



Rolling-stock inter-vehicle jumper cable

Inter-Vehicle Jumper Cable

EN 45545-2 HL3 electron-beam cross-linked railway inter-car jumper cable

EN 45545-2 HL3

UIC 558 / EN 50264

-40 to +90 °C E-Beam



Application

Halogen-free rolling-stock jumper cable built with IEC 60228 Class 5/6 tinned copper conductors and electron-beam cross-linked EM 104 elastomer sheath for continuous 3D gangway pitching, yawing, ballast impact and -40 °C to +90 °C service per EN 45545-2 HL3.

Typical uses: High-Speed Passenger Trains & EMUs, Metro, Subway & Light Rail (LRV), Mainline Electric & Diesel Locomotives, Chassis-to-Bogie Sensor & Brake Leads, UIC 558 / 541-5 / 552 Coupler Harnesses

Construction



Cross-section, not to scale

- 1 Tinned copper conductor
- 2 Cross-linked LSZH insulation
- 3 Data quad / pair screen (UIC 558 / MVB)
- 4 Torsion-absorbing fleece & aramid wrap
- 5 Overall EMC tinned copper screen
- 6 Heavy-duty railway outer sheath

Technical data

Typical values

Rated voltage U0/U	300/500 V (control) · 0.6/1 kV & 1.8/3 kV (power)	AC test voltage	2000 V / 3500 V / 6500 V AC (50 Hz, 5 min)
Screen / Field control	Tinned copper braid ≥ 85 % (EMC per EN 50121-3-2)	Insulation resistance	≥ 500 MΩ·km at 20 °C
Temperature, flexing	–40 °C to +90 °C (arctic –50 °C option)	Temperature, fixed installation	–50 °C to +120 °C
Max. conductor temperature	+90 °C (+120 °C fixed)	Short-circuit temperature	+250 °C (max. 5 s, non-melting)
Min. bending radius, moving	6 × OD (free gangway & bogie loop)	Min. bending radius, fixed	4 × OD
Dynamic endurance	≥ 3,000,000 3D multi-axis gangway swing cycles	Ballast & stone impact	High notch and tear resistance per EN 50305
Fire performance	EN 45545-2 Hazard Level HL1, HL2, HL3 (R15/R16)	Flame retardance	IEC 60332-1-2 & IEC 60332-3-24 / EN 50305
Halogen-free / Smoke density	IEC 60754-1/2 · IEC 61034-2 · EN 50305 ITC ≤ 6	Oil, fuel & chemical resistance	Resists IRM 902/903 mineral oil, diesel, acid & alkali
UV & ozone	Ozone resistant per EN 50305 Method B	Standards	EN 50264-3-2 · UIC 558 · UIC 541-5 · UIC 552

Sizes

14 standard constructions

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

Order designation	Configuration	Rolling-stock system	Outer Ø ≈ mm	Total Cu kg/km	Weight ≈ kg/km	Min. bend R dynamic mm
UIC 558 / UIC 541-5 & Multi-Core Inter-Car Control Jumpers 6 sizes						
☐ RAIL-JMP-UIC558 13×1.5+5×1.5(C)	13×1.5 + 5×1.5 (2×2×1.0)C	UIC 558 18-Pole Remote Control & PIS	20.8	325	640	125
☐ RAIL-JMP-UIC541 9G1.5	9G1.5	UIC 541-5 Electropneumatic (EP) Brake	14.2	130	295	85
☐ RAIL-JMP-HL3 12G1.5 C	12G1.5 (Screened)	12-Core Coupled Coach Control Jumper	16.4	235	435	98
☐ RAIL-JMP-HL3 19G1.5 C	19G1.5 (Screened)	19-Core Bogie & Gangway Control Jumper	19.2	345	610	115
☐ RAIL-JMP-HL3 27G1.5 C	27G1.5 (Screened)	27-Core Multi-Unit Train Control Jumper	22.8	478	825	137
☐ RAIL-JMP-HL3 37G1.5 C	37G1.5 (Screened)	37-Core High-Density Gangway Jumper	25.9	638	1,080	155
IEC 61375 Train Communication Network (WTB / MVB / ETB) Hybrid Jumpers 2 sizes						
☐ RAIL-JMP-MVB 4×2×0.5+12×1.5 C	4×(2×0.5)C + 12×1.5	IEC 61375 WTB/MVB Train Bus + Control	20.4	310	595	122
☐ RAIL-JMP-ETB 2×(4×2×AWG22)+8×1.5	2×Cat.5e Quad + 8×1.5	IEC 61375-2-5 Ethernet Train Backbone	21.6	295	625	130
0.6/1 kV Auxiliary Power & 1.8/3 kV UIC 552 Head-End Power (HEP) Jumpers 6 sizes						
☐ RAIL-JMP-PWR 4G4.0 (0.6/1 kV)	4G4.0	Auxiliary 400 V AC HVAC / Compressor	14.8	154	340	89
☐ RAIL-JMP-PWR 4G10 (0.6/1 kV)	4G10	Inter-Car Auxiliary Power Bus	19.8	384	685	119
☐ RAIL-JMP-PWR 4G16 (0.6/1 kV)	4G16	Heavy Auxiliary Converter Jumper	23.4	614	1,020	140
☐ RAIL-JMP-PWR 4G25 (0.6/1 kV)	4G25	3-Phase Train Auxiliary Supply	28.2	960	1,540	169
☐ RAIL-JMP-HEP 1×50 (1.8/3 kV)	1×50 mm ²	UIC 552 Head-End Power (HEP) Single	16.5	480	665	99
☐ RAIL-JMP-HEP 1×95 (1.8/3 kV)	1×95 mm ²	UIC 552 1000/1500 V Train Heating Bus	21.4	912	1,185	128

– Available both as bulk cable on drums and as overmoulded plug-and-play UIC 558 / 541-5 / 552 jumper assemblies.

Electrical parameters by cross-section

9 sizes

Conductor size	Rated voltage U0/U	Max. DC R @ 20 °C Ω/km	Current rating at +45 °C (A)	AC test V _{rms}
0.5 mm ² (WTB/MVB)	300/500 V	40.100	8	2,000
1.0 mm ² (UIC Quad)	300/500 V	20.000	14	2,000
1.5 mm ² (Control)	300/500 V	13.700	19	2,500
4.0 mm ² (Aux Power)	0.6/1 kV	5.090	36	3,500
10 mm ² (Aux Power)	0.6/1 kV	1.950	65	3,500
16 mm ² (Aux Power)	0.6/1 kV	1.240	88	3,500
25 mm ² (Aux Power)	0.6/1 kV	0.795	118	3,500
50 mm ² (HEP)	1.8/3 kV	0.393	185	6,500
95 mm ² (HEP)	1.8/3 kV	0.210	280	6,500

– Current ratings are based on EN 50355 at +45 °C ambient and +90 °C conductor temperature.

Standards and approvals

✓ EN 45545-2 Hazard Level HL1 / HL2 / HL3 (R15/R16)

✓ EN 50264-3-2 / UIC 558 / UIC 541-5 / UIC 552

✓ CE, RoHS 2 (2011/65/EU) & 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

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Email

info@tebaoflex.com

Web

tebaoflex.com/cables/inter-vehicle-jumper-cable



Typical values for this cable type, based on EN 50264-3-2 / EN 45545-2 HL3 / UIC 558. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.