



EN 50264 / EN 50306 Railway Rolling Stock Halogen-Free Cables

EN 50264-2-1

Standard-Wall Single-Core Rolling Stock Cable

0.6/1 kV & 1.8/3 kV EN 50264-2-1 standard-wall e-beam cross-linked LSZH rolling stock cabl



0.6/1 kV & 1.8/3 kV EN 50264-2-1

EN 45545-2 HL3 Fire Safety

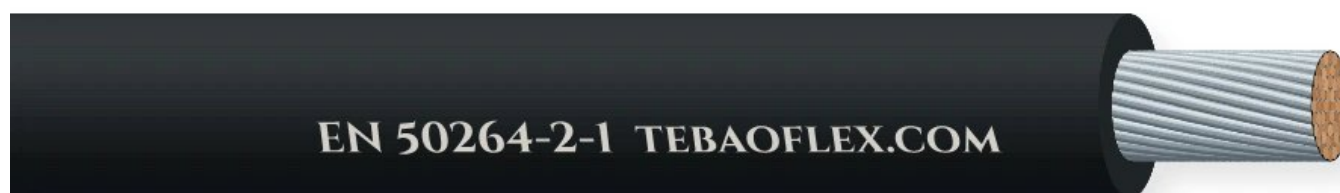
E-Beam Cross-Linked Elastomer (EI 101-104)

Application

EN 50264-2-1 (codes FF 1.8/3kV or F 0.6/1kV, formerly NSGAFÖU railway replacement) is a standard-wall single-core power and control cable for railway rolling stock. Built with a Class 5 tinned fine-stranded copper conductor and electron-beam cross-linked halog

Typical uses: High-speed & intercity passenger rail, Underground metro & commuter EMUs, Traction converters & auxiliary inverters, Locomotive switchgear & battery cubicles, Light rail, trams & onboard HVAC

Construction



Cross-section, not to scale

1	Class 5 tinned copper (EN 60228)	EN 60228
2	Cross-linked LSZH elastomer (EI 101-104)	EN 50264-1
3	Dual-layer / outer elastomeric skin	EN 50264-2-1

Technical data

Typical values

Rated voltage (U0/U)	0.6/1 kV AC (0.9/1.5 kV DC) · 1.8/3 kV AC (2.7/4.5 kV DC)	Max permissible operating voltage	0.72/1.2 kV AC (0.6/1 kV grade) · 2.2/3.6 kV AC (1.8/3 kV grade)
AC test voltage (5 min water bath)	3.5 kV rms (0.6/1 kV grade) · 6.5 kV rms (1.8/3 kV grade)	Continuous conductor temperature	-40 °C (EI 104) / -25 °C (EI 101/103) to +90 °C (20,000 h) / +110–120 °C
Overload & short-circuit temperature	+140 °C overload · +250 °C short-circuit (5 s)	Minimum bending radius (fixed)	3 × D (D ≤ 12 mm) · 4 × D (D > 12 mm)
Conductor stranding	EN 60228 Class 5 flexible tinned copper	Fire performance (EN 45545-2)	Hazard Level HL1, HL2 & HL3 for R15 (interior) and R16 (exterior)
Flame, smoke & halogen emission	IEC 60332-1-2, EN 60332-3-24/25, IEC 61034-2 (≥70 % transmittance), EN 60754-1/2 (HCl <0.5 %)	Oil, fuel & ozone resistance	Mineral oil IRM 902 (+100 °C, 72 h), diesel IRM 903 & ozone EN 50305
Standards	BS EN 50264-2-1 & BS EN 50264-1 (EI 101 / EI 102 / EI 103 / EI 104)		

