



# Traction cable

## RADOX GWK-LW 600V MM S

### Product description:

**RADOX GWK-LW 600V MM S** 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:

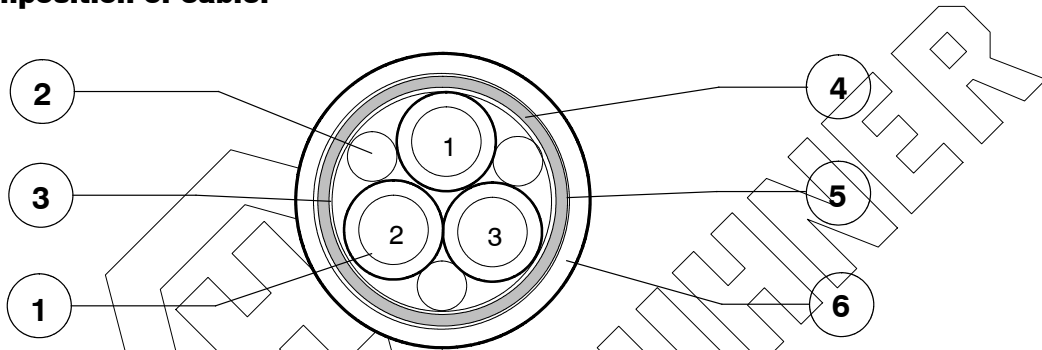
Halogen free, electron-beam cross-linked cables with improved behaviour in case of fire, easy to strip, soldering iron resistant and flexible.

### 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:



- |                              |  |   |
|------------------------------|--|---|
| 1. RADOX GWK-LW 600V M cores | Conductor:<br>Insulation:<br>Colours:                            | stranded tin plated copper, acc. to EN 50306-2<br>RADOX TI 301<br>white, black numbered<br>greenyellow (optional) |
| 2. Filler (optional)         | RADOX 125 REC  |   |
| 3. Separator (optional)      | Tape   |   |
| 4. EMC-screen                | Tin plated copper braid  |   |
| 5. Separator                 | Tape   |   |
| 6. Sheath                    | RADOX EM 104, acc. to EN 50264-1<br>Colour: black, yellow marked |   |

Marking: HUBER+SUHNER RADOX GWK-LW 600V nX[cross section] MM S [part. no.]-[batch. no.] [prod.-place]

### 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	$D \leq 12$ 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

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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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### 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.

### 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>	
<b>Requirement of hazard level code M</b>	(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)

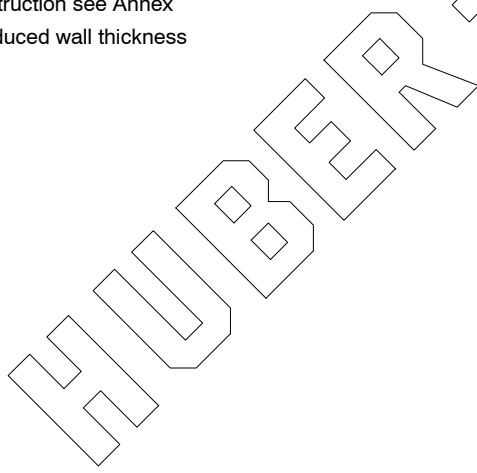
H+S : DOC - 0000406988 : Technical Specification RADOX GWK-LW 600V Multi core cables screened and unscreened

### Metrical cores

Construction n x mm <sup>2</sup>	Conductor dia.nom. *) mm	Core dia.nom. mm	Screen nom.		Cable dia. mm	R <sub>20</sub> max. Ω/km	Z <sub>T</sub> max. mΩ/m	C'		Fireload nom. kJ/m	Weight nom.		H + S Part No.
			D mm	cross section mm <sup>2</sup>				core/ core/ screen pF/m	core/ copper kg/100m		kg/100m		
2 x 0.25**	0.60	1.02	2.5	0.52	3.45 ± 0.2	88.5	320	100	170	165	1.0	2.1	12 561 276
2 x 0.25	0.60	1.02	2.5	0.52	3.75 ± 0.3	88.5	320	100	170	208	1.0	2.5	12 582 801
8 x 0.25	0.60	1.02	4.4	1.05	5.7 ± 0.3	88.5	140	100	170	511	5.5	2.7	85 009 532
25 x 0.25	0.60	1.02	7.3	2.76	8.9 ± 0.3	88.5	80	100	170	1100	8.4	13.9	12 567 868
2 x 2 x 0.25	0.60	1.02	4.4	1.34	5.7 ± 0.3	91.3	170	100	170	405	2.2	4.9	12 566 633
3 x 2 x 0.25	0.60	1.02	4.7	1.34	6.1 ± 0.3	91.3	150	100	170	455	2.8	5.7	12 566 634
4 x 2 x 0.25	0.60	1.02	5.5	1.72	7.0 ± 0.3	91.3	100	100	170	580	3.5	7.1	12 581 506
7 x 2 x 0.25	0.60	1.02	6.2	2.0	7.8 ± 0.3	91.3	100	100	170	710	5.1	9.2	12 566 694

