



# Traction cable

## RADOX GWK-LW 600V MM S

### Product description:

<b>RADOX GWK-LW 600V MM S</b>	Multicore cables, screened (overall screen)
Nominal voltage:	600 / 1000 V AC
Hazard level:	M (extra low temperature, extra oil and extra fuel resistant)

### General features:

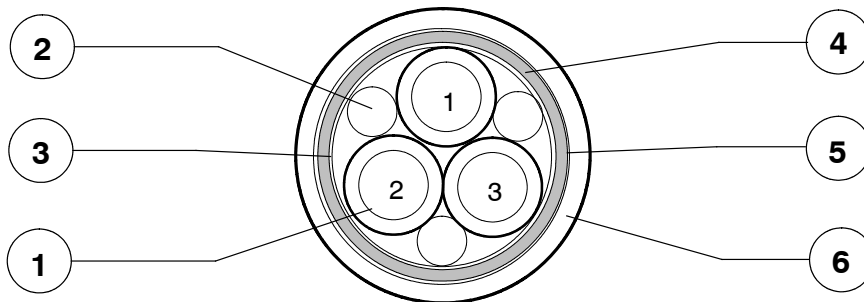
Halogen free, electron-beam cross-linked cables with improved behaviour in case of fire, easy to strip, soldering iron resistant and flexible.

### 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:



<b>1 a)</b> Twisted cores RADOX GWK-LW 600V M	Conductor: stranded tin plated copper, acc. to EN 50306-2 Insulation: RADOX TI 301 Colours: white, greenyellow (optional), black numbered 1,2,3...
<b>1 b)</b> Individual screened cores, pairs, triples... RADOX GWK-LW 600V M	Cores: see above Colour: white, black numbered 1,2,3... EMC- screen: Tin plated copper braid Sheath: RADOX S2 Colour: black, yellow numbered 1,2,3...
<b>2.</b> Filler (optional)	RADOX 125 REC
<b>3.</b> Separator (optional)	Tape
<b>4.</b> EMC- screen	Tin plated copper braid
<b>5.</b> Separator	Tape
<b>6.</b> Sheath	RADOX EM 104, acc. to EN 50264- 1 Colour: black, yellow marked

### Marking:

[a] HUBER+SUHNER RADOX GWK-LW 600V [b] MM S [c]-[d] [e] [f]

[a]	Meter marking (in m)	example: = 1234 = m
[b]	Construction	3X1.5
[c]	Part number	12345678
[d]	Batch number	1234567
[e]	Production week and year	03- 2017
[f]	Production place (only if China)	CN

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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

Temperature range ..... - 50 ... + 120 ..... °C

### Min. bending radius

fixed installation	.....	$D \leq 12$ mm	.....	3 x D
	.....	$D > 12$ mm	.....	4 x D
sporadic movement	.....	$D \leq 12$ mm	.....	4 x D
	.....	$D > 12$ 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- 1- 4 Par. 8, respectively low temperature behaviour tests according to GOST 20.57.406- 81, method 204- 1 and GOST 17491- 80. (fixed installation)  
The specified bending radii require a careful and proper handling using proven fastening technologies.



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### The cables are in conformity with:

