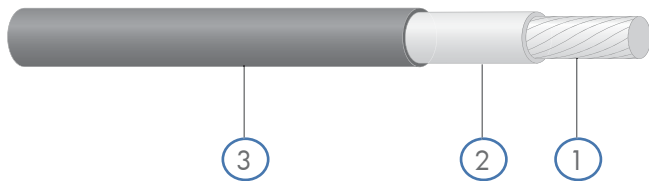


RADOX® 4 GKW-AX 1800V M

single core

Conductor	EN 60228, class 5	Voltage rating	1800/3000V AC
Number of conductors	1		2700/4500V DC
Cross section	0.5 - 400 mm ²	Temperature range	-40 °C to +120 °C



Composition of core

1. Conductor	stranded tin plated copper
2. Insulation	RADOX EI 110, colour: white
3. Sheath	RADOX EI 109, colour: black

Characteristics and specialities

- Fully meet the requirements of material level M according to EN 50264-1
 - extra low temperature
 - extra oil resistant
 - extra fuel resistance
- Resistance to ozone and weathering
- Large product range

Application

- For protected connections of fixed and sporadic moving parts inside and outside of rolling stock.
- Guidelines for selections and the installation are described in the standards EN 50355 and EN50343.

Standards

Standard	Fire protection on railway vehicles	
BS 6853	category	int. Ia, Ib, II / ext. Ia, Ib, II
prEN 45545-2		
DIN 5510-2	protection level	1, 2, 3, 4
NFF 16-101	class, category	C / FO, int. A1, A2, B / ext. A1, A2, B
UNI CEI 11170-3		

For further technical details please refer to our data sheet.

RADOX® 4 GKW-AX 1800V M

single core

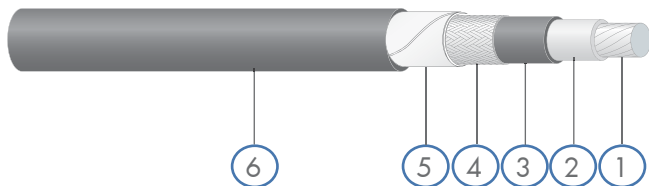
Cross section mm ²	Conductor		Core	Conductor resistance	Capacitance	Fire load	Weight		Item no.
	construction n x mm	d mm	d mm	R ₂₀ max. Ω/km	CH ₂₀ pF/m	nom. kJ/m	copper kg/100 m	cable kg/100 m	
0.5	19 x 0.18	0.90	2.45 ± 0.05	38.5	236	91	0.40	1.10	12547128
0.75	24 x 0.20	1.10	2.65 ± 0.05	26.7	276	102	0.70	1.4	12548299
1	37 x 0.18	1.20	3.00 ± 0.05	20.0	266	132	0.90	1.8	12555986
1.5	37 x 0.23	1.50	3.55 ± 0.10	13.7	307	157	1.4	2.5	12536686
2.5	61 x 0.23	1.95	3.75 ± 0.10	8.21	343	205	2.2	3.6	12536692
4	61 x 0.29	2.40	4.50 ± 0.10	5.09	396	257	3.5	5.2	12536694
6	84 x 0.30	2.95	5.20 ± 0.15	3.39	419	334	5.2	7.4	12536696
10	80 x 0.40	3.90	6.40 ± 0.15	1.95	488	467	9.1	12	12545527
16	119 x 0.40	5.30	8.40 ± 0.20	1.24	535	801	13	19	12545528
25	182 x 0.40	6.60	10.2 ± 0.30	0.795	565	1125	21	28	12545529
35	266 x 0.40	7.80	11.7 ± 0.30	0.565	607	1457	30	40	12545530
50	378 x 0.40	9.30	13.5 ± 0.30	0.393	660	1737	43	54	12545531
70	348 x 0.50	11.4	15.8 ± 0.30	0.277	755	2178	61	75	12545532
95	444 x 0.50	12.8	17.5 ± 0.30	0.210	808	2549	78	95	12545533
120	570 x 0.50	14.9	19.8 ± 0.30	0.164	862	3118	100	120	12544522
150	722 x 0.50	16.8	22.1 ± 0.30	0.132	894	3474	127	150	12545534
185	874 x 0.50	18.3	24.0 ± 0.30	0.108	903	4432	153	182	12544523
240	1147 x 0.50	21.1	27.0 ± 0.30	0.0817	994	5225	201	235	12547684
300	1443 x 0.50	23.7	29.9 ± 0.30	0.0654	1060	6106	251	291	12552906
400	2016 x 0.50	29.1	34.1 ± 0.50	0.0495	1115	7639	342	392	12555997

Capacity in water, typical value.

Other colours on request.

