TFkable

EDITION II

Connecting
Globally

Clean Energy

Wind Energy Cables

tfkable.com

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Leading manufacturer of cables and wires

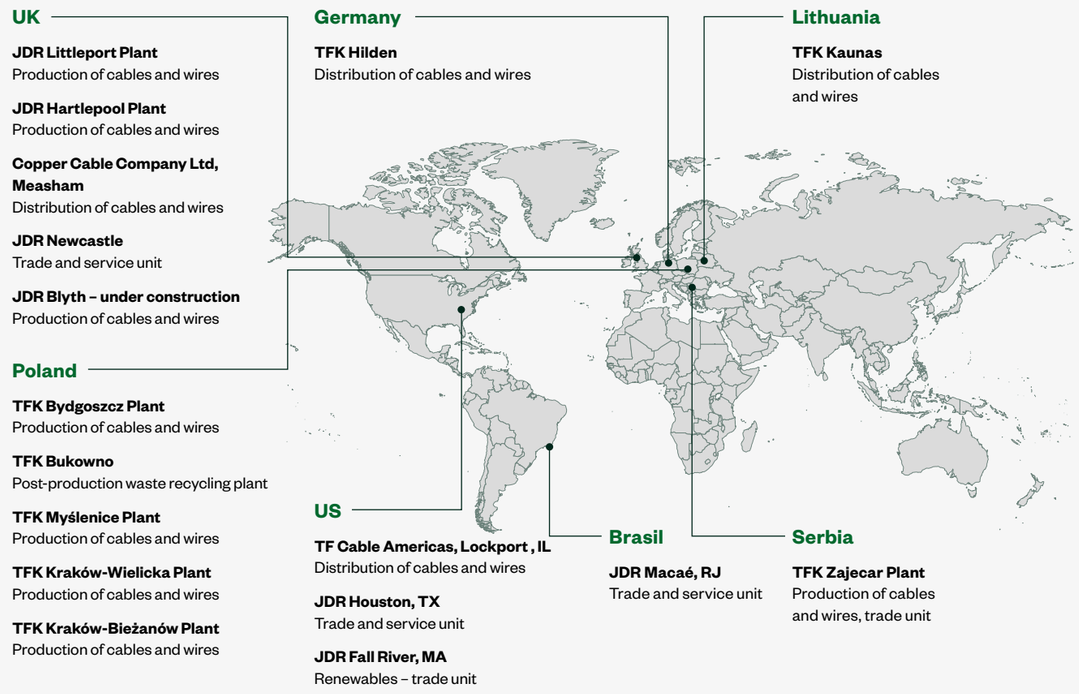
TFK.Group is one of the global market leaders of wires and cable systems, with numerous trading companies and production plants located in many countries, as well as service units and research and development centers.

In August 2017, the British company JDR Cable Systems – a leading manufacturer of submarine cables and provider of offshore and onshore services for the global wind energy industry joined TFK.Group.

TFK.Group belongs to a small group of a few most specialized and technologically advanced suppliers of high and extra high voltage cable systems. The maintenance and control services provided by TFK.Group is dedicated to oil and gas and renewable energy extraction systems subsea and on land. In addition, the extensive infrastructure of research and development centers allows for qualification tests, routine tests, technological tests and fire tests. Our experience is confirmed not only by continuous supplies to electricity distribution network operators or as part of ongoing investment projects for conventional and wind farms, but also by positive results of production process audits carried out by the most renowned certification bodies.

JDR Cable Systems is a global leader in subsea production umbilicals, subsea power cables and Intervention Workover Control Systems for the offshore oil and gas industry. JDR operates in harsh, dynamic, subsea environments and is a pioneer in the development of cutting-edge inter-array power cables for offshore wind, wave and tidal energy projects. Additionally, JDR supports customers in the renewable energy sector throughout project planning, mobilisation, installation, commissioning and maintenance, providing total lifecycle support.