<b>Fire protection on railway vehicles, category</b> .....	<b>Ia, Ib, II</b> .....	<b>BS 6853, GM/RT 2130</b>
Vertical flame spread .....	$50 < L \leq 540$ mm .....	EN 60332- 1- 2
Vertical flame spread, bunched .....	$L \leq 2.5$ m .....	EN 50266, BS 6853 An. D.8.7
Smoke density .....	$A_0 \leq$ BS 6853 .....	BS 6853 An. D.8.7
Toxicity .....	$R \leq 1.0$ .....	BS 6853 An. B.1
<b>Fire protection on railway vehicles, hazard level</b> .....	<b>HL1 - HL3</b> .....	<b>EN 45545</b>
Vertical flame spread .....	$50 < L \leq 540$ mm .....	EN 60332- 1- 2
Vertical flame spread, bunched, $D \leq 6$ mm .....	$L \leq 1.5$ m .....	EN 50305, 9.1.2
Vertical flame spread, bunched, $6 < D < 12$ mm .....	$L \leq 2.5$ m .....	EN 50305, 9.1.1 (EN 60332- 3- 25)
Vertical flame spread, bunched, $D \geq 12$ mm .....	$L \leq 2.5$ m .....	EN 60332- 3- 24
Smoke density .....	$T \geq 70$ % .....	EN 61034- 2
Toxicity .....	$ITC \leq 6$ .....	EN 50305, 9.2
<b>Fire protection on railway vehicles, level of protection</b> .....	<b>1 - 4</b> .....	<b>DIN 5510</b>
Vertical flame spread .....	$50 < L \leq 540$ mm .....	EN 60332- 1- 2
Vertical flame spread, bunched, $D \leq 6$ mm .....	$L \leq 1.5$ m .....	EN 50305, 9.1.2
Vertical flame spread, bunched, $6 < D < 12$ mm .....	$L \leq 2.5$ m .....	EN 60332- 3- 25
Vertical flame spread, bunched, $D \geq 12$ mm .....	$L \leq 2.5$ m .....	EN 60332- 3- 24
Smoke density .....	$T \geq 60$ % .....	EN 61034- 2
Corrosivity of combustion gases .....	$pH \geq 4.3$ , $C \leq 10$ $\mu$ S/mm .....	EN 50267- 2- 2
Amount of halogen acid gas .....	$HCl + HBr \leq 0.5$ % .....	EN 50267- 2- 1
Content of fluorine .....	$HF \leq 0.1$ % .....	EN 60684- 2, 45.2
Toxicity, insulation .....	$ITC \leq 6$ .....	EN 50305, 9.2
Toxicity, filler and sheath .....	$ITC \leq 3$ .....	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 / F1 .....	NF F16- 101
Vertical flame spread .....	$50 < L \leq 540$ mm .....	NF C32- 070, 2.1
Vertical flame spread, bunched .....	$L \leq 300$ mm .....	NF C32- 070, 2.2
Smoke index .....	$I.F. \leq 5$ .....	X10- 702- 2, NF X70- 100- 1
<b>Fire protection on railway vehicles, hazard level</b> .....	<b>LR1 - LR4</b> .....	<b>UNI CEI 11170</b>
Vertical flame spread .....	$50 < L \leq 540$ mm .....	EN 60332- 1- 2
Vertical flame spread, bunched, $D \leq 6$ mm .....	$L \leq 1.5$ m .....	EN 50305, 9.1.2
Vertical flame spread, bunched, $6 < D < 12$ mm .....	$L \leq 2.5$ m .....	EN 60332- 3- 25
Vertical flame spread, bunched, $D \geq 12$ mm .....	$L \leq 2.5$ m .....	EN 60332- 3- 24
Smoke density .....	$T \geq 70$ % .....	EN 61034- 2
Corrosivity of combustion gases .....	$pH \geq 4.3$ , $C \leq 10$ $\mu$ S/mm .....	EN 50267- 2- 2
Amount of halogen acid gas .....	$HCl + HBr \leq 0.5$ % .....	EN 50267- 2- 1
Toxicity, insulation .....	$ITC \leq 6$ .....	EN 50305, 9.2
Toxicity, filler and sheath .....	$ITC \leq 3$ .....	EN 50305, 9.2
<b>Fire protection on railway vehicles</b> .....	<b>Fulfilled</b> .....	<b>NFPA 130</b>
Vertical flame spread, bunched .....	$L \leq 1.5$ m .....	UL 1685, 12 (FT4 exp.)
Smoke density .....	$PSRR \leq 0.40$ m <sup>2</sup> /s .....	UL 1685, 12 (FT4 exp.)
	$TSR \leq 150$ m <sup>2</sup>	

### 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°C



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### Applicable documents:

H+S : 563078 (e) : Current rating for multicore cables

H+S : 554550 (e) : Technical Datasheet RADOX GWK-LW 600V M (cores)