\*) conductor construction see Annex

\*\*) SPEC: with reduced wall thickness





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Construction n x mm <sup>2</sup>	Conductor dia.nom. *) mm	Core dia.nom. mm	Screen nom. D cross section mm <sup>2</sup>		Cable dia. mm	R <sub>20</sub> max. Ω/km	Z <sub>T</sub> max. mΩ/m	C' core/ core/ screen pF/m		Fireload nom. kJ/m	Weight nom. copper cable kg/100m		H + S Part No.
			mm	mm <sup>2</sup>				core/ core	screen		kg	kg	
2 x 0.5	0.88	1.30	3.1	0.62	4.3 ± 0.3	40.1	200	110	190	255	1.6	3.3	12 555 592
3 x 0.5	0.88	1.30	3.3	0.75	4.5 ± 0.3	40.1	200	110	190	300	2.2	3.8	12 555 593
4 x 0.5	0.88	1.30	3.6	0.88	4.8 ± 0.3	40.1	150	110	190	335	2.8	4.5	12 555 594
5 x 0.5	0.88	1.30	4.1	0.94	5.4 ± 0.3	40.1	150	110	190	400	3.3	5.5	12 555 595
6 x 0.5	0.88	1.30	4.6	1.34	5.9 ± 0.3	40.1	100	110	190	470	4.2	6.9	12 555 596
7 x 0.5	0.88	1.30	5.0	1.53	6.45 ± 0.3	40.1	100	110	190	580	4.7	7.7	12 555 603
8 x 0.5	0.88	1.30	5.5	1.72	6.95 ± 0.3	40.1	100	110	190	675	5.4	9.1	12 561 467
9 x 0.5	0.88	1.30	5.8	1.86	7.2 ± 0.3	40.1	60	110	190	640	6.0	9.7	12 558 109
10 x 0.5	0.88	1.30	5.8	1.86	7.2 ± 0.3	40.1	60	110	190	625	6.5	10.1	12 555 597
12 x 0.5	0.88	1.30	6.0	2	7.6 ± 0.3	40.1	60	110	190	735	7.5	11.6	12 555 598
15 x 0.5	0.88	1.30	7.0	2.76	8.5 ± 0.3	40.1	40	110	190	900	9.8	14.6	12 558 110
16 x 0.5	0.88	1.30	6.8	2.29	8.5 ± 0.3	40.1	40	110	190	945	9.7	14.7	12 555 600
18 x 0.5	0.88	1.30	7.4	2.76	8.9 ± 0.3	40.1	40	110	190	995	11.0	16.1	12 555 601
20 x 0.5	0.88	1.30	7.8	2.99	9.3 ± 0.3	40.1	25	110	190	1120	12.2	18.1	12 562 202
25 x 0.5	0.88	1.30	8.6	3.45	10.3 ± 0.4	40.1	25	110	190	1260	15.1	21.3	12 555 602
30 x 0.5	0.88	1.30	9.3	3.67	11.2 ± 0.4	40.1	25	110	190	1520	17.5	25.1	12 559 008
36 x 0.5	0.88	1.30	10.2	5.44	12.1 ± 0.4	40.1	25	110	190	1790	22.3	30.9	12 559 009
42 x 0.5	0.88	1.30	11.0	6.22	12.9 ± 0.4	40.1	25	110	190	2070	26.1	36.0	12 559 010
48 x 0.5	0.88	1.30	11.6	6.22	13.7 ± 0.4	40.1	60	110	190	2270	28.3	38.9	12 561 833
50 x 0.5	0.88	1.30	12.1	7.0	14.3 ± 0.4	40.1	25	110	190	2410	30.0	41.7	12 559 011
3x(1x 0.5) <sup>1)</sup>	0.88	1.30	9.5	3.9	12.3 ± 0.4	40.1	50	-	-	2050	7.1	22.3	12 583 513
2 x 2 x 0.5	0.88	1.30	5.0	1.43	6.4 ± 0.3	41.4	200	110	190	535	3.3	6.7	12 555 604
3 x 2 x 0.5	0.88	1.30	5.4	1.72	6.9 ± 0.3	41.4	150	110	190	580	4.5	8.2	12 561 834
3 x (2 x 0.5)	0.88	1.30	7.8	5.55	11.8 ± 0.4	41.4	50	-	-	1790	10.6	23.2	84 120 836
4 x 2 x 0.5	0.88	1.30	6.4	1.72	8.0 ± 0.3	41.4	150	110	190	745	5.5	10.1	12 555 605
5 x 2 x 0.5	0.88	1.30	8.5	2.76	9.3 ± 0.3	41.4	60	110	190	780	7.5	13.6	12 566 533
6 x 2 x 0.5	0.88	1.30	7.7	2.99	9.2 ± 0.3	41.4	60	110	190	1010	8.8	14.5	12 557 170
8 x 2 x 0.5	0.88	1.30	8.9	3.22	9.9 ± 0.3	41.4	40	110	190	905	10.8	16.7	12 555 930

