



Hook-up & equipment wires

EN 50306-4

Thin-Wall Multicore and Multipair Rolling Stock Cable

EN 50306-4 300 V thin-wall multicore & multipair railway rolling stock cable



EN 50306-4 Multicore & Multipair

300 V · MM & Screened MMS

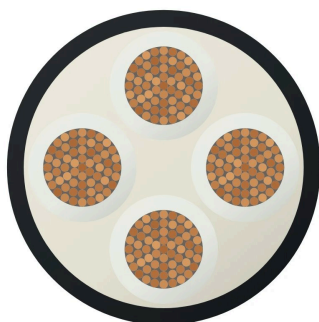
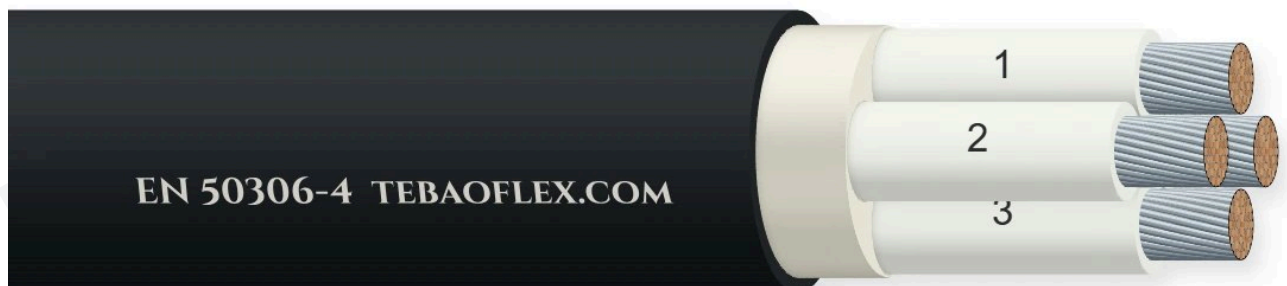
EN 45545-2 HL3

Application

High-density 300 V railway rolling-stock multicore and multipair harness cable certified to EN 50306-4 and EN 45545-2 HL3, assembling EN 50306-2 thin-wall cores or EN 50306-3 screened pairs (0.5–2.5 mm²) inside an oil/fuel-resistant EM 104 cross-linked sheath.

Typical uses: High-speed train & EMU coach harnesses, TCMS, door, brake & HVAC control trunks, Driver desk & switchgear cubicle interconnects, Passenger information, CCTV & intercom trunks, Modular pre-terminated Harting rail harnesses

Construction



Cross-section, not to scale

1	19/37-strand tinned copper conductor	EN 50306-2 / EN 50306-4
2	Thin-wall EI 101–105 core insulation	EN 50306-1 / EN 50306-2
3	Halogen-free wrapping tape	EN 50306-4
4	Optional tinned-copper braid (MMS)	EN 50306-4 · EN 50121-3-2
5	Cross-linked EM 104 outer sheath	EN 50306-1 EM 104 · EN 45545-2 HL3

Technical data

Typical values

Rated voltage U0/U	300/300 V AC (max. operating 330 V AC / 495 V DC)	AC test voltage (50 Hz)	1.5 kV AC (core/core) · 1.0 kV AC (core/screen) for 5 min
Surface transfer impedance	≤ 100 mΩ/m at 30 MHz (MMS / 3P / 7P screened versions)	Operating temperature range	−40 °C (Class E) or −25 °C (Class P) to +90 °C (+105 °C 20,000 h class)
Short-circuit temperature	+200 °C max. (5 s)	Min. bending radius, fixed	4 × OD (unscreened D ≤ 12 mm) · 5 × OD (D > 12 mm) · 6 × OD (screened MMS)
Min. bending radius, flexing	8 × OD (unscreened) · 10 × OD (screened)	Compact harness profile	Saves up to 40 % weight and 35 % diameter compared with EN 50264-2-2 multicore cables
Railway fire safety	EN 45545-2 Hazard Level HL1, HL2 & HL3 (Requirement Sets R15 & R16)	Oil, fuel & ozone	EM 104 cross-linked sheath resists mineral oil (IRM 902), diesel fuel (IRM 903), acid/alkali and ozone
Smoke & toxicity	EN 61034-2 low smoke · EN 60754-1/2 zero halogen · EN 50305 low toxicity	Standards	EN 50306-4 (Thin wall multicore and multipair railway rolling stock cables)
Standard packing	Heat-treated ISPM-15 timber drums or spools with sealed ends		