TFK.Group produces, among others, cables for the energy sector in the following product groups:
low voltage power cables up to 1 kV, medium voltage power cables from 6/10 kV to 18/30 kV, high voltage power cables from 36 to 150 kV, extra high voltage power cables from 220 to 400 kV, cables; telecommunication copper and fiber optic cables; rubber insulated cables, including mining and crane cables; control cables for data transmission and security, as well as Inter-array cables (33 kV, 66 kV & 132 kV), Subsea Power Umbilicals, Steel Tube Umbilicals, rental and oil & gas services, i.e. submarine cables (including cables connecting wind towers and export cables), which are used in the construction and operation of offshore and onshore wind farms.



Experience and competence of the TELE-FONIKA Kable Group

GLOBAL RELATIONS

Kraków – Wielicka Plant, Poland
One of the biggest cable factories in Poland. It manufactures power cables and wires, including rubber insulated cables and wires applicable in the mining industry and in the offshore and onshore wind farms. As one of the few European manufacturers, the plant is a supplier for mines located in the US, Canada, South America, and Africa. Its offer also includes specialized cables for applications in the railway and shipbuilding industry.

Bydgoszcz Plant, Poland
The oldest cable and wire factory in Poland and the biggest production center of medium, high and extrahigh voltage cables in Europe. Together with the plants in Littleport and Hartlepool, it belongs to the elite group of direct suppliers of complete solutions for the offshore electricity industry.

Myślenice Plant, Poland
Production of fiber optic and telecommunication cables, computer cables and car cables.

Zajecar Plant, Serbia
Production of Al and Cu wires, low and middle voltage cables, signaling and control cables, telecommunication cables, as well as halogen-free cables and wires and car cables.

Waste Recycling Facility in Bukowno, Poland
It has the recycling capacity of approx. 10 thousand tons of cable waste per year. This allows for the recovery of fractions from individual materials with purity of over 99.5%

Littleport Plant, UK
Design and engineering services, IWOCS, Subsea Production Umbilicals and Power Cables up to 100 t production. The plant has specialized research facilities.

Hartlepool Plant, Victoria Dock, UK
The biggest JDR production plant with specialized designed teams. Strategically located on the quay, next to the port on the North Sea. A plant with an area of 20,000 m², commissioned in 2009, supplying and producing Subsea Production Umbilicals, Subsea Power Cables and Inter-array Cables. Modern infrastructure of the machine park provides flexibility of the large-size cables production process.

Tomball Service Center, US
Carrying out assembly, integration and testing of umbilicals, reelers and associated packages. The facility provides technical support in projects executed mainly in the Gulf of Mexico, and carries out offshore commissioning, testing and repair works at sea.

Clean Energy

Wind energy is the most advanced and desirable technology among all renewable energy sources. Selecting the right cables that meet strict standards and quality required for trouble-free operation of wind farms is a major challenge.

TELE-FONIA Kable has over 25 yeras of experience is production of special cables specifically designed for wind energy sector. The current position of our company is a result of continuous research, development and modernization of the machinery, combined with the use of highest quality materials. TELE-FONIKA Kable only works with the best manufacturers of cable accessories, which ensures the highest quality of products supplied by us. Our experience in production and supply of renewable energy cables allows us to create a comprehensive range of products that can satisfy demands of the most demanding clients.

TELE-FONIKA Kable offers cables and wires of high and medium voltage, control cables, fiber optic cables (for data and information transfer), which are used in the construction and operation of offshore and onshore wind farms.
Our products used for construction and operation of wind farms have proven long-term durability and guarantee safe and cost-effective operation. Cables were designed to withstand long and harsh working conditions and have proven track record of fatigue, torsion or abrasion capabilities.
We work closely with our customers in providing practical efficient solutions.

Medium Voltage Cables

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MEDIUM VOLTAGE XLPE POWER CABLE 8.7/15 (17.5) kV

YHAKXS acc. to HD 620 S3: 2023 Part 10 Section R
A2XSY acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
NA2XSY acc. to DIN VDE 0276-620:2018