\*) conductor construction see Annex

1) increased SK

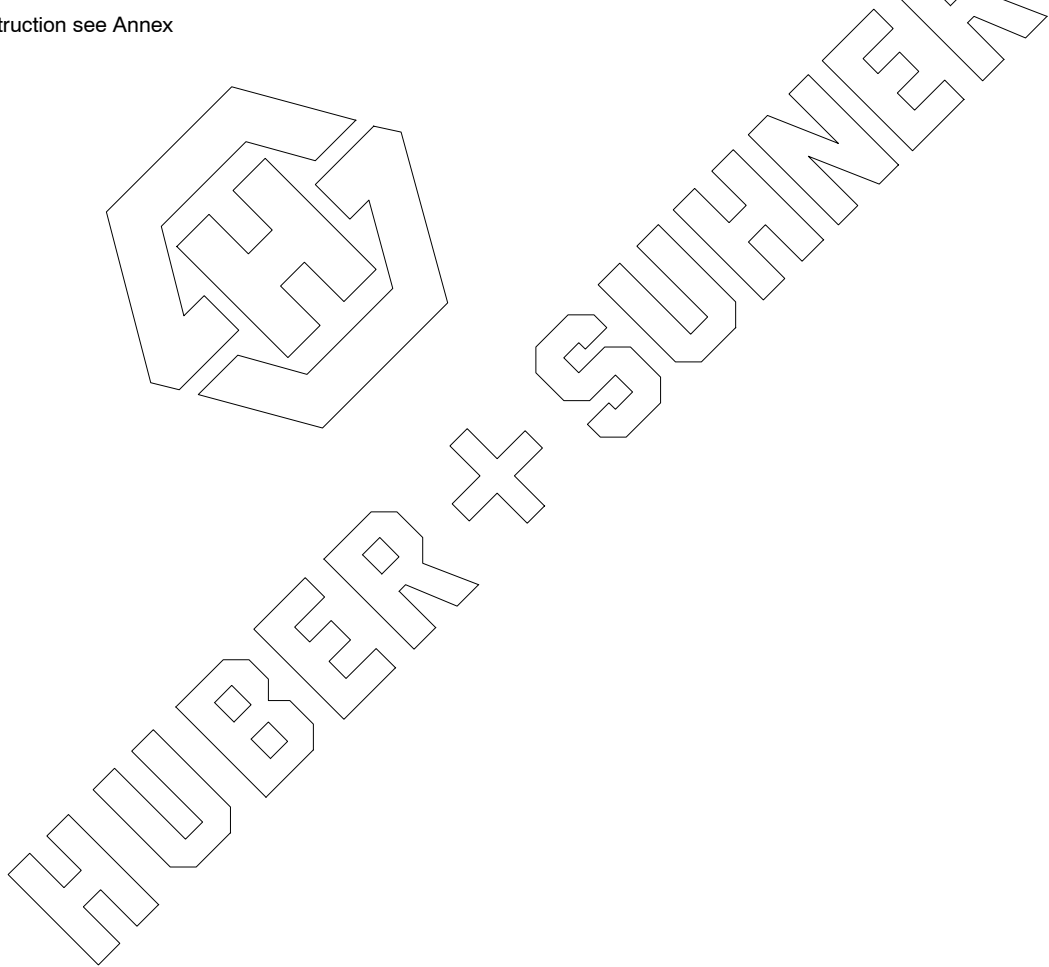


# Traction cable

## RADOX GWK-LW 600V MM S

Construction n x mm <sup>2</sup>	Conductor dia.nom. *) mm	Core dia.nom. mm	Screen nom. D cross section mm <sup>2</sup>		Cable dia. mm	R <sub>20</sub> max. Ω/km	Z <sub>T</sub> max. mΩ/m	C' core/ core/ screen pF/m		Fireload nom. kJ/m	Weight nom. copper cable kg/100m		H + S Part No.
			mm	mm <sup>2</sup>				core/ core	screen		kg	kg	
10 x 2 x 0.5	0.88	1.30	9.1	3.67	10.9 ± 0.4	41.4	40	110	190	1280	13.1	20.2	12 555 606
12 x 2 x 0.5	0.88	1.30	10.2	5.44	12.1 ± 0.4	41.4	40	110	190	1520	16.7	25.0	12 562 825
15 x 2 x 0.5	0.88	1.30	11.1	6.22	13.0 ± 0.4	41.4	25	110	190	1830	20.6	29.6	12 555 607
16 x 2 x 0.5	0.88	1.30	11.5	6.22	13.7 ± 0.4	41.4	40	110	190	1920	21.5	31.7	12 560 140
20 x 2 x 0.5	0.88	1.30	14.3	8.16	16.8 ± 0.5	41.4	45	110	190	2840	26.9	42.6	12 561 619

\*) conductor construction see Annex





# Traction cable

## RADOX GWK-LW 600V MM S

Construction n x mm <sup>2</sup>	Conductor dia.nom. *) mm	Core dia.nom. mm	Screen nom. D cross section mm <sup>2</sup>		Cable dia. mm	R <sub>20</sub> max. Ω/km	Z <sub>T</sub> max. mΩ/m	C' core/ core/ screen pF/m		Fireload nom. kJ/m	Weight nom. copper cable kg/100m		H + S Part No.
			mm	mm <sup>2</sup>				core/	screen		kg	kg	
2 x 0.75	1.09	1.52	3.6	0.95	4.8 ± 0.3	26.7	150	120	205	315	2.5	4.2	12 556 629
3 x 0.75	1.09	1.52	3.9	1.05	5.0 ± 0.3	26.7	150	120	205	320	3.2	5.3	12 556 636
4 x 0.75	1.09	1.52	4.3	1.15	5.5 ± 0.3	26.7	100	120	205	380	3.9	6.3	12 556 630
5 x 0.75	1.09	1.52	4.8	1.14	6.1 ± 0.3	26.7	100	120	205	480	4.7	7.5	12 556 637
6 x 0.75	1.09	1.52	5.2	1.72	6.6 ± 0.3	26.7	100	120	205	565	6.0	9.3	12 556 638
