

Traction cable

RADOX TENUIS-TW (EN 50306-2) 600V M

HUBER+SUHNER

Product description:

RADOX TENUIS-TW (EN 50306-2) 600V M

Nominal voltage:

Single core signal cables with thin wall dimensions

600 / 1000 V AC

Hazard level:

M (extra low temperature, extra oil and extra fuel resistant)

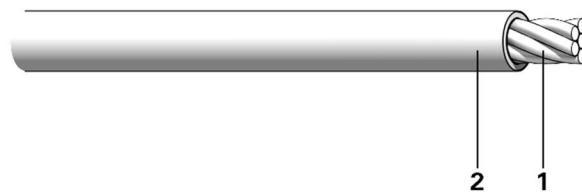
General features:

Halogen free electron-beam crosslinked cores with improved behaviour in case of fire, easy to strip and flexible. Meet the requirements of standard EN 50306-2.

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.

General composition of cable:



1. Conductor:

Stranded tin plated copper, acc. to EN 60228 cl. 5

2. Insulation

RADOX EI 303, colour: white, unless otherwise specified

Marking:

[a] **HUBER+SUHNER RADOX TENUIS-TW (EN 50306-2) 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 ... + 125	°C
Min. bending radius			
fixed installation	cable diameter ≤ 12 mm	3 x D	
	cable diameter > 12 mm	4 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 45545-2
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	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, 24h, 100 °C
Extra fuel resistance	IRM 903, 168h, 70 °C

Applicable documents:

- 581997 Current rating for single core cables

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Table 1A: Customized Types RADOX TENUIS-TW (EN 50306-2) 600V M

Core Size [mm ²]	Conductor ¹⁾			Core ²⁾		Fire Load nom. [kJ/m]	Combustible Material nom. [kg/100m]	Cable Weight nom. [kg/100m]	H+S Part No.
	Type nom. [n x mm]	Ø nom. [mm]	R ₂₀ max. [Ω/km]	Ø [mm]	Colours				
1X0.14	19x0.10	0.49	133.0	1.03±0.03	WH	20	0.09	0.23	85082261 ³⁾
1X0.25	19x0.13	0.60	84.0	1.17±0.03	WH	24	0.12	0.33	85021029 ³⁾
1X0.34	19x0.16	0.76	52.1	1.30±0.03	WH	27	0.13	0.48	85027590
1X0.5	19x0.18	0.84	40.1	1.42±0.03	WH	32	0.16	0.58	12564379
					BK				85026405
					BN				85067272
					BU				85067273
					GY				85067275
					RD				85067274
1X0.75	19x0.22	1.04	26.7	1.62±0.03	WH	38	0.18	0.82	12566838
					BK				85026406
1X1.0	19x0.26	1.21	20.0	1.77±0.03	WH	42	0.21	1.05	12561500
					BK				12581116
					BN				12581141
					BU				12581131
					GN				12581146
					GNYE				12581111
					RD				12581136
					VT				12581360
1X1.5	19x0.30	1.44	13.7	2.17±0.03	WH	66	0.32	1.54	12564381
					BK				85026407
					GNYE				12581112
1X2.5	19x0.40	1.85	8.21	2.75±0.05	WH	103	0.50	2.54	12564382
					BK				85026408
					GNYE				12581113
1X4.0	61x0.28	2.35	5.09	3.35±0.05	WH	138	0.66	4.05	12581455
					BK				85026409
					GNYE				12581487

¹⁾ Conductor according to EN 60228

²⁾ Core colour in bold is the H+S standard core colour

³⁾ Not covered with existing fire safety certificates

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RADOX TENUIS-TW (EN 50306-2) 600V M

Table 1.1A: Customized Types RADOX TENUIS-TW (EN 50306-2) 600V M Packaging Coil CK2 (h x d = 250mm x 400mm)

Core Size [mm ²]	Conductor ¹⁾			Core ²⁾		Fire	Combustible	Cable	H+S
	Type	Ø	R ₂₀	Ø	Colours	Load	Material	Weight	Part No.
	nom. [n x mm]	nom. [mm]	max. [Ω/km]	[mm]		nom. [kJ/m]	nom. [kg/100m]	nom. [kg/100m]	
1X0.34	19x0.16	0.76	52.1	1.30±0.05	WH	27	0.35	0.48	85145846
1X0.5	19x0.18	0.84	40.1	1.42±0.03	WH	32	0.42	0.58	85064175

¹⁾ Conductor according to EN 60228

²⁾ Core colour in bold is the H+S standard core colour

Table 1.2A: Customized Types RADOX TENUIS-TW (EN 50306-2) 600V M Packaging Coil CK4 (h x d = 400mm x 400mm)

Core Size [mm ²]	Conductor ¹⁾			Core ²⁾		Fire	Combustible	Cable	H+S
	Type	Ø	R ₂₀	Ø	Colours	Load	Material	Weight	Part No.
	nom. [n x mm]	nom. [mm]	max. [Ω/km]	[mm]		nom. [kJ/m]	nom. [kg/100m]	nom. [kg/100m]	
1X1	19x0.26	1.21	20.0	1.77±0.03	WH	42	0.21	1.05	12581778
1X1.5	19x0.30	1.44	13.7	2.17±0.03	WH	66	0.32	1.54	12581779
1X2.5	19x0.40	1.85	8.21	2.75±0.05	WH	103	0.50	2.54	12581780
1X4	61x0.28	2.35	5.09	3.35±0.05	WH	138	0.66	4.05	85138777

¹⁾ Conductor according to EN 60228

²⁾ Core colour in bold is the H+S standard core colour