Description: ALUMINIUM CONDUCTOR - Circular, stranded and compacted conductor Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x50RMC	8.25 $^{+0.10}$	4.5	18.5	16	22.4	27.1	780	1.5	0.41
1x70RMC	9.5 $^{+0.20}$	4.5	19.7	25	23.6	28.4	950	2.1	0.43
1x95RMC	11.3 $^{+0.20}$	4.5	21.5	35	25.4	30.2	1160	2.85	0.45
1x120RMC	12.5 $^{+0.20}$	4.5	22.7	50	26.6	31.4	1400	3.6	0.47
1x150RMC	14.2 $^{+0.20}$	4.5	24.4	50	28.3	33.1	1520	4.5	0.50
1x185RMC	15.8 $^{+0.20}$	4.5	26.0	50	29.9	34.7	1660	5.55	0.52
1x240RMC	17.9 $^{+0.10}$	4.5	28.1	50	32.0	36.8	1870	7.2	0.55
1x300RMC	20.0 $^{+0.30}$	4.5	30.2	50	34.1	38.9	2080	9	0.58
1x400RMC	22.9 $^{+0.30}$	4.5	33.1	50	37.0	41.8	2390	12	0.63
1x500RMC	25.7 $^{+0.40}$	4.5	36.4	50	40.5	45.3	2810	15	0.68
1x630RMC	29.3 $^{+0.50}$	4.5	40.3	50	44.4	49.3	3310	18.9	0.74
1x800RMC	33.0 $^{+0.50}$	4.5	44.4	50	48.5	53.6	3920	24	0.80
1x1000RMC	38.0 $^{+0.50}$	4.5	49.4	50	53.5	59.0	4680	30	0.89

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_0	Zero reactance X_0	Capacitance C	Capacitive reactance X_C	Charging current I_C	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ o°o² o°o³	o°o¹ o°o² o°o³	o°o¹ o°o² o°o³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.43	0.134	0.833
1x50RMC/16	0.641	0.822	1.12	1.38	2.72/1.37	2.20	0.075	0.19	17.2	0.51	0.73	0.229	0.853
											0.61	0.192	0.844
											0.41	0.128	0.582
1x70RMC/25	0.443	0.568	0.72	0.89	2.63/1.40	1.45	0.070	0.20	15.7	0.56	0.70	0.221	0.610
											0.59	0.186	0.598
											0.39	0.121	0.428
1x95RMC/35	0.320	0.411	0.51	0.63	2.53/1.45	1.04	0.064	0.23	13.9	0.63	0.67	0.211	0.462
											0.57	0.179	0.448
											0.37	0.117	0.345
1x120RMC/50	0.253	0.325	0.36	0.44	2.48/1.47	0.77	0.061	0.25	12.9	0.67	0.65	0.205	0.384
											0.56	0.175	0.369
											0.36	0.112	0.288
1x150RMC/50	0.206	0.265	0.36	0.44	2.42/1.51	0.71	0.061	0.27	11.8	0.74	0.63	0.198	0.331
											0.54	0.171	0.315
											0.35	0.109	0.237
1x185RMC/50	0.164	0.211	0.36	0.44	2.37/1.53	0.65	0.054	0.29	10.9	0.80	0.61	0.193	0.286
											0.53	0.167	0.269
											0.33	0.105	0.192
1x240RMC/50	0.125	0.161	0.36	0.44	2.32/1.56	0.60	0.050	0.32	9.9	0.88	0.59	0.186	0.246
											0.52	0.163	0.229
											0.32	0.101	0.164
1x300RMC/50	0.100	0.130	0.36	0.44	2.28/1.59	0.57	0.047	0.35	9.1	0.96	0.57	0.180	0.222
											0.51	0.159	0.205
											0.31	0.097	0.141
1x400RMC/50	0.0778	0.102	0.36	0.44	2.24/1.61	0.54	0.044	0.39	8.1	1.07	0.55	0.173	0.201
											0.49	0.155	0.185
											0.30	0.095	0.124
1x500RMC/50	0.0605	0.0801	0.36	0.44	2.18/1.62	0.52	0.043	0.43	7.3	1.18	0.54	0.168	0.186
											0.49	0.153	0.173
											0.29	0.092	0.112
1x630RMC/50	0.0469	0.0634	0.36	0.44	2.14/1.65	0.51	0.040	0.49	6.5	1.33	0.52	0.162	0.174
											0.48	0.150	0.163
											0.29	0.090	0.103
1x800RMC/50	0.0367	0.0513	0.36	0.44	2.11/1.67	0.49	0.039	0.54	5.9	1.49	0.50	0.157	0.165
											0.47	0.148	0.156
											0.28	0.087	0.097
1x1000RMC/50	0.0291	0.0427	0.36	0.44	2.08/1.69	0.49	0.036	0.61	5.2	1.67	0.48	0.151	0.157
											0.46	0.145	0.151