7 x 0.75	1.09	1.52	5.9	1.86	7.2 ± 0.3	26.7	100	120	205	680	6.9	10.8	12 556 639
7 x 0.75 <sup>2)</sup>	1.09	1.52	6.1	2.0	7.7 ± 0.3	26.7	100	120	205	760	6.3	11.8	12 585 257
8 x 0.75	1.09	1.52	6.4	2.0	7.8 ± 0.3	26.7	50	120	205	815	7.6	12.3	12 556 631
10 x 0.75	1.09	1.52	6.7	2.14	8.3 ± 0.3	26.7	50	120	205	785	9.3	13.1	12 556 640
12 x 0.75	1.09	1.52	6.9	2.29	8.4 ± 0.3	26.7	50	120	205	830	10.8	15.4	12 556 632
16 x 0.75	1.09	1.52	8.1	3.45	9.7 ± 0.3	26.7	25	120	205	1110	14.6	20.4	12 556 419
18 x 0.75	1.09	1.52	8.4	3.45	10.2 ± 0.4	26.7	25	120	205	1260	16.3	22.8	12 556 641
24 x 0.75	1.09	1.52	10.1	5.44	12.0 ± 0.4	26.7	25	120	205	1550	22.7	28.8	12 561 836
25 x 0.75	1.09	1.52	10.3	5.83	12.3 ± 0.4	26.7	25	120	205	1620	24.0	32.0	12 556 480
2 x 2 x 0.75	1.09	1.52	6.2	1.72	7.8 ± 0.3	27.6	150	120	205	725	4.7	9.3	12 558 422
3 x 2 x 0.75	1.09	1.52	6.7	1.74	8.3 ± 0.3	27.6	150	120	205	795	6.0	10.8	12 558 423
4 x 2 x 0.75	1.09	1.52	7.8	2.29	9.4 ± 0.3	27.6	60	120	205	940	8.1	14.2	12 568 688
5 x 2 x 0.75	1.09	1.52	8.8	3.45	10.7 ± 0.4	27.6	60	120	205	1210	10.7	18.1	12 562 002
5 x (2x0.75)	1.09	1.52	11.2	5.55	13.5 ± 0.4	27.6		120	205	2100	17.4	30	12 560 882
6 x 2 x 0.75	1.09	1.52	10.0	5.44	11.9 ± 0.4	27.6	65	120	205	1480	13.9	22.7	12 564 824
8 x 2 x 0.75	1.09	1.52	11.1	6.22	13.2 ± 0.4	27.6	60	120	205	2000	17.5	29.0	12 568 613
16 x 2x0.75	1.09	1.52	14.9	8.35	17.5 ± 0.5	27.6	30	120	205	2760	29.1	44.7	85 008 372
3 x 3 x 0.75	1.09	1.52	7.5	3.67	9.0 ± 0.3	27.6	80	120	205	1390	10.1	14.2	12 562 003
3 x (3x0.75)	1.09	1.52	-	-	12.0 ± 0.4	27.6	-	-	-	1900	9.0	22.9	12 557 512
5 x 4 x 0.75	1.09	1.52	11.3	6.22	13.5 ± 0.4	27.6	100	120	205	2020	20.6	32.3	12 564 825

