



# Traction cable

## RADOX EN 50306-2 300V M

### Product description:

**RADOX EN 50306-2 300V M**      Single cores with thin wall insulation  
 Nominal voltage:                      300 / 500 V AC  
 Hazard level:                            M (extra low temperature resistant, extra oil and fuel resistant)

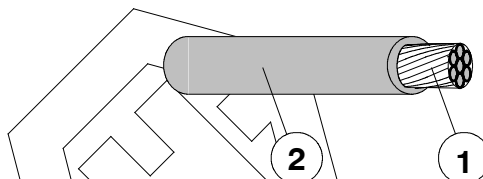
### General features:

Halogen-free electron-beam cross linked cores with improved behaviour in case of fire, easy to strip, soldering resistant and flexible. Compliant with the requirements of the EN 50306-2 standard.

### Application:

The cores are intended for fixed installation inside railway vehicles or for installation in applications where limited alternating bending stresses occur during operation.  
 The requirements contained in the EN 50355 and EN 50343 standards are applicable with regard to installation.  
 The cores are used as sub-components in cables according to EN 50306-3 and EN 50306-4.

### General composition of cable :



1. Conductor:                            stranded tin plated copper, acc. to EN 50306-2
2. Insulation:                            RADOX EI 306  
     Colors: white or green-yellow, black marked

Marking: HUBER+SUHNER RADOX-EN 50306-2 300 V 1X[ $\varnothing$  cross section] M [part. No. + batch. No.] [date of manufacture]

### Technical Data :

Voltage rating cond.-earth	$U_0$	300	V AC
Voltage rating cond.-cond.	U	500	V AC
maximum permissible Voltage rating AC cond.-earth		360	V AC
maximum permissible Voltage rating AC cond.-cond.	$U_m$	600	V AC
maximum permissible Voltage rating DC cond.-earth	$V_0$	450	V DC
maximum permissible Voltage rating DC cond.-cond.		750	V DC
Test Voltage		2 000	V AC
		4 800	V DC
Temperature range		- 40 ... + 125	°C
Min. bending radius			
fixed installation		3 x D	
sporadic movement		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 60811-1-4 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:

<b>Fire protection on railway vehicles, hazard level</b> .....	<b>HL1 - HL3</b> .....	<b>EN 45545</b>
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

<b>Fire protection on railway vehicles, hazard level</b> .....	<b>1 - 4</b> .....	<b>DIN 5510</b>
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

<b>Fire protection on railway vehicles, category</b> .....	<b>A1, A2, B</b> .....	<b>NF F16-101</b>
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

<b>Requirement of hazard level code M</b> .....	(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

<b>Fire protection on railway vehicles</b> .....	<b>Fulfilled</b> .....	<b>NFPA 130</b>
Vertical flame spread, bunched .....	L ≤ 1.5 m .....	UL 1685, 12 (FT4 exp.)
Smoke density .....	TSR ≤ 150 m <sup>2</sup> , PSRR ≤ 0.40 m <sup>2</sup> /s ...	UL 1685, 12 (FT4 exp.)

### Applicable documents:

- 586 555 Current rating for single core cables

Core size mm <sup>2</sup>	Conductor Construction n x mm	nom. Dia. mm	Core dia. nom. mm	R <sub>20</sub> max. Ω/km	C <sub>H2O</sub> nom. pF/m	Fireload nom. kJ/m	Weight nom. Copper Cable kg / 100m		Colour	H+S Part No.
0.5	19x0.18	0.88	1.42±0.03	40.1	356	37	0.45	0.60	WH	12 586 000
0.75	19x0.23	1.09	1.62±0.03	26.7	430	43	0.69	0.86	WH GNYE	12 586 001 12 586 002
1	19x0.26	1.23	1.77±0.03	20.0	470	50	0.88	1.09	WH GNYE	12 586 003 84 112 450
1.5	19x0.31	1.49	2.17±0.03	13.7	459	74	1.3	1.60	WH GNYE	12 586 004 12 586 007
2.5	19x0.40	1.94	2.75±0.05	8.21	509	113	2.16	2.62	WH GNYE	12 586 005 12 586 006

R<sub>20</sub>: Conductor resistance according to EN 50306-2  
C<sub>H2O</sub>: Capacity in water