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	**kA/s**		**A**							
1x50RMC/16	4.7	3.7	224	225	212	212	230	231	196	196
1x70RMC/25	6.6	5.3	272	276	258	259	283	286	242	242
1x95RMC/35	9.0	7.1	324	333	310	312	343	350	294	295
1x120RMC/50	11.3	9.8	364	379	353	356	388	403	337	340
1x150RMC/50	14.2	9.8	407	428	397	401	440	461	384	387
1x185RMC/50	17.5	9.8	456	487	450	455	501	530	440	445
1x240RMC/50	22.7	9.8	520	567	522	530	583	627	518	526
1x300RMC/50	28.4	9.8	578	643	589	600	660	722	593	604
1x400RMC/50	37.8	9.8	650	742	676	692	758	849	692	708
1x500RMC/50	47.3	9.8	725	851	770	793	862	991	802	825
1x630RMC/50	59.5	9.8	808	979	876	908	981	1161	931	963
1x800RMC/50	75.6	9.8	889	1116	983	1028	1101	1347	1065	1110
1x1000RMC/50	94.5	9.8	971	1262	1093	1152	1225	1558	1210	1271

MEDIUM VOLTAGE XLPE POWER CABLES 8.7/15 (17.5) kV

YHKXS acc. to HD 620 S3: 2023 Part 10 Section R
2XSY acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
N2XSY acc. to DIN VDE 0276-620:2018

Description: COPPER CONDUCTOR - Circular, stranded and compacted conductor Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x35RMC	7.0 $^{+0.15}$	4.5	17.2	16	21.1	25.9	920	1.75	0.39
1x50RMC	8.25 $^{+0.20}$	4.5	18.5	16	22.4	27.1	1060	2.5	0.41
1x70RMC	9.6 $^{+0.20}$	4.5	19.8	25	23.7	28.5	1370	3.5	0.43
1x95RMC	11.5 $^{+0.20}$	4.5	21.7	35	25.6	30.4	1740	4.75	0.46
1x120RMC	12.9 $^{+0.25}$	4.5	23.1	50	27.0	31.8	2140	6	0.48
1x150RMC	14.5 $^{+0.30}$	4.5	24.7	50	28.6	33.4	2430	7.5	0.50
1x185RMC	16.0 $^{+0.30}$	4.5	26.2	50	30.1	34.9	2790	9.25	0.52
1x240RMC	18.5 $^{+0.30}$	4.5	28.7	50	32.6	37.4	3350	12	0.56
1x300RMC	20.5 $^{+0.30}$	4.5	30.7	50	34.6	39.4	3940	15	0.59
1x400RMC	23.5 $^{+0.30}$	4.5	33.7	50	37.6	42.4	4810	20	0.64
1x500RMC	26.5 $^{+0.40}$	4.5	37.2	50	41.3	46.1	5920	25	0.69
1x630RMC	30.3 $^{+0.40}$	4.5	41.3	50	45.4	50.3	7290	31.5	0.75
1x800RMC	34.6 $^{+0.50}$	4.5	46.0	50	50.1	55.4	9010	40	0.83
1x1000RMC	38.2 $^{+0.40}$	4.5	49.6	50	53.7	59.2	10930	50	0.89