\*) conductor construction see Annex

2) SPEC: cable with short cores- lay length



# Traction cable

## RADOX GWK-LW 600V MM S

Construction n x mm <sup>2</sup>	Conductor dia.nom. *) mm	Core dia.nom. mm	Screen nom. D cross section mm <sup>2</sup>		Cable dia. mm	R <sub>20</sub> max. Ω/km	Z <sub>T</sub> max. mΩ/m	C' core/ core/ screen pF/m		Fireload nom. kJ/m	Weight nom. copper cable kg/100m		H + S Part No.
			mm	mm <sup>2</sup>				core/ core	screen		kg	kg	
2 x 1	1.23	1.67	3.8	0.88	5.0 ± 0.3	20.0	200	125	215	345	2.7	5.0	12 555 875
2 x 1 <sup>3)</sup>	1.23	1.67	3.8	0.88	5.0 ± 0.3	20.0	200	125	215	345	2.7	5.0	12 586 439
3 x 1	1.23	1.67	4.2	1.15	5.5 ± 0.3	20.0	150	125	215	390	3.9	6.2	12 555 688
4 x 1	1.23	1.67	4.5	1.04	5.8 ± 0.3	20.0	150	125	215	430	4.7	7.9	12 555 877
5 x 1	1.23	1.67	5.2	1.23	6.7 ± 0.3	20.0	100	125	215	580	5.7	8.9	12 555 878
6 x 1	1.23	1.67	5.9	1.86	7.3 ± 0.3	20.0	100	125	215	680	7.5	11.0	12 555 879
7 x 1	1.23	1.67	6.4	2.14	7.9 ± 0.3	20.0	60	125	215	820	8.7	12.9	12 555 880
8 x 1	1.23	1.67	7.1	2.29	8.5 ± 0.3	20.0	40	125	215	970	9.5	14.4	12 556 373
10 x 1	1.23	1.67	7.4	2.99	8.9 ± 0.3	20.0	40	125	215	860	12.3	16.4	12 555 881
10 G 1	1.23	1.67	7.4	2.99	8.9 ± 0.3	20.0	40	125	215	860	12.3	16.4	85 063 983
12 x 1	1.23	1.67	7.7	3.22	9.2 ± 0.3	20.0	25	125	215	955	14.0	18.4	12 555 882
16 x 1	1.23	1.67	8.8	3.67	10.5 ± 0.4	20.0	25	125	215	1280	18.4	24.3	12 555 883
18 x 1	1.23	1.67	9.2	3.67	11.2 ± 0.4	20.0	20	125	215	1510	19.9	26.9	12 555 884
25 x 1	1.23	1.67	11.0	6.22	12.9 ± 0.4	20.0	20	125	215	1740	29.5	36.8	12 555 885
27 x 1	1.23	1.67	11.3	6.22	13.4 ± 0.4	20.0	20	125	215	1930	30.7	38.6	12 559 012
30 x 1	1.23	1.67	11.8	6.22	14.0 ± 0.4	20.0	20	125	215	2130	33.4	42.5	12 559 013
36 x 1	1.23	1.67	12.8	7.0	15.2 ± 0.5	20.0	20	125	215	2610	39.9	50.9	12 559 014
42 x 1	1.23	1.67	13.9	8.16	16.5 ± 0.5	20.0	20	125	215	3410	46.3	59.6	12 559 015
50 x 1	1.23	1.67	15.3	10.7	17.8 ± 0.5	20.0	15	125	215	3350	56.9	70.1	12 559 016
2 x 2 x 1	1.23	1.67	6.9	2.0	8.5 ± 0.3	20.7	70	125	215	830	5.8	10.7	12 558 112
2 x (3 x 1)	1.23	1.67	9.9	3.9	12.0 ± 0.4	20.7	70	-	-	1250	13.6	23.0	12 561 698
3 x 2 x 1	1.23	1.67	7.3	2.36	8.9 ± 0.3	20.7	60	125	215	900	7.73	13.1	85 016 744
3 x (2 x 1)	1.23	1.67	8.7	3.9	10.7 ± 0.4	20.7	60	-	-	1000	11.8	20.1	12 565 116
4 x 2 x 1	1.23	1.67	8.8	3.22	10.6 ± 0.4	20.7	40	125	215	1180	10.6	17.7	12 555 886
6 x 2 x 1	1.23	1.67	10.9	5.44	13.0 ± 0.3	20.7	60	125	215	1760	16.6	26.6	12 564 826
10 x 2 x 1	1.23	1.67	13.5	7.13	16.0 ± 0.5	20.7	30	163	280	2787	25.4	43.2	85 008 381
12 x 2 x 1	1.23	1.67	12.9	7.0	15.2 ± 0.5	20.7	30	125	215	2220	28.8	40.0	12 564 827
12 x (2 x 1)	1.23	1.67	17.0	11.5	19.8 ± 0.5	20.7	30	-	-	3100	43.7	65.1	12 565 117
16 x 2 x 1	1.23	1.67	16.5	10.6	19.3 ± 0.5	20.7	25	125	215	3140	39.8	56.4	85 008 380
3 x 4 x 1	1.23	1.67	9.5	4.67	11.3 ± 0.4	20.7	45	125	215	1480	15.6	23.5	12 555 887
4 x 4 x 1	1.23	1.67	10.6	5.44	12.5 ± 0.4	20.7	25	125	215	1770	20.2	29.9	12 558 113

