



Traction cable

RADOX GWK-LW 600V M

Product description:

RADOX GWK-LW 600V M Single cores with thin wall insulation
 Nominal voltage: 600 / 1000 V AC
 Hazard level: M (extra low temperature resistant, extra oil and fuel resistant)

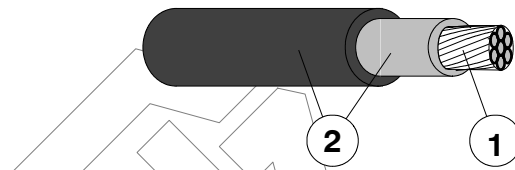
General features:

Halogen-free dual-wall insulation of high-tech polymers with improved behaviour in case of fire, easy to strip, soldering iron and media resistant. Meets the requirements of the EN 50306-2 standard.

Application:

The cores are intended for fixed installation in railway vehicles
 Guide lines for the selection and installation are described in the standards EN50355 and EN50343

General composition of cable :



1. Conductor: stranded tin plated copper, acc. to EN 50306-2
2. Insulation: RADOX TI 301
Colors: white, black marked

Marking: HUBER+SUHNER RADOX GWK-LW 600V 1X[\varnothing cross section] M [part. No. + batch. No.]

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		- 40 ... + 120	°C
Min. bending radius			
fixed installation		3 x D	

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.

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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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The cables are in conformity with:

Fire protection on railway vehicles, category	la, lb, ll	BS 6853, GM/RT 2130
Vertical flame spread	50 < L ≤ 540 mm	EN 60332- 1-2
Vertical flame spread, bunched	L ≤ 2.5 m	EN 50266, BS 6853 An. D.8.7
Smoke density	A ₀ ≤ BS 6853	BS 6853 An. D.8.7
Toxicity	R ≤ 1.0	BS 6853 An. B.1
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
Smoke density	T ≥ 70 %	EN 61034- 2
Toxicity	ITC ≤ 6	EN 50305, 9.2
Fire protection on railway vehicles, hazard level	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
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 ≤ 6	EN 50305, 9.2
Fire protection on railway vehicles, category	A1, A2, B	NF F16- 101
Fire protection on railway vehicles, class	C / F0	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.)
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
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, insulation	ITC ≤ 6	EN 50305, 9.2
hazard level code M	(according to EN 50264- 1 or EN50306- 1)	
Extra low temperature	- 40°C	
Extra oil resistance	IRM 902, 24h, 100°C	
Extra fuel resistance	IRM 903, 168h, 70°C	

Applicable standards :

H+S : 563077 (e) : Current rating for single core cables
 H+S : 97382- 0701(e).doc : Technical Specification GWK-LW Thin Wall Single Core Cables



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Cross section		Conductor nom		Core-D mm	R ₂₀ * max. Ω/km	C _{H2O} ** nom. PF/m	Fire load nom. kJ/m	Weight nom.		H+S Part. No. Colour: white
nom. mm ²	AWG	Constr.* n x mm	D mm					copper kg/100m	Cable kg/100m	
0.5		19x0.18	0.88	1.30±0.05	40.1	384	25	0.45	0.54	12 556 113
0.6	20	19x0.20	0.97	1.39±0.05	33.4	416	27	0.56	0.65	12 556 114
0.75		19x0.23	1.09	1.52±0.05	26.7	467	30	0.69	0.80	12 556 115
1.0	18	19x0.26	1.23	1.67±0.05	20.0	494	35	0.88	1.0	12 556 335
1.2	16	19x0.29	1.37	1.83±0.05	16.3	519	40	1.1	1.2	12 556 117
1.5		19x0.31	1.49	2.04±0.05	13.7	474	53	1.3	1.5	12 554 494
2.0	14	37x0.25	1.7	2.29±0.10	11.2	503	65	1.6	1.9	12 556 119
2.5		19x0.40	1.94	2.54±0.10	8.21	577	71	2.2	2.4	12 554 495

* typical value x nom. single wire diameter, conductor resistance at 20 °C according to IEC 60228
** capacity in water (typical value)