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.45	0.141	0.683
1x35RMC/16	0.524	0.668	1.12	1.38	2.84/1.32	2.05	0.082	0.17	19.1	0.46	0.76	0.238	0.710
											0.64	0.200	0.697
											0.43	0.134	0.512
1x50RMC/16	0.387	0.494	1.12	1.38	2.72/1.37	1.88	0.075	0.19	17.2	0.51	0.73	0.229	0.544
											0.61	0.192	0.530
											0.41	0.128	0.365
1x70RMC/25	0.268	0.342	0.72	0.89	2.63/1.41	1.23	0.070	0.20	15.6	0.56	0.70	0.220	0.407
											0.59	0.186	0.389
											0.38	0.120	0.274
1x95RMC/35	0.193	0.247	0.51	0.63	2.52/1.45	0.88	0.063	0.23	13.7	0.63	0.67	0.210	0.324
											0.57	0.178	0.304
											0.37	0.116	0.228
1x120RMC/50	0.153	0.196	0.36	0.44	2.46/1.48	0.64	0.060	0.25	12.7	0.69	0.65	0.204	0.282
											0.55	0.174	0.262
											0.36	0.112	0.194
1x150RMC/50	0.124	0.159	0.36	0.44	2.41/1.51	0.60	0.056	0.27	11.6	0.75	0.63	0.197	0.253
											0.54	0.170	0.233
											0.34	0.108	0.167
1x185RMC/50	0.0991	0.128	0.36	0.44	2.37/1.54	0.57	0.053	0.30	10.8	0.81	0.61	0.192	0.230
											0.53	0.166	0.210
											0.33	0.103	0.142
1x240RMC/50	0.0754	0.0979	0.36	0.44	2.31/1.57	0.54	0.049	0.33	9.6	0.90	0.59	0.184	0.209
											0.51	0.162	0.189
											0.32	0.100	0.128
1x300RMC/50	0.0601	0.0789	0.36	0.44	2.27/1.59	0.52	0.047	0.36	8.9	0.98	0.57	0.179	0.196
											0.50	0.158	0.177
											0.31	0.096	0.115
1x400RMC/50	0.0470	0.0630	0.36	0.44	2.23/1.62	0.51	0.043	0.40	7.9	1.10	0.55	0.172	0.183
											0.49	0.154	0.167
											0.30	0.094	0.107
1x500RMC/50	0.0366	0.0506	0.36	0.44	2.17/1.63	0.49	0.042	0.44	7.2	1.21	0.53	0.167	0.174
											0.48	0.152	0.160
											0.29	0.091	0.100
1x630RMC/50	0.0283	0.0412	0.36	0.44	2.13/1.65	0.48	0.040	0.50	6.4	1.37	0.51	0.160	0.166
											0.47	0.149	0.155

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.28	0.089	0.095
1x800RMC/50	0.0221	0.0344	0.36	0.44	2.1/1.67	0.48	0.038	0.57	5.6	1.55	0.49	0.155	0.158
											0.47	0.147	0.151
											0.28	0.089	0.095
1x1000RMC/50	0.0221	0.0344	0.36	0.44	2.1/1.67	0.48	0.038	0.57	5.6	1.55	0.49	0.155	0.158
											0.47	0.147	0.151

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	**kA/s**		**A**							
1x35RMC/16	5.0	3.7	243	245	230	230	246	248	210	211
1x50RMC/16	7.2	3.7	288	291	273	273	296	298	252	253
1x70RMC/25	10.0	5.3	348	356	333	334	363	370	311	313
1x95RMC/35	13.6	7.1	413	430	400	403	438	454	380	383
1x120RMC/50	17.2	9.8	456	491	454	460	492	523	435	440
1x150RMC/50	21.5	9.8	505	554	510	518	555	598	495	502
1x185RMC/50	26.5	9.8	560	628	575	586	625	685	564	574
1x240RMC/50	34.3	9.8	634	733	667	684	725	814	665	681
1x300RMC/50	42.9	9.8	697	830	750	773	812	935	757	779
1x400RMC/50	57.2	9.8	773	953	849	882	920	1093	874	906
1x500RMC/50	71.5	9.8	850	1088	957	1002	1034	1270	1003	1047

MEDIUM VOLTAGE XLPE POWER CABLES Longitudinally Sealed 8.7/15 (17.5) kV

XUHAKXS acc. to HD 620 S3: 2023 Part 10 Section R
A2XS(F)2Y acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
NA2XS(F)2Y acc. to DIN VDE 0276-620:2018

