



Traction cable

RADOX JUMPER 1800V OM S T

Product description:

RADOX JUMPER 1800 OM S T Single core cables with standard wall thickness, screened with integrated torsion protection
 Nominal voltage: 1800/3000 V AC
 Hazard level: M (extra low temperature, extra oil and extra fuel resistant)

General properties:

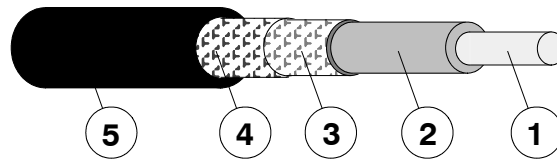
Halogen free, electron-beam cross-linked cables with improved behaviour in case of fire, easy to strip, soldering resistant and flexible.

Application:

Jumper cables are for use in rolling stock where permanent bending stresses occur during service, e.g. as inter-vehicle jumper cable, bogie drop cable etc. with torsional stress.

Guidelines for selection and installation are described in the standard EN 50343.

General composition of cable:



1. Conductor : specially stranded tin plated copper, acc. to EN 60228 cl. 5
2. Insulation : inside : RADOX EI 110, Colour : white
outside : RADOX EI 109, Colour : black
3. EMC-screen : Tin plated copper braid
4. Wrapping : Textile braid
5. Sheath : RADOX EM 104J, Colour : black

Marking:

[a] HUBER+SUHNER RADOX JUMPER 1800V [b] OM S T [c]- [d] [e] [f]

	example:
[a] Meter marking (in m)	= 1234 = m
[b] Construction	1X150
[c] Part number	12345678
[d] Batch number	1234567
[e] Production week and year	03-2017
[f] Production place (only if China)	CN

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The product fulfils the test and specification requirements described in this document for the stated areas of application and operating conditions. HUBER+SUHNER AG does not expressly or implicitly guarantee performance under additional or changed conditions. Deviations are to be agreed upon in writing.

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Technical Data:

Voltage rating cond.- earth	U ₀	1800	V AC
Voltage rating cond.- cond.	U	3000	V AC
maximum permissible Voltage rating AC cond.- earth		2100	V AC
maximum permissible Voltage rating AC cond.- cond.	U _m	3600	V AC
maximum permissible Voltage rating DC cond.- earth	V ₀	2700	V DC
maximum permissible Voltage rating DC cond.- cond.		4500	V DC

Test voltage 6500 V AC

Temperature range

fixed installation	- 50 ... + 110	°C
installation with restricted movement ¹⁾	- 40 ... + 110	°C
free installation	- 30 ... + 110	°C

¹⁾ With a maximum movement of the freely movable cable length +/- 75 mm per 1 meter of cable length

Min. bending radius *)

fixed	at bending angle $\leq 90^\circ$	all D	2 x D
	at bending angle $> 90^\circ$	D ≤ 10 mm	3 x D
	at bending angle $> 90^\circ$	D > 10 mm	4 x D
installation with restricted movement			8 x D
free installation			8 x D

*) provided that careful and competent handling is used in combination with proven fixture methods

Conditions:

The upper temperature limit is determined by long term ageing according to EN 50305 Par. 7 and extrapolation to 20,000 hours. The lower temperature limit is determined by bending and elongation tests according to EN 60811- 1- 4 Par. 8, respectively low temperature behaviour tests for static conditions, e.g. for fixed installation according to GOST 20.57.406- 81 - method 204- 1 and GOST 17491- 80.

The specified bending radii require a careful and proper handling using proven fastening technologies.



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The cables are in conformity with:

Fire protection on railway vehicles, hazard level	HL1 - HL3	EN 45545
Vertical flame spread	50 < L ≤ 540 mm	EN 60332-1-2
Vertical flame spread, bunched, D ≤ 6 mm	L ≤ 1.5 m	EN 50305, 9.1.2
Vertical flame spread, bunched, 6 < D < 12 mm	L ≤ 2.5 m	EN 50305, 9.1.1 (EN 60332-3-25)
Vertical flame spread, bunched, D ≥ 12 mm	L ≤ 2.5 m	EN 60332-3-24
Smoke density	T ≥ 70 %	EN 61034-2
Toxicity	ITC ≤ 6	EN 50305, 9.2
Fire protection on railway vehicles, level of protection .	1 - 4	DIN 5510
Vertical flame spread	50 < L ≤ 540 mm	EN 60332-1-2
Vertical flame spread, bunched, D ≤ 6 mm	L ≤ 1.5 m	EN 50305, 9.1.2
Vertical flame spread, bunched, 6 < D < 12 mm	L ≤ 2.5 m	EN 60332-3-25
Vertical flame spread, bunched, D ≥ 12 mm	L ≤ 2.5 m	EN 60332-3-24
Smoke density	T ≥ 60 %	EN 61034-2
Corrosivity of combustion gases	pH ≥ 4.3, C ≤ 10 μS/mm	EN 50267-2-2
Amount of halogen acid gas	HCl + HBr ≤ 0.5 %	EN 50267-2-1
Content of fluorine	HF ≤ 0.1 %	EN 60684-2, 45.2
Toxicity	ITC ≤ 3	EN 50305, 9.2
Fire protection on railway vehicles, hazard level	LR1 - LR4	UNI CEI 11170
Vertical flame spread	50 < L ≤ 540 mm	EN 60332-1-2
Vertical flame spread, bunched, D ≤ 6 mm	L ≤ 1.5 m	EN 50305, 9.1.2
Vertical flame spread, bunched, 6 < D < 12 mm	L ≤ 2.5 m	EN 60332-3-25
Vertical flame spread, bunched, D ≥ 12 mm	L ≤ 2.5 m	EN 60332-3-24
Smoke density	T ≥ 70 %	EN 61034-2
Corrosivity of combustion gases	pH ≥ 4.3, C ≤ 10 μS/mm	EN 50267-2-2
Amount of halogen acid gas	HCl + HBr ≤ 0.5 %	EN 50267-2-1
Toxicity	ITC ≤ 3	EN 50305, 9.2
Test Eh, hammer test	20 J	EN60068-2-75, IEC 60068-2-75
Requirement of hazard level code M	(acc. to EN 50264-1 or EN 50306-1)	
Extra low temperature	- 40 °C	
Extra oil resistance	IRM 902, 72h, 100°C	
Extra fuel resistance	IRM 903, 168h, 70°	



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Table:

Cross section mm ²	Conductor construction ¹⁾		Core-D D _{nom} mm	Screen		Cable dia. mm	R ₂₀ ¹⁾		Z _T max mΩ/m	C ²⁾ nom pF/m	Fireload kJ/m	Weight		H + S Part. Nr.
	n x m	D _{nom.} mm		D _{max} mm	cross section mm ²		conductor ¹⁾ Ω/km	screen				copper	cable	
16	266 x 0.30	6.0	10.3	11.1	3.46	15.5 ± 0.3	1.22	8.5	250	448	3206	21	43	84 119 864
25	518 x 0.25	7.6	12.0	12.8	3.96	17.5 ± 0.3	0.795	7.5	250	530	3967	30	57	84 128 731
35	700 x 0.25	8.7	13.2	14.0	4.45	18.5 ± 0.3	0.554	6.7	250	579	4241	38	68	84 095 754
50	610 x 0.28	10.9	15.6	16.6	6.34	21.0 ± 0.3	0.385	4.7	250	694	4979	54	91	12 585 831
70	1008 x 0.30	12.2	17.0	18.0	7.13	22.5 ± 0.3	0.271	4.2	250	757	5585	73	114	12 585 837
95	1400 x 0.30	14.1	19.0	20.0	8.32	24.5 ± 0.3	0.206	3.6	250	837	6273	94	140	84 101 653
120	960 x 0.40	16.2	21.1	22.1	8.32	26.5 ± 0.4	0.164	3.7	250	950	6843	121	174	12 585 832
150	880 x 0.40 + 588 x 0.30	17.6	22.5	23.5	9.51	28.0 ± 0.4	0.132	3.1	250	1014	7370	150	207	84 098 250
185	1520 x 0.40	19.7	24.7	25.7	9.51	30.5 ± 0.4	0.108	3.3	250	1102	8555	186	251	84 119 900
240 ³⁾	1920 x 0.40	22.9	28.7	29.6	11.9	34.5 ± 0.4	0.082	2.4	250	1103	12515	235	313	85 076 424

- 1) (conductor resistance according to IEC 60228)
 2) (capacity conductor/screen typical value)
 3) (fire protection under reserve)