\*) conductor construction see Annex

3) SPEC: Cores marked 3 + 4



# Traction cable

## RADOX GWK-LW 600V MM S

Construction n x mm <sup>2</sup>	Conductor dia.nom. *) mm	Core dia.nom. mm	Screen nom. D cross section mm <sup>2</sup>		Cable dia. mm	R <sub>20</sub> max. Ω/km	Z <sub>T</sub> max. mΩ/m	C' core/ core/ screen pF/m		Fireload nom. kJ/m	Weight nom. copper cable kg/100m		H + S Part No.
			mm	mm <sup>2</sup>				core/	screen		kg	kg	
2 x 1.5	1.49	2.04	4.5	1.34	5.8 ± 0.3	13.7	150	125	215	455	4.3	7.4	12 555 888
2 x 1.5 <sup>4)</sup>	1.49	2.04	4.5	1.0	5.95 ± 0.3	13.7	150	125	215	470	3.8	7.2	12 581 889
3 x 1.5	1.49	2.04	4.9	1.14	6.2 ± 0.3	13.7	60	125	215	505	5.5	8.6	12 555 889
3 G 1.5	1.49	2.04	4.9	1.14	6.2 ± 0.3	13.7	60	125	215	505	5.5	8.6	12 559 047
4 x 1.5	1.49	2.04	5.4	1.32	6.7 ± 0.3	13.7	100	125	215	570	7.2	10.6	12 555 890
5 x 1.5	1.49	2.04	6.3	2.0	7.8 ± 0.3	13.7	40	125	215	770	9.2	13.7	12 555 891
5 G 1.5	1.49	2.04	6.3	2.0	7.8 ± 0.3	13.7	70	125	215	770	9.2	13.7	12 583 997
6 x 1.5	1.49	2.04	6.9	2.14	8.3 ± 0.3	13.7	60	125	215	880	10.9	15.7	12 555 892
7 x 1.5	1.49	2.04	7.6	2.99	9.2 ± 0.3	13.7	60	125	215	1110	13.2	19.2	12 555 893
7 G 1.5	1.49	2.04	7.6	2.99	9.2 ± 0.3	13.7	60	125	215	1110	13.2	19.2	12 568 979
8 x 1.5	1.49	2.04	8.4	3.22	10.3 ± 0.4	13.7	50	125	215	1420	14.8	22.8	12567260
9 x 1.5	1.49	2.04	8.9	3.67	10.5 ± 0.4	13.7	40	125	215	1300	16.9	24.0	12 558 115
10 x 1.5	1.49	2.04	8.9	3.67	10.5 ± 0.4	13.7	40	125	215	1180	18.4	26.4	12 555 894