### Metrical cores:

Construction <sup>1)</sup> n x mm <sup>2</sup>	Conductor dia.nom. <sup>2)</sup> mm	Core <sup>3)</sup> dia.nom. mm	Screen D mm	Cable dia. mm	R <sub>20</sub> <sup>4)</sup> max. Ω/km	Z <sub>T</sub> <sup>5)</sup> max. mΩ/m	C' <sup>6)</sup> core/ core/ screen pF/m		Fireload nom. kJ/m	Weight nom. copper cable kg/100m		H + S Part No.	
2 x 0.25	0.60	1.02	2.5	3.45 ± 0.2	88.5	260	100	170	165	1.0	2.1	12 561 276	7)
2 x 0.25	0.60	1.02	2.5	3.75 ± 0.3	88.5	260	100	170	208	1.0	2.5	12 582 801	
8 x 0.25	0.60	1.02	4.4	5.7 ± 0.3	88.5	130	100	170	511	5.5	2.7	85 009 532	
25 x 0.25	0.60	1.02	7.3	8.9 ± 0.3	88.5	60	100	170	1100	8.4	13.9	12 567 868	
2 x 2 x 0.25	0.60	1.02	4.4	5.7 ± 0.3	91.3	130	100	170	405	2.2	4.9	12 566 633	
3 x 2 x 0.25	0.60	1.02	4.7	6.1 ± 0.3	91.3	120	100	170	455	2.8	5.7	12 566 634	
4 x 2 x 0.25	0.60	1.02	5.5	7.0 ± 0.3	91.3	90	100	170	580	3.5	7.1	12 581 506	
7 x 2 x 0.25	0.60	1.02	6.2	7.8 ± 0.3	91.3	70	100	170	710	5.1	9.2	12 566 694	

7) SPEC: with reduced wall thickness



# Traction cable

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Construction 1) n x mm <sup>2</sup>	Conductor dia.nom. 2) mm	Core 3) dia.nom. mm	Screen D mm	Cable dia. mm	R <sub>20</sub> 4) max. Ω/km	Z <sub>T</sub> 5) max. mΩ/m	C' 6) core/ core/ screen pF/m		Fireload nom. kJ/m	Weight nom. copper cable kg/100m		H + S Part No.
2 x 0.5	0.9	1.3	3.1	4.3 ± 0.3	40.1	220	110	190	255	1.6	3.3	12 555 592
3 x 0.5	0.9	1.3	3.3	4.5 ± 0.3	40.1	200	110	190	300	2.2	3.8	12 555 593
4 x 0.5	0.9	1.3	3.6	4.8 ± 0.3	40.1	180	110	190	335	2.8	4.5	12 555 594
5 x 0.5	0.9	1.3	4.1	5.4 ± 0.3	40.1	140	110	190	400	3.3	5.5	12 555 595
6 x 0.5	0.9	1.3	4.6	5.9 ± 0.3	40.1	120	110	190	470	4.2	6.9	12 555 596
7 x 0.5	0.9	1.3	5.0	6.45 ± 0.3	40.1	100	110	190	580	4.7	7.7	12 555 603
8 x 0.5	0.9	1.3	5.5	6.95 ± 0.3	40.1	90	110	190	675	5.4	9.1	12 561 467
9 x 0.5	0.9	1.3	5.8	7.2 ± 0.3	40.1	80	110	190	640	6.0	9.7	12 558 109
10 x 0.5	0.9	1.3	5.8	7.2 ± 0.3	40.1	80	110	190	625	6.5	10.1	12 555 597
12 x 0.5	0.9	1.3	6.0	7.6 ± 0.3	40.1	80	110	190	735	7.5	11.6	12 555 598
15 x 0.5	0.9	1.3	7.0	8.5 ± 0.3	40.1	60	110	190	900	9.8	14.6	12 558 110
16 x 0.5	0.9	1.3	6.8	8.5 ± 0.3	40.1	60	110	190	945	9.7	14.7	12 555 600
18 x 0.5	0.9	1.3	7.4	8.9 ± 0.3	40.1	60	110	190	995	11.0	16.1	12 555 601
20 x 0.5	0.9	1.3	7.8	9.3 ± 0.3	40.1	60	110	190	1120	12.2	18.1	12 562 202
25 x 0.5	0.9	1.3	8.6	10.3 ± 0.4	40.1	50	110	190	1260	15.1	21.3	12 555 602
30 x 0.5	0.9	1.3	9.3	11.2 ± 0.4	40.1	50	110	190	1520	17.5	25.1	12 559 008
36 x 0.5	0.9	1.3	10.2	12.1 ± 0.4	40.1	40	110	190	1790	22.3	30.9	12 559 009
42 x 0.5	0.9	1.3	11.0	12.9 ± 0.4	40.1	40	110	190	2070	26.1	36.0	12 559 010
48 x 0.5	0.9	1.3	11.6	13.7 ± 0.4	40.1	40	110	190	2270	28.3	38.9	12 561 833
50 x 0.5	0.9	1.3	12.1	14.3 ± 0.4	40.1	40	110	190	2410	30.0	41.7	12 559 011
2 x 2 x 0.5	0.9	1.3	5.0	6.4 ± 0.3	41.4	150	110	190	535	3.3	6.7	12 555 604
3 x 2 x 0.5	0.9	1.3	5.4	6.9 ± 0.3	41.4	90	110	190	580	4.5	8.2	12 561 834
3 x (2 x 0.5)	0.9	1.3	7.8	11.8 ± 0.4	41.4	50	-	-	1790	10.6	23.2	84 120 836
4 x 2 x 0.5	0.9	1.3	6.4	8.0 ± 0.3	41.4	70	110	190	745	5.5	10.1	12 555 605
5 x 2 x 0.5	0.9	1.3	8.5	9.3 ± 0.3	41.4	60	110	190	780	7.5	13.6	12 566 533
6 x 2 x 0.5	0.9	1.3	7.7	9.2 ± 0.3	41.4	60	110	190	1010	8.8	14.5	12 557 170
8 x 2 x 0.5	0.9	1.3	8.9	9.9 ± 0.3	41.4	50	110	190	905	10.8	16.7	12 555 930



