Hook-up & equipment wires

ISO 19642-5 XLFE 200 °C

ISO 19642-5 Unscreened XLFE Automotive High-Voltage Cable

ISO 19642-5 XLFE 200 °C −70…+200 °C 600/1000 V AC (1500 V DC) unscreened XLFE EV



ISO 19642-5 XLFE 200 °C · ISO 19642 / SAE J1654 | **1000 V AC / 1500 V DC EV** | **−70…+200 °C Safety Orange XLFE**

Application

Ultra-flexible unscreened high-voltage EV/HEV power cable (`ISO 19642-5 XLFE 200 °C`) rated 600/1000 V AC and 1500 V DC from −70 °C to +200 °C (ISO 19642-5 / ISO 6722-1 Class F / SAE J1654), combining finely stranded copper (4–120 mm²) with safety-orange XLFE

Typical uses: EV / HEV traction battery-pack internal interconnects, High-voltage PDU, DC/DC converter & OBC harnesses, Commercial electric truck, bus & off-highway HV buses, Hydrogen fuel-cell stack & compressor power leads, 48 V mild-hybrid & 800 V e-axle phase jumpers

Construction





Cross-section, not to scale

1	Extra-flexible rope-lay copper	ISO 19642-2 · SAE J1654 · ASTM B33
2	200 °C cross-linked XLFE dielectric	ISO 19642-5 · ISO 6722-1 Class F · SAE J1654

Technical data

Typical values

Rated voltage	600 V / 1000 V AC RMS · 1500 V DC (ISO 19642-5 Voltage Class B2)
Max. DC conductor resistance (20 °C)	4 mm² (12 AWG): ≤ 4.71 Ω/km · 10 mm² (8 AWG): ≤ 1.82 Ω/km · 25 mm² (4 AWG): ≤ 0.727 Ω/km · 35 mm² (2 AWG): ≤ 0.524 Ω/km · 50 mm² (1/0 AWG): ≤ 0.368 Ω/km · 70 mm² (2/0 AWG): ≤ 0.259 Ω/km · 95 mm² (3/0 AWG): ≤ 0.196 Ω/km
Overload & thermal runaway margin	Withstands +250 °C short-circuit spikes without thermoplastic melt-through
Tear, pinch & abrasion vs Silicone	Up to 5× higher tear strength and 10× higher scrape/pinch resistance than 200 °C silicone rubber (VMQ)
Flame retardance	Passes ISO 6722-1 / ISO 19642-5 flame propagation and UL VW-1 / horizontal burn tests
Standard packing	Heat-treated ISPM-15 timber drums or spools with sealed ends
AC dielectric test voltage	5.0 kV to 10.0 kV AC RMS for 5 min · 10–15 kV spark test
Operating temperature range	−70 °C cold bend to +200 °C continuous (3,000 h Class F rating)
Min. bending radius	3 × OD (up to 25 mm²) · 4 × OD (35 to 120 mm²) — silicone-like limpness for tight EV battery bus routing
EV battery coolants & oils	Resists water-glycol coolants, dielectric immersion fluids, ATF, brake fluid, battery electrolyte and salt spray
Standards	ISO 19642-5 (1000 V AC / 1500 V DC Road Vehicles HV Cable), ISO 6722-1 Class F & SAE J1654

Sizes

10 standard constructions

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

Order designation	Cores × mm² / AWG	AWG ≈	Outer Ø min mm	Outer Ø max mm	Copper kg/km	Weight ≈ kg/km	Min. bend R mm
Auxiliary HV — OBC, DC/DC, PTC Heater & Compressor (4–16 mm² / 12–6 AWG) 4 sizes							
☐ ISO 19642-5 XLFE 200 °C 12 AWG (4 mm²)	1×4.0 (12 AWG)	12	4.0	4.3	38	52	17
☐ ISO 19642-5 XLFE 200 °C 10 AWG (6 mm²)	1×6.0 (10 AWG)	10	4.7	5.1	57	76	20
☐ ISO 19642-5 XLFE 200 °C 8 AWG (10 mm²)	1×10 (8 AWG)	8	6.0	6.5	96	122	26
☐ ISO 19642-5 XLFE 200 °C 6 AWG (16 mm²)	1×16 (6 AWG)	6	7.3	7.9	153	188	32
Traction HV — Battery Pack, PDU, Inverter & E-Axle (25–120 mm² / 4–4/0 AWG) 6 sizes							
☐ ISO 19642-5 XLFE 200 °C 4 AWG (25 mm²)	1×25 (4 AWG)	4	9.0	9.8	240	286	39
☐ ISO 19642-5 XLFE 200 °C 2 AWG (35 mm²)	1×35 (2 AWG)	2	10.3	11.2	336	392	45
☐ ISO 19642-5 XLFE 200 °C 1/0 AWG (50 mm²)	1×50 (1/0 AWG)	1/0	12.1	13.2	480	550	53
☐ ISO 19642-5 XLFE 200 °C 2/0 AWG (70 mm²)	1×70 (2/0 AWG)	2/0	14.1	15.3	672	760	61
☐ ISO 19642-5 XLFE 200 °C 3/0 AWG (95 mm²)	1×95 (3/0 AWG)	3/0	16.2	17.6	912	1,020	70
☐ ISO 19642-5 XLFE 200 °C 4/0 AWG (120 mm²)	1×120 (4/0 AWG)	4/0	18.0	19.6	1,152	1,275	78

– Dimensions and weights are typical values per ISO 19642-5 / ISO 6722-1 Class F (+200 °C) · SAE J1654. Minimum fixed bending radius shown is 4 × OD.

Electrical & current ratings

10 sizes

Cross-section mm²	AWG ≈	Max. DC resistance 20 °C, Ω/km	Single wire in air 30 °C, A	Multi-core bundle 30 °C, A
4	12	5.09	41	30
6	10	3.39	53	38
10	8	1.95	75	53
16	6	1.24	100	71
25	4	0.795	135	94
35	2	0.565	169	117
50	1/0	0.393	215	148

Cross-section mm²	AWG ≈	Max. DC resistance 20 °C, Ω/km	Single wire in air 30 °C, A	Multi-core bundle 30 °C, A
70	2/0	0.277	270	185
95	3/0	0.21	330	225
120	4/0	0.164	385	260

– Current ratings at 30 °C ambient in free air. Apply temperature and bundle grouping factors per applicable equipment standard.

Standards and approvals

- ISO 19642-5 / ISO 6722-1 Class F (+200 °C) · SAE J1654
- CE · RoHS 2 (2011/65/EU) · REACH

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/unscreened-xlfe-automotive-high-voltage-cable

Typical values for this cable type, based on ISO 19642-5 / ISO 6722-1 Class F (+200 °C) · SAE J1654. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.