RADOX® 4 GKW-AX 1800V MM S

Conductor	EN 60228, class 5	Voltage rating	1800/3000V AC
Number of conductors	1		2700/4500V DC
Cross section	1.5 - 400 mm ²	Temperature range	-40 °C to +120 °C



Composition of cable

1. Conductor	stranded tin plated copper
2. Insulation	RADOXEI 110, colour: white
3. Sheath	RADOXEI 109, colour: black
4. EMC screen	tin plated copper braid
5. Separator	tape
6. Sheath	RADOXEM 104, colour: black

Characteristics and specialities

- Fully meet the requirements of material level M according to EN 50264-1
 - extra low temperature
 - extra oil resistant
 - extra fuel resistance
- Resistance to ozone and weathering
- Large product range
- High screening effectiveness

Application

- For protected connections of fixed and sporadic moving parts inside and outside of rolling stock.
- Guidelines for selections and the installation are described in the standards EN 50355 and EN50343.

Standards

Standard	Fire protection on railway vehicles	
BS 6853	category	int. Ia, Ib, II / ext. Ia, Ib, II
prEN 45545-2		
DIN 5510-2	protection level	1, 2, 3, 4
NFF 16-101	class, category	C / FO, int. A1, A2, B / ext. A1, A2, B
UNI CEI 11170-3		

For further technical details please refer to our data sheet.

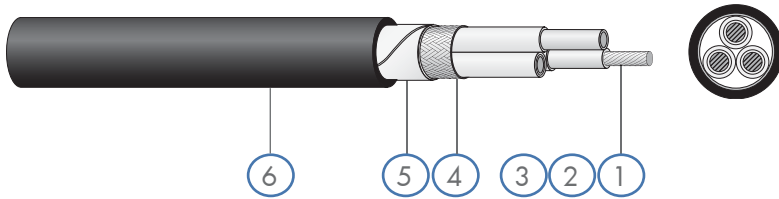
single core screened

Cross section mm ²	Conductor		Core		Cable d mm	Conductor resistance		I _k screen A	I screen A	Z _T max. mΩ/m	Capacitance C pF/m	Fire load nom. kJ/m	Weight		Item no.
	d _{nom.} mm	d _{nom.} mm	d _{max.} mm	cross section mm ²		conductor R ₂₀ max. Ω/km	screen R ₂₀ max. Ω/km						copper kg/100m	cable kg/100m	
1.5	1.50	3.35	3.7	0.9	5.20±0.15	13.7	21.33	355	18	100	254	363	2.1	4.8	12556535
2.5	1.95	3.90	4.8	1.0	5.80±0.15	8.21	18.66	405	20	100	292	440	3.2	6.3	12556536
4	2.40	4.50	5.1	1.3	6.70±0.15	5.09	14.14	529	24	100	322	584	4.6	8.9	12556537
6	2.93	5.20	5.7	1.5	7.40±0.15	3.39	12.43	606	26	100	350	701	6.5	12	12556538
10	3.89	6.40	7.1	2.0	9.00±0.2	1.95	9.48	795	30	100	392	1003	11	18	12556539
16	5.30	8.40	9.3	3.5	11.2±0.2	1.24	5.70	1363	42	100	447	1489	17	28	12556540
25	6.60	10.20	11.2	4.2	13.4±0.25	0.795	4.62	1637	48	100	451	2181	25	40	12556541
35	7.80	11.70	12.7	4.9	14.8±0.25	0.565	3.98	1907	52	100	489	2557	35	51	12556542
50	9.30	13.50	14.7	5.6	16.8±0.3	0.393	3.50	2182	57	100	512	3138	48	70	12556543
70	11.4	15.80	16.9	8.0	19.0±0.3	0.277	2.67	3120	67	100	619	3867	69	92	12556544
95	12.8	17.50	18.6	9.2	20.7±0.3	0.210	2.34	3564	73	100	640	4228	87	116	12556545
120	14.9	19.80	21.0	10.2	23.4±0.3	0.164	2.10	3960	78	100	650	5471	104	145	12556546
150	16.8	22.10	23.6	15.7	25.9±0.3	0.132	1.33	6066	103	100	719	6143	142	183	12556547
185	18.3	24.00	25.5	15.7	27.8±0.3	0.108	1.37	6066	101	100	725	7034	168	213	12556548
240	21.1	27.00	28.9	20.7	31.2±0.3	0.0817	0.93	8023	129	100	791	8606	221	291	12556549
300	23.7	29.90	31.8	22.1	34.2±0.3	0.0654	0.95	8560	127	100	918	9618	276	337	12558471
400	27.3	34.10	35.9	35.7	39.5 0.5	0.05	0.59	13790	176	70	1115	15320	380	480	84134935

Short-circuit current rating of screen acc. to IEC 60949 (adiabatic), duration of short-circuit 0.1 s, initial temperature +90 °C, final temperature +200 °C.
Permissible continuous current of screen under standard conditions of current rating acc. to table current rating 4/9GKW-AX single core cables 557 578.