# Traction cable

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Construction <sup>1)</sup> n x mm <sup>2</sup>	Conductor dia.nom. <sup>2)</sup> mm	Core <sup>3)</sup> dia.nom. mm	Screen D mm	Cable dia. mm	R <sub>20</sub> <sup>4)</sup> max. Ω/km	Z <sub>T</sub> <sup>5)</sup> max. mΩ/m	C' <sup>6)</sup> core/ core/ core screen pF/m		Fireload nom. kJ/m	Weight nom. copper cable kg/100m		H + S Part No.	
10 x 2 x 0.5	0.9	1.3	9.1	10.9 ± 0.4	41.4	50	110	190	1280	13.1	20.2	12 555 606	
12 x 2 x 0.5	0.9	1.3	10.2	12.1 ± 0.4	41.4	40	110	190	1520	16.7	25.0	12 562 825	
15 x 2 x 0.5	0.9	1.3	11.1	13.0 ± 0.4	41.4	40	110	190	1830	20.6	29.6	12 555 607	
16 x 2 x 0.5	0.9	1.3	11.5	13.7 ± 0.4	41.4	40	110	190	1920	21.5	31.7	12 560 140	
20 x 2 x 0.5	0.9	1.3	14.3	16.8 ± 0.5	41.4	30	110	190	2840	26.9	42.6	12 561 619	