12 x 1.5	1.49	2.04	9.2	3.67	11.0 ± 0.4	13.7	25	125	215	1370	20.9	28.1	12 555 895
14 G 1.5	1.49	2.04	10.1	5.44	12.2 ± 0.4	13.7	40	125	215	1690	25.7	34.7	12 568429
16 x 1.5	1.49	2.04	10.6	6.22	12.6 ± 0.4	13.7	20	125	215	1820	29.7	39.2	12 555 896
18 x 1.5	1.49	2.04	11.3	6.22	13.2 ± 0.4	13.7	20	125	215	2010	32.5	42.6	12 555 897
25 G 1.5	1.49	2.04	13.1	7.0	15.6 ± 0.5	13.7	30	125	215	2610	43.3	56.4	12 568430
25 x 1.5	1.49	2.04	13.1	7.0	15.6 ± 0.5	13.7	30	125	215	2610	43.3	56.4	12 555 898
48 x 1.5	1.49	2.04	17.9	12.4	20.7 ± 0.5	13.7	40	125	215	4550	82	103	12 565 317
2 x 2 x 1.5	1.49	2.04	8.3	3.22	10.0 ± 0.3	14.2	70	125	215	1180	9.0	16.4	12 558 114
3 x 2 x 1.5	1.49	2.04	8.8	3.67	10.6 ± 0.4	14.2	70	125	215	1270	12.4	19.9	12 561 927

<sup>4)</sup> Cables with yellow sheath

2 x 2.5	1.93	2.54	5.7	1.72	7.0 ± 0.3	8.21	60	125	215	655	6.0	10.4	12 557 233
3 x 2.5	1.93	2.54	6.1	2.0	7.6 ± 0.3	8.21	60	125	215	730	8.5	13.0	12 554 750
4 x 2.5	1.93	2.54	7.1	2.76	8.6 ± 0.3	8.21	60	125	215	905	11.4	16.7	12 557 234
5 x 2.5	1.93	2.54	7.8	2.99	9.4 ± 0.3	8.21	40	125	215	1130	13.9	20.1	12 557 235
6 x 2.5	1.93	2.54	8.6	3.22	10.4 ± 0.4	8.21	40	125	215	1350	16.0	25.7	12 557 236
7 x 2.5	1.93	2.54	9.6	5.44	11.4 ± 0.4	8.21	40	125	215	1630	21.2	30.5	12 557 237
8 x 2.5	1.93	2.54	10.5	5.44	12.6 ± 0.4	8.21	60	125	215	2060	22.9	34.5	12 568 536
12 x 2.5	1.93	2.54	11.6	6.22	13.7 ± 0.4	8.21	25	125	215	2050	32.1	43.0	12 557 239
27 x 2.5	1.93	2.54	16.8	10.7	19.6 ± 0.5	8.21	40	125	215	3910	69.3	88.5	12 563 351