Description: ALUMINIUM CONDUCTOR - Circular, stranded and compacted conductor Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x50RMC	8.25 $^{+0.10}$	4.5	18.5	16	22.6	28.1	720	1.5	0.42
1x70RMC	9.5 $^{+0.20}$	4.5	19.7	25	23.8	29.4	890	2.1	0.44
1x95RMC	11.3 $^{+0.20}$	4.5	21.5	35	25.6	31.2	1100	2.85	0.47
1x120RMC	12.5 $^{+0.20}$	4.5	22.7	50	26.8	32.4	1330	3.6	0.49
1x150RMC	14.2 $^{+0.20}$	4.5	24.4	50	28.5	34.1	1440	4.5	0.51
1x185RMC	15.8 $^{+0.20}$	4.5	26.0	50	30.1	35.7	1580	5.55	0.54
1x240RMC	17.9 $^{+0.10}$	4.5	28.1	50	32.2	37.8	1780	7.2	0.57
1x300RMC	20.0 $^{+0.30}$	4.5	30.2	50	34.3	39.9	1990	9	0.60
1x400RMC	22.9 $^{+0.30}$	4.5	33.1	50	37.2	42.8	2300	12	0.64
1x500RMC	25.7 $^{+0.40}$	4.5	36.4	50	40.7	46.3	2710	15	0.69
1x630RMC	29.3 $^{+0.50}$	4.5	40.3	50	44.6	50.3	3190	18.9	0.75
1x800RMC	33.0 $^{+0.50}$	4.5	44.4	50	48.7	54.6	3780	24	0.82
1x1000RMC	38.0 $^{+0.50}$	4.5	49.4	50	53.7	60.0	4510	30	0.90

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_0	Zero reactance X_0	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ o°o² o°o³	o°o¹ o°o² o°o³	o°o¹ o°o² o°o³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.43	0.136	0.833
1x50RMC/16	0.641	0.822	1.12	1.38	2.72/1.37	2.20	0.076	0.19	17.2	0.51	0.73	0.229	0.853
											0.62	0.194	0.845
											0.41	0.130	0.583
1x70RMC/25	0.443	0.568	0.72	0.89	2.63/1.40	1.45	0.070	0.20	15.7	0.56	0.70	0.221	0.610
											0.60	0.188	0.599
											0.39	0.123	0.429
1x95RMC/35	0.320	0.411	0.51	0.63	2.53/1.45	1.04	0.064	0.23	13.9	0.63	0.67	0.212	0.462
											0.58	0.181	0.449
											0.38	0.119	0.346
1x120RMC/50	0.253	0.325	0.36	0.44	2.48/1.47	0.77	0.061	0.25	12.9	0.67	0.66	0.206	0.385
											0.56	0.177	0.370
											0.36	0.114	0.288
1x150RMC/50	0.206	0.265	0.36	0.44	2.42/1.51	0.71	0.057	0.27	11.8	0.74	0.63	0.199	0.331
											0.55	0.172	0.316
											0.35	0.110	0.238
1x185RMC/50	0.164	0.211	0.36	0.44	2.37/1.53	0.65	0.054	0.29	10.9	0.80	0.61	0.193	0.286
											0.54	0.169	0.270
											0.34	0.106	0.193
1x240RMC/50	0.125	0.161	0.36	0.44	2.32/1.56	0.60	0.050	0.32	9.9	0.88	0.59	0.187	0.247
											0.52	0.164	0.230
											0.33	0.103	0.165
1x300RMC/50	0.100	0.130	0.36	0.44	2.28/1.59	0.57	0.048	0.35	9.1	0.96	0.58	0.181	0.222
											0.51	0.161	0.206
											0.31	0.099	0.142
1x400RMC/50	0.0778	0.102	0.36	0.44	2.24/1.61	0.54	0.044	0.39	8.1	1.07	0.55	0.174	0.201
											0.50	0.157	0.187
											0.31	0.096	0.125
1x500RMC/50	0.0605	0.0800	0.36	0.44	2.18/1.62	0.52	0.043	0.43	7.3	1.18	0.54	0.169	0.187
											0.49	0.154	0.174
											0.30	0.093	0.113
1x630RMC/50	0.0469	0.0634	0.36	0.44	2.14/1.65	0.51	0.041	0.49	6.5	1.33	0.52	0.163	0.174
											0.48	0.151	0.164
											0.29	0.091	0.104
1x800RMC/50	0.0367	0.0512	0.36	0.44	2.11/1.67	0.49	0.039	0.54	5.9	1.49	0.50	0.157	0.165
											0.47	0.149	0.158
											0.28	0.088	0.098
1x1000RMC/50	0.0291	0.0426	0.36	0.44	2.08/1.69	0.48	0.036	0.61	5.2	1.67	0.48	0.151	0.157
											0.46	0.146	0.152