# Traction cable

## RADOX GWK-LW 600V MM S

Construction 1)	Conductor dia.nom. 2)	Core 3) dia.nom.	Screen D	Cable dia.	R <sub>20</sub> 4) max. Ω/km	Z <sub>T</sub> 5) max. mΩ/m	C' 6) core/ core/ screen pF/m		Fireload nom. kJ/m	Weight nom. copper cable kg/100m		H + S Part No.	
n x mm <sup>2</sup>	mm	mm	mm	mm									
2 x 0.75	1.1	1.52	3.6	4.8 ± 0.3	26.7	180	120	205	315	2.5	4.2	12 556 629	
3 x 0.75	1.1	1.52	3.9	5.0 ± 0.3	26.7	160	120	205	320	3.2	5.3	12 556 636	
4 x 0.75	1.1	1.52	4.3	5.5 ± 0.3	26.7	140	120	205	380	3.9	6.3	12 556 630	
5 x 0.75	1.1	1.52	4.8	6.1 ± 0.3	26.7	110	120	205	480	4.7	7.5	12 556 637	
6 x 0.75	1.1	1.52	5.2	6.6 ± 0.3	26.7	100	120	205	565	6.0	9.3	12 556 638	
7 x 0.75	1.1	1.52	5.9	7.2 ± 0.3	26.7	80	120	205	680	6.9	10.8	12 556 639	
7 x 0.75	1.1	1.52	6.1	7.7 ± 0.3	26.7	80	120	205	760	6.3	11.8	12 585 257	8)
8 x 0.75	1.1	1.52	6.4	7.8 ± 0.3	26.7	70	120	205	815	7.6	12.3	12 556 631	
10 x 0.75	1.1	1.52	6.7	8.3 ± 0.3	26.7	70	120	205	785	9.3	13.1	12 556 640	
12 x 0.75	1.1	1.52	6.9	8.4 ± 0.3	26.7	60	120	205	830	10.8	15.4	12 556 632	
16 x 0.75	1.1	1.52	8.1	9.7 ± 0.3	26.7	50	120	205	1110	14.6	20.4	12 556 419	
18 x 0.75	1.1	1.52	8.4	10.2 ± 0.4	26.7	50	120	205	1260	16.3	22.8	12 556 641	
24 x 0.75	1.1	1.52	10.1	12.0 ± 0.4	26.7	40	120	205	1550	22.7	28.8	12 561 836	
25 x 0.75	1.1	1.52	10.3	12.3 ± 0.4	26.7	40	120	205	1620	24.0	32.0	12 556 480	
2 x 2 x 0.75	1.1	1.52	6.2	7.8 ± 0.3	27.6	70	120	205	725	4.7	9.3	12 558 422	
3 x 2 x 0.75	1.1	1.52	6.7	8.3 ± 0.3	27.6	70	120	205	795	6.0	10.8	12 558 423	
4 x 2 x 0.75	1.1	1.52	7.8	9.4 ± 0.3	27.6	60	120	205	940	8.1	14.2	12 568 688	
5 x 2 x 0.75	1.1	1.52	8.8	10.7 ± 0.4	27.6	50	120	205	1210	10.7	18.1	12 562 002	
5 x (2x0.75)	1.1	1.52	11.2	13.5 ± 0.4	27.6	40	120	205	2100	17.4	30	12 560 882	9)
6 x 2 x 0.75	1.1	1.52	10.0	11.9 ± 0.4	27.6	50	120	205	1480	13.9	22.7	12 564 824	
8 x 2 x 0.75	1.1	1.52	11.1	13.2 ± 0.4	27.6	40	120	205	2000	17.5	29.0	12 568 613	
16 x 2x0.75	1.1	1.52	14.9	17.5 ± 0.5	27.6	30	120	205	2760	29.1	44.7	85 008 372	
3 x 3 x 0.75	1.1	1.52	7.5	9.0 ± 0.3	27.6	60	120	205	1390	10.1	14.2	12 562 003	
3 x (3x0.75)	1.1	1.52	-	12.0 ± 0.4	27.6	-	-	-	1900	9.0	22.9	12 557 512	
5 x 4 x 0.75	1.1	1.52	11.3	13.5 ± 0.4	27.6	40	120	205	2020	20.6	32.3	12 564 825	