Sizes

20 standard constructions

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

Order designation	Cores × mm ² / AWG	AWG ≈	Outer Ø min mm	Outer Ø max mm	Copper kg/km	Weight ≈ kg/km	Min. bend R mm
300 V Thin-Wall Unscreened Multicore (EN 50306-4 MM / 1E) 6 sizes							
☐ EN 50306-4 4×0.5 MM	4×0.5	20	4.7	5.1	19	36	26
☐ EN 50306-4 7×0.5 MM	7×0.5	20	5.4	5.9	33	54	30
☐ EN 50306-4 12×0.5 MM	12×0.5	20	7.0	7.6	57	89	38
☐ EN 50306-4 19×0.5 MM	19×0.5	20	8.2	8.9	91	134	44
☐ EN 50306-4 27×0.5 MM	27×0.5	20	9.8	10.6	129	188	53
☐ EN 50306-4 37×0.5 MM	37×0.5	20	10.9	11.9	177	248	60
300 V Thin-Wall Screened Multicore (EN 50306-4 MMS / 3E) 10 sizes							
☐ EN 50306-4 4×0.5 MMS	4×0.5	20	5.2	5.7	34	52	28
☐ EN 50306-4 7×0.5 MMS	7×0.5	20	6.1	6.6	52	76	33
☐ EN 50306-4 12×0.5 MMS	12×0.5	20	7.6	8.3	82	122	42
☐ EN 50306-4 19×0.5 MMS	19×0.5	20	8.9	9.7	124	178	48
☐ EN 50306-4 37×0.5 MMS	37×0.5	20	11.8	12.8	226	315	64
☐ EN 50306-4 4×1.0 MMS	4×1.0	18	6.1	6.6	58	82	33
☐ EN 50306-4 7×1.0 MMS	7×1.0	18	7.0	7.6	92	124	38
☐ EN 50306-4 12×1.0 MMS	12×1.0	18	9.0	9.8	152	204	49
☐ EN 50306-4 4×1.5 MMS	4×1.5	16	7.0	7.6	82	114	38
☐ EN 50306-4 7×1.5 MMS	7×1.5	16	8.2	8.9	132	176	44
300 V Thin-Wall Screened Multipair (EN 50306-4 3P / 7P) 4 sizes							
☐ EN 50306-4 2×2×0.5 3P (Pairs MMS)	2×2×0.5	20	6.1	6.6	34	56	33
☐ EN 50306-4 4×2×0.5 3P (Pairs MMS)	4×2×0.5	20	7.3	7.9	60	94	40
☐ EN 50306-4 7×2×0.5 3P (Pairs MMS)	7×2×0.5	20	8.8	9.6	98	148	48
☐ EN 50306-4 4×2×0.75 3P (Pairs MMS)	4×2×0.75	18	8.1	8.8	82	124	44

– Dimensions and weights are typical values per EN 50306-4 / EN 45545-2 HL1–HL3. Minimum fixed bending radius shown is 5 × OD.

Electrical & current ratings

4 sizes

Cross-section mm ²	AWG ≈	Max. DC resistance 20 °C, Ω/km	Single wire in air 30 °C, A	Multi-core bundle 30 °C, A
0.5	20	40.1	10	7
0.75	18	26.7	13	10
1	18	20	16	12
1.5	16	13.7	21	16

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

Standards and approvals

✓ EN 50306-4 / EN 45545-2 HL1–HL3

✓ 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/thin-wall-multicore-and-multipair-rolling-stock-cable



Typical values for this cable type, based on EN 50306-4 / EN 45545-2 HL1–HL3. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.