



Traction cable

RADOX JUMPER 3600V OM S T

Product description:

RADOX JUMPER 3600V OM S T Single core cables with standard wall thickness, screened with integrated torsion protection
 Nominal voltage: 3600 / 6000 V AC
 Hazard level: M (extra low temperature, extra oil and extra fuel resistant)

General properties:

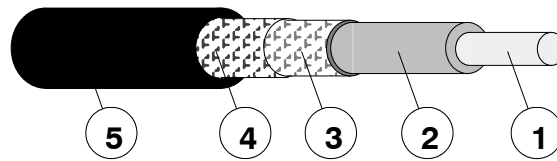
Halogen free, electron-beam cross-linked cables with improved behaviour in case of fire, easy to strip, soldering resistant and flexible.

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: white
 3. EMC- screen Tin plated copper braid
 4. Wrapping Textile braid
 5. Sheath RADOX EM 104J, colour: black
- Marking: HUBER+SUHNER RADOX JUMPER 3600V 1X[*cross section*] OM S [part. No. + batch. No.]

Technical Data:

Voltage rating cond.- earth	..... U_0	3600	..... V AC
Voltage rating cond.- cond.	..... U	6000	..... V AC
maximum permissible Voltage rating AC cond.- earth	.....	4300	..... V AC
maximum permissible Voltage rating AC cond.- cond.	..... U_m	7200	..... V AC
maximum permissible Voltage rating DC cond.- earth	..... V_0	5400	..... V DC
maximum permissible Voltage rating DC cond.- cond.	.....	9000	..... V DC
Test voltage	.....	12000	..... 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

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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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Min. bending radius *)

fixed installation	at bending angle $\leq 90^\circ$	all D	2 x D
	at bending angle $> 90^\circ$	$D \leq 10 \text{ mm}$	3 x D
	at bending angle $> 90^\circ$	$D > 10 \text{ mm}$	4 x D
installation with restricted movement			10 x D
free installation			10 x D
smaller bending radius on request			

*) 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

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

The cables are in conformity with:

Fire protection on railway vehicles, hazard level	HL1 - HL3	EN 45545
Vertical flame spread	$50 < L \leq 540 \text{ mm}$	EN 60332- 1- 2
Vertical flame spread, bunched, $D \leq 6 \text{ mm}$	$L \leq 1.5 \text{ m}$	EN 50305, 9.1.2
Vertical flame spread, bunched, $6 < D < 12 \text{ mm}$	$L \leq 2.5 \text{ m}$	EN 50305, 9.1.1 (EN 60332- 3- 25)
Vertical flame spread, bunched, $D \geq 12 \text{ mm}$	$L \leq 2.5 \text{ m}$	EN 60332- 3- 24
Smoke density	$T \geq 70 \%$	EN 61034- 2
Toxicity	$ITC \leq 6$	EN 50305, 9.2
Fire protection on railway vehicles, level of protection	1 - 4	DIN 5510
Vertical flame spread	$50 < L \leq 540 \text{ mm}$	EN 60332- 1- 2
Vertical flame spread, bunched, $D \leq 6 \text{ mm}$	$L \leq 1.5 \text{ m}$	EN 50305, 9.1.2
Vertical flame spread, bunched, $6 < D < 12 \text{ mm}$	$L \leq 2.5 \text{ m}$	EN 60332- 3- 25
Vertical flame spread, bunched, $D \geq 12 \text{ mm}$	$L \leq 2.5 \text{ m}$	EN 60332- 3- 24
Smoke density	$T \geq 60 \%$	EN 61034- 2
Corrosivity of combustion gases	$\text{pH} \geq 4.3, C \leq 10 \mu\text{S}/\text{mm}$	EN 50267- 2- 2
Amount of halogen acid gas	$\text{HCl} + \text{HBr} \leq 0.5 \%$	EN 50267- 2- 1
Content of fluorine	$\text{HF} \leq 0.1 \%$	EN 60684- 2, 45.2
Toxicity	$ITC \leq 3$	EN 50305, 9.2
Fire protection on railway vehicles, hazard level	LR1 - LR4	UNI CEI 11170
Vertical flame spread	$50 < L \leq 540 \text{ mm}$	EN 60332- 1- 2
Vertical flame spread, bunched, $D \leq 6 \text{ mm}$	$L \leq 1.5 \text{ m}$	EN 50305, 9.1.2
Vertical flame spread, bunched, $6 < D < 12 \text{ mm}$	$L \leq 2.5 \text{ m}$	EN 60332- 3- 25
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Smoke density	$T \geq 70 \%$	EN 61034- 2
Corrosivity of combustion gases	$\text{pH} \geq 4.3, C \leq 10 \mu\text{S}/\text{mm}$	EN 50267- 2- 2
Amount of halogen acid gas	$\text{HCl} + \text{HBr} \leq 0.5 \%$	EN 50267- 2- 1
Toxicity	$ITC \leq 3$	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		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.
	construction n x m	D _{nom.} mm		D _{nom} mm	cross section mm ²		conductor ¹⁾ Ω/km	screen				copper	kg/100m	
16	266 x 0.30	6.0	10.6	11.3	3.9	16.0 ± 0.3	1.220	7.54	250	420	3670	21	45	84 116 593
25	518 x 0.25	7.6	12.4	13.3	5.5	17.5 ± 0.3	0.779	5.40	250	490	4160	31	58	84 121 092
35	700 x 0.25	8.7	13.6	14.5	4.8	19.0 ± 0.4	0.554	7.24	320	530	4820	39	71	84 121 106
50	854 x 0.28	10.9	16.5	17.4	6.3	22.5 ± 0.4	0.385	4.91	250	590	6670	54	98	84 121 114
70	1008 x 0.30	12.2	18.0	18.9	8.3	24.0 ± 0.4	0.271	3.41	250	630	7610	74	123	84 121 116
95	1316 x 0.30	14.1	20.3	21.4	10.6	27.0 ± 0.5	0.206	2.70	250	670	9290	96	157	84 121 159
120	960 x 0.40	16.2	22.5	23.4	8.3	29.0 ± 0.5	0.164	3.75	250	740	10700	122	190	12 586 388
150	880 x 0.40 + 588 x 0.30	17.6	24.2	25.1	9.5	31.0 ± 0.5	0.132	3.16	250	760	12180	150	228	84 121 186
185	1520 x 0.40	19.7	26.3	27.6	16.6	33.5 ± 0.5	0.108	1.74	150	810	13025	196	280	84 116 594

1) conductor resistance according to IEC 60228

2) capacity in water typical value