8) SPEC: cable with shorter lay length

9) without overall screen



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Construction 1) n x mm <sup>2</sup>	Conductor dia.nom. 2) mm	Core 3) dia.nom. mm	Screen D mm	Cable dia. mm	R <sub>20</sub> 4) max. Ω/km	Z <sub>T</sub> 5) max. mΩ/m	C' 6) core/ core/ core screen pF/m		Fireload nom. kJ/m	Weight nom. copper cable kg/100m		H + S Part No.	
2 x 1	1.2	1.67	3.8	5.0 ± 0.3	20.0	160	125	215	345	2.7	5.0	12 555 875	
2 x 1	1.2	1.67	3.8	5.0 ± 0.3	20.0	160	125	215	345	2.7	5.0	12 586 439	10)
3 x 1	1.2	1.67	4.2	5.5 ± 0.3	20.0	140	125	215	390	3.9	6.2	12 555 688	
4 x 1	1.2	1.67	4.5	5.8 ± 0.3	20.0	120	125	215	430	4.7	7.9	12 555 877	
5 x 1	1.2	1.67	5.2	6.7 ± 0.3	20.0	100	125	215	580	5.7	8.9	12 555 878	
6 x 1	1.2	1.67	5.9	7.3 ± 0.3	20.0	80	125	215	680	7.5	11.0	12 555 879	
7 x 1	1.2	1.67	6.4	7.9 ± 0.3	20.0	70	125	215	820	8.7	12.9	12 555 880	
8 x 1	1.2	1.67	7.1	8.5 ± 0.3	20.0	60	125	215	970	9.5	14.4	12 556 373	
10 x 1	1.2	1.67	7.4	8.9 ± 0.3	20.0	60	125	215	860	12.3	16.4	12 555 881	
10 G 1	1.2	1.67	7.4	8.9 ± 0.3	20.0	60	125	215	860	12.3	16.4	85 063 983	
12 x 1	1.2	1.67	7.7	9.2 ± 0.3	20.0	60	125	215	955	14.0	18.4	12 555 882	
16 x 1	1.2	1.67	8.8	10.5 ± 0.4	20.0	50	125	215	1280	18.4	24.3	12 555 883	
18 x 1	1.2	1.67	9.2	11.2 ± 0.4	20.0	50	125	215	1510	19.9	26.9	12 555 884	
25 x 1	1.2	1.67	11.0	12.9 ± 0.4	20.0	40	125	215	1740	29.5	36.8	12 555 885	
27 x 1	1.2	1.67	11.3	13.4 ± 0.4	20.0	40	125	215	1930	30.7	38.6	12 559 012	
30 x 1	1.2	1.67	11.8	14.0 ± 0.4	20.0	40	125	215	2130	33.4	42.5	12 559 013	
36 x 1	1.2	1.67	12.8	15.2 ± 0.5	20.0	30	125	215	2610	39.9	50.9	12 559 014	
42 x 1	1.2	1.67	13.9	16.5 ± 0.5	20.0	30	125	215	3410	46.3	59.6	12 559 015	
50 x 1	1.2	1.67	15.3	17.8 ± 0.5	20.0	30	125	215	3350	56.9	70.1	12 559 016	
2 x 2 x 1	1.2	1.67	6.9	8.5 ± 0.3	20.7	60	125	215	830	5.8	10.7	12 558 112	
2 x (3 x 1)	1.2	1.67	9.9	12.0 ± 0.4	20.7	40	-	-	1250	13.6	23.0	12 561 698	
3 x 2 x 1	1.2	1.67	7.3	8.9 ± 0.3	20.7	60	125	215	900	7.73	13.1	85 016 744	
3 x (2 x 1)	1.2	1.67	8.7	10.7 ± 0.4	20.7	50	-	-	1000	11.8	20.1	12 565 116	
4 x 2 x 1	1.2	1.67	8.8	10.6 ± 0.4	20.7	50	125	215	1180	10.6	17.7	12 555 886	
6 x 2 x 1	1.2	1.67	10.9	13.0 ± 0.3	20.7	40	125	215	1760	16.6	26.6	12 564 826	
10 x 2 x 1	1.2	1.67	13.5	16.0 ± 0.5	20.7	30	163	280	2787	25.4	43.2	85 008 381	
12 x 2 x 1	1.2	1.67	12.9	15.2 ± 0.5	20.7	30	125	215	2220	28.8	40.0	12 564 827	
12 x (2 x 1)	1.2	1.67	17.0	19.8 ± 0.5	20.7	25	-	-	3100	43.7	65.1	12 565 117	
3 x 4 x 1	1.2	1.67	9.5	11.3 ± 0.4	20.7	50	125	215	1480	15.6	23.5	12 555 887	
4 x 4 x 1	1.2	1.67	10.6	12.5 ± 0.4	20.7	40	125	215	1770	20.2	29.9	12 558 113	

