



Traction cable

RADOX EN 50264-3-1 600V M

Product description:

RADOX EN 50264-3-1 600V M Single core cables with reduced wall insulation dimensions
Nominal voltage: 600 / 1000 V AC
Hazard level: M (extra low temperature, extra oil and extra fuel resistant)

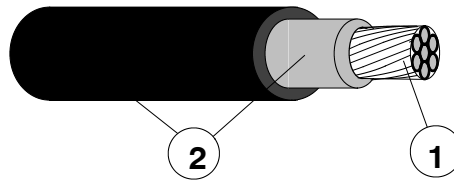
General features:

Halogen free electrom-beam cross-linked cores with improved behaviour in case of fire, easy to strip, soldering iron resistant and flexible. Meet the requirements of EN 50264-3-1 standard.

Application:

The cables are intended for permanent installation in rail vehicles or for applications in which a limited alternating bending stress occur during service. Guidelines for selection and installation are described in the standards EN 50355 and EN 50343. The cores are used as sub-components in cables according to EN 50264-3-2.

General composition of cable:



1. Conductor : stranded tin plated copper, acc. to EN 60228 cl. 5
2. Insulation : inner layer RADOX EI 110, colour: white
outer layer RADOX EI 109, colour: black or greenyellow

Marking:

[a] HUBER+SUHNER RADOX EN 50264-3-1 600V [b] M [c]-[d] [e] [f] [g]

	example:
[a] Meter marking (in m)	= 123456 = m
[b] Cross section (in mm ²)	1X150
[c] Part number	12345678
[d] Batch number	1234567
[e] Production week and year	03-2017
[f] Production place (only if China)	CN
[g] CRCC certification (only if available)	CRCC10218P11529R1M-2

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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	600	V AC
Voltage rating cond.-cond.	U	1000	V AC
maximum permissible Voltage rating AC cond.-earth		720	V AC
maximum permissible Voltage rating AC cond.-cond.	U _m	1200	V AC
maximum permissible Voltage rating DC cond.-earth	V ₀	900	V DC
maximum permissible Voltage rating DC cond.-cond.		1500	V DC
Test Voltage.		3500	V AC
		8400	V DC
Temperature range		- 50 ... + 120	°C
Min. bending radius			
fixed installation	cable diameter ≤ 12 mm	3 x D	
	cable diameter > 12 mm	4 x D	
sporadic movement	cable diameter ≤ 12 mm	4 x D	
	cable diameter > 12 mm	5 x D	

NB:

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 60811-504/505, respectively low temperature behaviour tests for 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.

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 50266-2-5 (EN 50305, 9.1.1)
Vertical flame spread, bunched, D ≥ 12 mm	L ≤ 2.5 m	EN 50266-2-4
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, insulation	ITC ≤ 3	EN 50305, 9.2
Fire protection on railway vehicles, category	A1	NF F16-101
Fire protection on railway vehicles, class	C / F1	NF F16-101
Vertical flame spread	50 < L ≤ 540 mm	NF C32-070, 2.1
Vertical flame spread, bunched	L ≤ 300 mm	NF C32-070, 2.2
Smoke index	I.F. ≤ 5	X10-702-2, NF X70-100-1
Fire protection on railway vehicles	Fulfilled	NFPA 130
Vertical flame spread, bunched	L ≤ 1.5 m	UL 1685, 12 (FT4 exp.)
Smoke density	TSR ≤ 150 m ² , PSRR ≤ 0.40 m ² /s	UL 1685, 12 (FT4 exp.)
Requirement of hazard level code M	(according 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°C	

Applicable documents:

- 586 554 Current rating for single core cables



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Core size mm ²	Conductor ^{nom.} Construction		Core dia. mm	R ₂₀ ¹⁾ max. Ω / km	Fireload nom. kJ / m	Combustible material nom. Kg/100m	Weight ^{nom.} Cable kg / 100m	Colour	H+S Part No.
	n x mm	Dia. mm							
1 x 1	32 x 0.19	1.26	2.5±0.1	20.0	88	0.6	1.5	BK GNYE	85 096 345 85 096 351
1 x 1.5	27 x 0.25	1.49	3.0±0.2	13.7	126	0.8	2.2	BK GNYE	85 096 346 85 096 352
1 x 2.5	45 x 0.25	1.92	3.4±0.2	8.21	153	1.0	3.1	BK GNYE	85 096 347 85 096 353
1 x 2.5	61 x 0.23	1.94	3.3±0.1	8.21	137	0.9	3.1	GY	85 164 787
1 x 4	52 x 0.29	2.44	4.0±0.2	5.09	188	1.3	4.7	BK GNYE	85 096 348 85 096 354
1 x 6	78 x 0.30	2.98	4.6±0.2	3.39	256	1.6	6.7	BK GNYE	85 096 349 85 096 355
1 x 10	74 x 0.4	4.0	5.5±0.2	1.95	320	2.0	11	BK GNYE	85 096 350 85 096 356
1 x 16	121 x 0.4	5.3	6.75±0.15	1.24	420	2.5	16	BK GNYE	85 097 024 85 097 025
1 x 25	189 x 0.4	6.6	8.45±0.15	0.795	685	4.2	25	BK GNYE	85 097 026 85 097 027
1 x 35	266 x 0.4	7.7	9.7±0.2	0.565	860	5.2	34	BK GNYE	85 097 028 85 097 029
1 x 50	378 x 0.4	9.2	11.4±0.2	0.393	1155	6.9	48	BK GNYE	85 097 030 85 097 031
1 x 70	348 x 0.5	11.4	13.80±0.25	0.277	1485	8.9	68	BK GNYE	85 097 032 85 097 033
1 x 95	456 x 0.5	12.9	15.30±0.25	0.210	1676	10	87	BK GNYE	85 097 034 85 097 036
1 x 120	570 x 0.5	14.5	17.2±0.3	0.164	2028	12	110	BK GNYE	85 097 037 85 097 038
1 x 150	722 x 0.5	16.0	19.2±0.3	0.132	2633	16	138	BK GNYE	85 097 039 85 097 040
1 x 185	874 x 0.5	17.8	21.4±0.3	0.108	3330	20	170	BK GNYE	85 097 048 85 097 049
1 x 240	1147 x 0.5	20.8	24.6±0.3	0.0817	3968	23	219	BK GNYE	85 097 050 85 097 051
1 x 300	1443 x 0.5	23.0	27.2±0.4	0.0654	4686	27	272	BK GNYE	85 097 052 85 097 053
1 x 400	1952 x 0.5	26.5	31.0±0.4	0.0495	5800	34	364	BK GNYE	85 097 718 85 097 719

¹⁾ R₂₀: Conductor resistance according to EN 60228