<sup>\*)</sup> conductor construction see Annex





# Traction cable

## RADOX GWK-LW 600V MM S

### AWG-cores:

Construction n x mm <sup>2</sup>	Conductor dia.nom. *) mm	Core dia.nom. mm	Screen nom.		Cable dia. mm	R <sub>20</sub> max. Ω/km	Z <sub>T</sub> max. mΩ/m	C' nom.		Fireload nom. kJ/m	Weight nom.		H + S Part No.
			D	cross section mm <sup>2</sup>				core/ core/ screen pF/m	screen		copper	cable	
3 x 0.4	0.76	1.18	3.0	0.65	4.4 ± 0.3	54.7	240	200	340	270	1.8	3.5	12 585 812
4 x 0.4	0.76	1.18	3.4	0.78	4.6 ± 0.3	54.7	250	200	340	290	2.2	3.9	12 564 307
15 x 0.4	0.76	1.18	6.2	2.03	7.8 ± 0.3	54.7	70	200	340	890	7.4	11.6	12 561 115
1 x 0.6	0.97	1.39	1.9	0.39	3.0 ± 0.2	33.4	250	-	440	125	1.0	1.7	12 555 681
2 x 0.6	0.97	1.39	3.2	0.65	4.5 ± 0.3	33.4	200	180	310	300	1.8	3.8	12 555 682
3 x 0.6	0.97	1.39	3.5	0.78	4.7 ± 0.3	33.4	200	180	310	315	2.5	4.4	12 555 683
4 x 0.6	0.97	1.39	3.8	0.92	5.1 ± 0.3	33.4	150	180	310	365	3.2	5.3	12 555 684
5 x 0.6	0.97	1.39	4.4	1.28	5.7 ± 0.3	33.4	150	180	310	440	4.1	6.6	12 555 685
1 x 1.2	1.37	1.83	2.3	0.52	3.5 ± 0.2	16.3	250	-	530	160	1.5	2.5	12 555 687
2 x 1.2	1.37	1.83	4.2	0.72	5.6 ± 0.3	16.3	150	200	350	440	3.3	6.6	12 555 587

### Cables with coloured cores:

Constr. n x mm <sup>2</sup>	Conductor dia.nom. *) mm	Core colours	Core D <sub>nom</sub> mm	Screen nom.		Cable dia. mm	R <sub>20</sub> max. Ω/km	Z <sub>T</sub> max. mΩ/m	C' nom.		Fireload nom. kJ/m	Weight nom.		H + S Part No.
				D	cross section mm <sup>2</sup>				core/ core/ screen pF/m	screen		copper	cable	
4V0.4	0.76	bn, gn, wh, ye	1.18	3.4	0.78	5.0 ± 0.3	54.7	240	200	340	780	2.2	4.5	84 099 242
2V0.5	0.88	bk, rd	1.30	3.1	0.68	4.35 ± 0.3	40.1	200	170	300	280	1.6	3.3	12 568 579
3V0.5	0.88	bk, rd, gn	1.30	3.3	0.75	4.5 ± 0.3	40.1	200	170	300	300	2.2	4.1	12 558 070
4V0.5	0.88	bu, rd, gn, bn	1.30	3.6	0.88	4.9 ± 0.3	40.1	150	170	300	330	2.8	5.2	12 568 580
4V0.5	0.88	bk, rd, gn, bn	1.30	3.6	0.88	4.9 ± 0.3	40.1	150	170	300	330	2.8	5.2	12 584 368
6V0.5	0.88	bk, rd, gn, bn, bu, wh	1.30	4.6	1.34	5.9 ± 0.3	40.1	100	170	300	460	4.1	6.8	12 558 071
8V0.5	0.88	bk, rd, gn, bn, bu, wh, og, ye	1.30	5.5	1.7	6.95 ± 0.3	40.1	100	170	300	690	5.3	9.0	12 568 581
2V2V0.5	0.88	bk/rd gn/bn	1.30	5.0	1.4	6.5 ± 0.3	41.4	200	170	300	680	3.3	6.8	12 568 582

\*) conductor construction see Annex

Cores : Core details according to H+S Datasheet 554550  
R<sub>20</sub> : Conductor resistance according to EN 50306-2  
Z<sub>T</sub> : Transfer impedance for f ≤ 30 MHz  
C' : Capacity per unit length, core/core

Legend: G : green- yellow core  
V : various colours



# Traction cable RADOX GWK-LW 600V MM S

## 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