Nominal cross sectional area Conductor/ Metallic screen	Conductor resistance DC 20°C	Conductor resistance AC 90°C	Metallic screen resistance DC 20°C	Metallic screen resistance AC 80°C	Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
											o°o¹ ooo² ooo³	o°o¹ ooo² ooo³	o°o¹ ooo² ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.30	0.093	0.113
1x630RMC/50	0.0469	0.0634	0.36	0.44	2.14/1.65	0.51	0.041	0.49	6.5	1.33	0.52	0.163	0.174
											0.48	0.151	0.164
											0.29	0.091	0.104
1x800RMC/50	0.0367	0.0512	0.36	0.44	2.11/1.67	0.49	0.039	0.54	5.9	1.49	0.50	0.157	0.165
											0.47	0.149	0.158
											0.28	0.088	0.098
1x1000RMC/50	0.0291	0.0426	0.36	0.44	2.08/1.69	0.48	0.036	0.61	5.2	1.67	0.48	0.151	0.157
											0.46	0.146	0.152

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	**kA/s**		**A**							
1x50RMC/16	4.7	3.7	224	225	212	212	230	231	196	196
1x70RMC/25	6.6	5.3	272	276	258	259	283	286	242	242
1x95RMC/35	9.0	7.1	324	333	310	312	343	350	294	295
1x120RMC/50	11.3	9.8	364	379	353	356	388	403	337	340
1x150RMC/50	14.2	9.8	407	428	397	401	440	461	384	387
1x185RMC/50	17.5	9.8	456	487	450	455	501	530	440	445
1x240RMC/50	22.7	9.8	520	567	522	530	583	627	518	526
1x300RMC/50	28.4	9.8	578	643	589	600	660	722	593	604
1x400RMC/50	37.8	9.8	650	742	676	692	758	849	692	708
1x500RMC/50	47.3	9.8	725	851	770	793	862	991	802	825
1x630RMC/50	59.5	9.8	808	979	876	908	981	1161	931	963
1x800RMC/50	75.6	9.8	889	1116	983	1028	1101	1347	1065	1110
1x1000RMC/50	94.5	9.8	971	1262	1093	1152	1225	1558	1210	1271

MEDIUM VOLTAGE XLPE POWER CABLES Longitudinally Sealed 8.7/15 (17.5) kV

XUHKXS acc. to HD 620 S3: 2023 Part 10 Section R
2XS(F)2Y acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
N2XS(F)2Y acc. to DIN VDE 0276-620:2018

Description: COPPER CONDUCTOR - Circular, stranded and compacted conductor
Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation Thickness	Insulation Diameter over insulation	Metallic screen Cross sectional area	Metallic screen Diameter over metallic screen	Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x35RMC	7.0 $^{+0.15}$	4.5	17.2	16	21.3	26.9	860	1.75	0.40
1x50RMC	8.25 $^{+0.20}$	4.5	18.5	16	22.6	28.1	1000	2.5	0.42
1x70RMC	9.6 $^{+0.20}$	4.5	19.8	25	23.9	29.5	1300	3.5	0.44
1x95RMC	11.5 $^{+0.20}$	4.5	21.7	35	25.8	31.4	1670	4.75	0.47
1x120RMC	12.9 $^{+0.25}$	4.5	23.1	50	27.2	32.8	2070	6	0.49
1x150RMC	14.5 $^{+0.30}$	4.5	24.7	50	28.8	34.4	2350	7.5	0.52
1x185RMC	16.0 $^{+0.30}$	4.5	26.2	50	30.3	35.9	2710	9.25	0.54
1x240RMC	18.5 $^{+0.30}$	4.5	28.7	50	32.8	38.4	3260	12	0.58
1x300RMC	20.5 $^{+0.30}$	4.5	30.7	50	34.8	40.4	3850	15	0.61
1x400RMC	23.5 $^{+0.30}$	4.5	33.7	50	37.8	43.4	4720	20	0.65
1x500RMC	26.5 $^{+0.40}$	4.5	37.2	50	41.5	47.1	5810	25	0.71
1x630RMC	30.3 $^{+0.40}$	4.5	41.3	50	45.6	51.3	7160	31.5	0.77
1x800RMC	34.6 $^{+0.50}$	4.5	46.0	50	50.3	56.4	8860	40	0.85
1x1000RMC	38.2 $^{+0.40}$	4.5	49.6	50	53.9	60.2	10760	50	0.90