10) SPEC: Cores marked 3 + 4





# Traction cable

## RADOX GWK-LW 600V MM S

Construction 1)	Conductor dia.nom. 2)	Core 3) dia.nom.	Screen D	Cable dia.	R <sub>20</sub> 4) max. Ω/km	Z <sub>T</sub> 5) max. mΩ/m	C' 6) core/ core/ core screen pF/m		Fireload nom. kJ/m	Weight nom. copper cable kg/100m		H + S Part No.	
n x mm <sup>2</sup>	mm	mm	mm	mm									
2 x 1.5	1.5	2.04	4.5	5.8 ± 0.3	13.7	120	125	215	455	4.3	7.4	12 555 888	
2 x 1.5	1.5	2.04	4.5	5.95 ± 0.3	13.7	120	125	215	470	3.8	7.2	12 581 889	11)
3 x 1.5	1.5	2.04	4.9	6.2 ± 0.3	13.7	100	125	215	505	5.5	8.6	12 555 889	
3 G 1.5	1.5	2.04	4.9	6.2 ± 0.3	13.7	100	125	215	505	5.5	8.6	12 559 047	
4 x 1.5	1.5	2.04	5.4	6.7 ± 0.3	13.7	90	125	215	570	7.2	10.6	12 555 890	
5 x 1.5	1.5	2.04	6.3	7.8 ± 0.3	13.7	70	125	215	770	9.2	13.7	12 555 891	
5 G 1.5	1.5	2.04	6.3	7.8 ± 0.3	13.7	70	125	215	770	9.2	13.7	12 583 997	
6 x 1.5	1.5	2.04	6.9	8.3 ± 0.3	13.7	60	125	215	880	10.9	15.7	12 555 892	
7 x 1.5	1.5	2.04	7.6	9.2 ± 0.3	13.7	60	125	215	1110	13.2	19.2	12 555 893	
7 G 1.5	1.5	2.04	7.6	9.2 ± 0.3	13.7	60	125	215	1110	13.2	19.2	12 568 979	
8 x 1.5	1.5	2.04	8.4	10.3 ± 0.4	13.7	50	125	215	1420	14.8	22.8	12 567 260	
9 x 1.5	1.5	2.04	8.9	10.5 ± 0.4	13.7	50	125	215	1300	16.9	24.0	12 558 115	
10 x 1.5	1.5	2.04	8.9	10.5 ± 0.4	13.7	50	125	215	1180	18.4	26.4	12 555 894	
12 x 1.5	1.5	2.04	9.2	11.0 ± 0.4	13.7	50	125	215	1370	20.9	28.1	12 555 895	
14 G 1.5	1.5	2.04	10.1	12.2 ± 0.4	13.7	40	125	215	1690	25.7	34.7	12 568429	
16 x 1.5	1.5	2.04	10.6	12.6 ± 0.4	13.7	40	125	215	1820	29.7	39.2	12 555 896	
18 x 1.5	1.5	2.04	11.3	13.2 ± 0.4	13.7	40	125	215	2010	32.5	42.6	12 555 897	
25 G 1.5	1.5	2.04	13.1	15.6 ± 0.5	13.7	30	125	215	2610	43.3	56.4	12 568430	
25 x 1.5	1.5	2.04	13.1	15.6 ± 0.5	13.7	30	125	215	2610	43.3	56.4	12 555 898	
48 x 1.5	1.5	2.04	17.9	20.7 ± 0.5	13.7	25	125	215	4550	82	103	12 565 317	
2 x 2 x 1.5	1.5	2.04	8.3	10.0 ± 0.3	14.2	50	125	215	1180	9.0	16.4	12 558 114	
3 x 2 x 1.5	1.5	2.04	8.8	10.6 ± 0.4	14.2	50	125	215	1270	12.4	19.9	12 561 927	
1 x 2.5	1.9	2.54	3	4.15±0.15	8.21	220	-	160	210	2.8	4.0	12 565 668	
2 x 2.5	1.9	2.54	5.7	7.0 ± 0.3	8.21	80	125	215	655	6.0	10.4	12 557 233	
3 x 2.5	1.9	2.54	6.1	7.6 ± 0.3	8.21	80	125	215	730	8.5	13.0	12 554 750	
4 x 2.5	1.9	2.54	7.1	8.6 ± 0.3	8.21	60	125	215	905	11.4	16.7	12 557 234	
5 x 2.5	1.9	2.54	7.8	9.4 ± 0.3	8.21	60	125	215	1130	13.9	20.1	12 557 235	
6 x 2.5	1.9	2.54	8.6	10.4 ± 0.4	8.21	50	125	215	1350	16.0	25.7	12 557 236	
7 x 2.5	1.9	2.54	9.6	11.4 ± 0.4	8.21	50	125	215	1630	21.2	30.5	12 557 237	
8 x 2.5	1.9	2.54	10.5	12.6 ± 0.4	8.21	40	125	215	2060	22.9	34.5	12 568 536	
12 x 2.5	1.9	2.54	11.6	13.7 ± 0.4	8.21	40	125	215	2050	32.1	43.0	12 557 239	
27 x 2.5	1.9	2.54	16.8	19.6 ± 0.5	8.21	25	125	215	3910	69.3	88.5	12 563 351	