RADOX® 4 GKW-AX 1800V MM S

Conductor	EN 60228, class 5	Voltage rating	1800/3000V AC
Number of conductors	2 - ...		2700/4500V DC
Cross section	1.5 - 95 mm ²	Temperature range	-40 °C to +120 °C



Composition of cable

1. Cores of type	4 GKW-AX 1800V M colour: black, numbered
2 Fillers (optional)	RADOX 125 REC
3 Separator(s) (optional)	tape
4 EMC screen	tin plated copper braid
5 Separator	tape
6 Sheath	RADOX EM 104, colour: black

Characteristics and specialities

- Fully meet the requirements of material level M according to EN 50264-1
 - extra low temperature
 - extra oil resistant
 - extra fuel resistance
- Resistance to ozone and weathering
- Large product range
- High screening effectiveness

Application

- For protected connections of fixed and sporadic moving parts inside and outside of rolling stock.
- Guidelines for selections and the installation are described in the standards EN 50355 and EN50343.

Standards

Standard	Fire protection on railway vehicles	
prEN 45545-2		
DIN 5510-2	protection level	1, 2, 3, 4
NFF 16-101	class, category	C / F0, int. A1, A2, B / ext. A1, A2, B
UNI CEI 11170-3		

For further technical details please refer to our data sheet.

multi core screened

Construction $n \times \text{mm}^2$	Conductor $d_{\text{nom.}}$ mm	Core $d_{\text{nom.}}$ mm	Screen		Cable d mm	Conductor resistance		Z_T max. m Ω /M	Weight		Item no.
			$d_{\text{max.}}$ mm	size mm ²		conductor R_{20} max. Ω /km	screen R_{20} max. Ω /km		copper kg/100 m	cable kg/100 m	
2 x 1.5	1.50	3.35	7.0	2.0	9.2 ± 0.3	13.7	9.2	100	5.0	13.5	12552642
3 x 1.5	1.50	3.35	7.6	2.8	10.0 ± 0.3	13.7	7	50	6.7	16.4	12566644
6 x 1.5	1.50	3.35	10.9	5.9	13.8 ± 0.4	13.7	3.3	50	14.5	31.7	12564185
2 x 2.5	1.94	3.75	8.3	3.8	10.8 ± 0.4	8.21	5.4	70	8.1	20.0	12583411
3 x 2.5	1.95	3.90	9.1	3.3	11.4 ± 0.4	8.21	5.9	70	10.3	22.5	12564186
4 x 2.5	1.94	3.75	10.3	5.6	13.0 ± 0.4	8.21	3.8	70	14.0	30.0	12586442
4 x 4	2.40	4.50	12.2	6.2	15.4 ± 0.5	4.8	3.5	60	20.4	42.7	12568683
3 x 6	2.93	5.2	12.2	7.1	15.4 ± 0.5	3.39	3.0	70	23.0	45.0	12584343
4 x 6	2.93	5.2	13.9	5.2	17.3 ± 0.5	3.39	3.0	70	26.0	54.0	12586443
3 x 10	3.90	6.40	15.0	8.6	18.2 ± 0.5	1.95	2.2	25	37.5	65.0	12556070
3 x 16	5.30	8.40	19.2	12.0	23.1 ± 0.5	1.24	1.6	50	52.0	90.0	12564357
4 x 16	5.30	8.4	22.1	18.0	26.6 ± 0.6	1.24	1.3	20	72.0	133	12584305
3 x 25	6.60	10.20	23.7	19.1	28.4 ± 0.6	0.795	1.10	50	81.7	152	12564358
4 x 25	6.60	10.20	27.9	18.1	34.1 ± 0.6	0.795	1.26	50	104	187	12563356
2 x 35	7.80	11.70	24.9	19.4	29.8 ± 0.6	0.565	1.06	20	78.6	158	12583239
3 x 35	7.80	11.70	26.7	21.5	31.6 ± 0.7	0.565	0.89	50	112	197	12561687
3 x 35 + 10	7.80 3.90	11.70 6.40	27.0	21.9	32.8 ± 0.6	0.565 1.95	1.03	50	125	214	12563359
4 x 35	7.80	11.70	30.9	35.2	37.1 ± 0.7	0.565	0.66	50	163	210	12563357
2 x 50	9.3	13.5	28.9	30.6	34.3 ± 0.6	0.39	0.7	20	116	217	12583154
3 x 50 + 10	9.3 3.90	13.5 6.4	31.0	33.2	37.0 ± 0.7	0.39 1.95	0.6	30	172	271	12563360
4 x 50	9.3	13.5	35.1	40.8	41.7 ± 0.7	0.39	0.6	30	217	360	12552458
3 x 70 + 10	11.4 3.90	15.8 6.4	35.9	38.3	41.9 ± 0.7	0.28 1.95	0.6	50	230	365	12551966
4 x 70	11.4	15.8	41.4	40.8	47.9 ± 0.7	0.28	0.6	60	289	470	12557169
3 x 95 + 10	12.8 3.90	17.5 6.4	39.6	40.8	46.7 ± 0.7	0.21 1.95	0.7	40	291	438	12559402