.3	535.0	87.0
☐ EN 50382-2 1×70 (1.8/3 kV)	1×70 (1.8/3 kV)	0.31 · 2.3 mm	16.40	420.5	725.0	98.4
☐ EN 50382-2 1×95 (1.8/3 kV)	1×95 (1.8/3 kV)	0.31 · 2.5 mm	18.80	559.7	965.0	112.8
☐ EN 50382-2 1×120 (1.8/3 kV)	1×120 (1.8/3 kV)	0.31 · 2.5 mm	20.50	693.1	1,195.0	123.0
☐ EN 50382-2 1×185 (1.8/3 kV)	1×185 (1.8/3 kV)	0.41 · 2.6 mm	24.20	1,049.8	1,810.0	145.2
☐ EN 50382-2 1×240 (1.8/3 kV)	1×240 (1.8/3 kV)	0.41 · 2.8 mm	27.30	1,363.0	2,350.0	163.8

– Dimensions and tolerances conform to BS EN 50382-2.

Electrical data

8 sizes

Size / Configuration	Max. DC R @ 20 °C Ω/km	Current in air A	Installed / duty A
1×10 (1.8/3 kV)	1.950	115	92
1×25 (1.8/3 kV)	0.795	205	164
1×50 (1.8/3 kV)	0.393	325	260
1×70 (1.8/3 kV)	0.277	405	324
1×95 (1.8/3 kV)	0.210	495	396
1×120 (1.8/3 kV)	0.164	580	464
1×185 (1.8/3 kV)	0.108	760	608
1×240 (1.8/3 kV)	0.082	910	728

– Reference ampacities at +30 °C ambient; apply duty-cycle or grouping correction factors per standard.

Standards and approvals

- ✓ BS EN 50382-2; BS EN 50382-1; EN 45545-2 HL1/HL2/HL3
- ✓ EN 45545-2 (2020)
- ✓ RoHS 3 & REACH Compliant

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/high-temperature-rolling-stock-power-cable



Typical values for this cable type, based on BS EN 50382-2. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.