11) Cables with yellow sheath



# Traction cable

## RADOX GWK-LW 600V MM S

### AWG-cores:

Construction 1) n x mm <sup>2</sup>	Conductor dia.nom. 2) mm	Core 3) dia.nom. mm	Screen D mm	Cable dia. mm	R <sub>20</sub> 4) max. Ω/km	Z <sub>T</sub> 5) max. mΩ/m	C' 6) core/ core/ core screen pF/m		Fireload nom. kJ/m	Weight nom. copper cable kg/100m		H + S Part No.
3 x 0.4	0.8	1.18	3.0	4.4 ± 0.3	54.7	220	200	340	270	1.8	3.5	12 585 812
4 x 0.4	0.8	1.18	3.4	4.6 ± 0.3	54.7	200	200	340	290	2.2	3.9	12 564 307
15 x 0.4	0.8	1.18	6.2	7.8 ± 0.3	54.7	70	200	340	890	7.4	11.6	12 561 115
1 x 0.6	1	1.39	1.9	3.0 ± 0.2	33.4	320	-	440	125	1.0	1.7	12 555 681
2 x 0.6	1	1.39	3.2	4.5 ± 0.3	33.4	200	180	310	300	1.8	3.8	12 555 682
3 x 0.6	1	1.39	3.5	4.7 ± 0.3	33.4	200	180	310	315	2.5	4.4	12 555 683
4 x 0.6	1	1.39	3.8	5.1 ± 0.3	33.4	160	180	310	365	3.2	5.3	12 555 684
5 x 0.6	1	1.39	4.4	5.7 ± 0.3	33.4	130	180	310	440	4.1	6.6	12 555 685
1 x 1.2	1.4	1.83	2.3	3.5 ± 0.2	16.3	280	-	530	160	1.5	2.5	12 555 687
2 x 1.2	1.4	1.83	4.2	5.6 ± 0.3	16.3	140	200	350	440	3.3	6.6	12 555 587

### Cables with coloured cores:

Constr. 1) n x mm <sup>2</sup>	Conductor dia.nom. 2) mm	Core colours	Core 3) D <sub>nom</sub> mm	Screen D mm	Cable dia. mm	R <sub>20</sub> 4) max Ω/km	Z <sub>T</sub> 5) max. mΩ/m	C' 6) core/ core/ core screen pF/m		Fireload nom. kJ/m	Weight nom. copper cable kg/100m		H + S Part No.
4V0.4	0.8	bn, gn, wh, ye	1.18	3.4	5.0 ± 0.3	54.7	200	200	340	780	2.2	4.5	84 099 242
2V0.5	0.9	bk, rd	1.30	3.1	4.35 ± 0.3	40.1	220	170	300	280	1.6	3.3	12 568 579
3V0.5	0.9	bk, rd, gn	1.30	3.3	4.5 ± 0.3	40.1	200	170	300	300	2.2	4.1	12 558 070
4V0.5	0.9	bu, rd, gn, bn	1.30	3.6	4.9 ± 0.3	40.1	180	170	300	330	2.8	5.2	12 568 580
4V0.5	0.9	bk, rd, gn, bn	1.30	3.6	4.9 ± 0.3	40.1	180	170	300	330	2.8	5.2	12 584 368
6V0.5	0.9	bk, rd, gn, bn, bu, wh	1.30	4.6	5.9 ± 0.3	40.1	120	170	300	460	4.1	6.8	12 558 071
8V0.5	0.9	bk, rd, gn, bn, bu, wh, og, ye	1.30	5.5	6.95 ± 0.3	40.1	90	170	300	690	5.3	9.0	12 568 581
2V2V0.5	0.9	bk/rd gn/bn	1.30	5.0	6.5 ± 0.3	41.4	100	170	300	680	3.3	6.8	12 568 582

- 1) X: one colour, numbered  
G: one green- yellow core, others one colour, numbered  
V: various colours
- 2) conductor construction see Annex
- 3) Cores: Core details according to H+S Datasheet 554550
- 4) R<sub>20</sub>: Conductor resistance according to EN 50306-2
- 5) Z<sub>T</sub>: Transfer impedance for f < 30 Mhz
- 6) C': Capacity per unit length, core/core

Legend: (n x mm<sup>2</sup>): individually screened  
bk: black  
bu: blue  
gy: grey  
rd: red  
wh: white  
bn: brown  
gn: green  
og: orange  
ye: yellow



# Traction cable

## RADOX GWK-LW 600V MM S

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### Annex

#### Conductor construction:

mm <sup>2</sup>	AWG	Construction
0.4	22	19x0.16 mm
0.5	-	19x0.18 mm
0.6	20	19x0.20 mm
0.75	-	19x0.23 mm
1	18	19x0.26 mm
1.5	-	37x0.23 mm
2	14	37x0.25 mm
2.5	-	37x0.29 mm