Sizes

16 standard constructions

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

Designation	Voltage & Size mm ²	Cond. Ø / Wall mm	Max. OD mm	Copper kg/km	Total mass ≈ kg/km	Min. bend R mm
EN 50264-2-1 size range 16 sizes						
☐ 0.6/1 kV 1.0 mm ²	0.6/1 kV · 1.0 mm ²	1.25 Ø · 0.8 mm	2.85	9.6	15.0	11.4
☐ 0.6/1 kV 1.5 mm ²	0.6/1 kV · 1.5 mm ²	1.50 Ø · 0.8 mm	3.10	14.4	20.0	12.4
☐ 0.6/1 kV 2.5 mm ²	0.6/1 kV · 2.5 mm ²	1.95 Ø · 0.8 mm	3.55	24.0	30.0	14.2
☐ 0.6/1 kV 4.0 mm ²	0.6/1 kV · 4.0 mm ²	2.50 Ø · 0.9 mm	4.30	38.4	46.0	17.2
☐ 0.6/1 kV 6.0 mm ²	0.6/1 kV · 6.0 mm ²	3.00 Ø · 0.9 mm	4.80	57.6	66.0	19.2
☐ 0.6/1 kV 10 mm ²	0.6/1 kV · 10 mm ²	3.90 Ø · 1.0 mm	5.90	96.0	108.0	23.6
☐ 1.8/3 kV 1.5 mm ²	1.8/3 kV · 1.5 mm ²	1.50 Ø · 2.2 mm	6.00	14.4	48.0	24.0
☐ 1.8/3 kV 2.5 mm ²	1.8/3 kV · 2.5 mm ²	1.95 Ø · 2.2 mm	6.40	24.0	59.0	25.6
☐ 1.8/3 kV 6.0 mm ²	1.8/3 kV · 6.0 mm ²	3.00 Ø · 2.2 mm	7.50	57.6	98.0	30.0
☐ 1.8/3 kV 16 mm ²	1.8/3 kV · 16 mm ²	5.00 Ø · 2.2 mm	9.50	153.6	205.0	38.0
☐ 1.8/3 kV 35 mm ²	1.8/3 kV · 35 mm ²	7.70 Ø · 2.2 mm	12.20	336.0	395.0	48.8
☐ 1.8/3 kV 50 mm ²	1.8/3 kV · 50 mm ²	9.20 Ø · 2.4 mm	14.10	480.0	550.0	56.4
☐ 1.8/3 kV 70 mm ²	1.8/3 kV · 70 mm ²	11.00 Ø · 2.4 mm	16.00	672.0	755.0	64.0
☐ 1.8/3 kV 95 mm ²	1.8/3 kV · 95 mm ²	12.50 Ø · 2.6 mm	17.80	912.0	1,010.0	71.2
☐ 1.8/3 kV 120 mm ²	1.8/3 kV · 120 mm ²	14.20 Ø · 2.6 mm	19.60	1,152.0	1,265.0	78.4
☐ 1.8/3 kV 150 mm ²	1.8/3 kV · 150 mm ²	15.80 Ø · 2.8 mm	21.60	1,440.0	1,575.0	86.4

– Dimensions and maximum overall diameters conform to EN 50264-2-1 / EN 45545-2 HL3.

Electrical data

16 sizes

Voltage & Size mm ²	Max. DC R @ 20 °C mΩ/m	Single wire in air A	In harness bundle A
0.6/1 kV · 1.0 mm ²	19.50	22	17
0.6/1 kV · 1.5 mm ²	13.70	28	22
0.6/1 kV · 2.5 mm ²	8.21	38	30
0.6/1 kV · 4.0 mm ²	5.09	51	40
0.6/1 kV · 6.0 mm ²	3.39	65	51
0.6/1 kV · 10 mm ²	1.95	90	70
1.8/3 kV · 1.5 mm ²	13.70	30	23

Voltage & Size mm ²	Max. DC R @ 20 °C mΩ/m	Single wire in air A	In harness bundle A
1.8/3 kV · 2.5 mm ²	8.21	40	31
1.8/3 kV · 6.0 mm ²	3.39	68	53
1.8/3 kV · 16 mm ²	1.24	125	98
1.8/3 kV · 35 mm ²	0.56	205	160
1.8/3 kV · 50 mm ²	0.39	260	203
1.8/3 kV · 70 mm ²	0.28	325	254
1.8/3 kV · 95 mm ²	0.21	395	308
1.8/3 kV · 120 mm ²	0.16	460	359
1.8/3 kV · 150 mm ²	0.13	530	413

– Current ratings are reference values at +25 °C ambient; derate for multi-wire harness bundles and elevated engine-bay temperatures.

Standards and approvals

- ✓ BS EN 50264-2-1 & EN 50264-1
- ✓ EN 45545-2 Hazard Level HL1 / HL2 / HL3 (R15 & R16)
- ✓ IEC 60332-1-2 & EN 60332-3-24/25
- ✓ IEC 61034-2 & EN 60754-1/2
- ✓ 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

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Email

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Web

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Typical values for this cable type, based on EN 50264-2-1 / EN 45545-2 HL3. Values for your order are confirmed in the quotation. Subject to change without notice.
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