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kV/mm	Ω/km	Ω/km	µF/km	Ω/km	A/km	mH/km	Ω/km	Ω/km
											0.46	0.144	0.684
1x35RMC/16	0.524	0.668	1.12	1.38	2.84/1.32	2.05	0.082	0.17	19.1	0.46	0.76	0.239	0.710
											0.64	0.202	0.698
											0.43	0.136	0.512
1x50RMC/16	0.387	0.494	1.12	1.38	2.72/1.37	1.88	0.076	0.19	17.2	0.51	0.73	0.229	0.544
											0.62	0.194	0.531
											0.41	0.130	0.366
1x70RMC/25	0.268	0.342	0.72	0.89	2.63/1.41	1.23	0.070	0.20	15.6	0.56	0.70	0.221	0.407
											0.60	0.188	0.390
											0.39	0.122	0.275
1x95RMC/35	0.193	0.247	0.51	0.63	2.52/1.45	0.88	0.064	0.23	13.7	0.63	0.67	0.211	0.324
											0.57	0.180	0.306
											0.38	0.118	0.229
1x120RMC/50	0.153	0.196	0.36	0.44	2.46/1.48	0.64	0.060	0.25	12.7	0.69	0.65	0.204	0.283
											0.56	0.176	0.263
											0.36	0.114	0.195
1x150RMC/50	0.124	0.159	0.36	0.44	2.41/1.51	0.60	0.056	0.27	11.6	0.75	0.63	0.198	0.254
											0.55	0.172	0.234
											0.35	0.110	0.168
1x185RMC/50	0.0991	0.128	0.36	0.44	2.37/1.54	0.57	0.054	0.30	10.8	0.81	0.61	0.193	0.231
											0.54	0.168	0.211
											0.33	0.105	0.144
1x240RMC/50	0.0754	0.0978	0.36	0.44	2.31/1.57	0.54	0.050	0.33	9.6	0.90	0.59	0.185	0.209
											0.52	0.163	0.190
											0.32	0.102	0.129
1x300RMC/50	0.0601	0.0789	0.36	0.44	2.27/1.59	0.52	0.047	0.36	8.9	0.98	0.57	0.180	0.196
											0.51	0.160	0.178
											0.31	0.098	0.116
1x400RMC/50	0.0470	0.0629	0.36	0.44	2.23/1.62	0.51	0.044	0.40	7.9	1.10	0.55	0.173	0.184
											0.50	0.156	0.168
											0.30	0.095	0.108
1x500RMC/50	0.0366	0.0505	0.36	0.44	2.17/1.63	0.49	0.042	0.44	7.2	1.21	0.53	0.167	0.175
											0.49	0.153	0.162
											0.29	0.092	0.101
1x630RMC/50	0.0283	0.0410	0.36	0.44	2.13/1.65	0.48	0.040	0.50	6.4	1.37	0.51	0.161	0.166
											0.48	0.150	0.156

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kV/mm	Ω/km	Ω/km	µF/km	Ω/km	A/km	mH/km	Ω/km	Ω/km
											0.29	0.090	0.096
1x800RMC/50	0.0221	0.0343	0.36	0.44	2.1/1.67	0.48	0.038	0.57	5.6	1.55	0.49	0.155	0.159
											0.47	0.148	0.152
											0.28	0.088	0.093
1x1000RMC/50	0.0176	0.0296	0.36	0.44	2.08/1.69	0.47	0.036	0.62	5.2	1.68	0.48	0.151	0.154
											0.46	0.146	0.149

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	kA/s		A							
1x35RMC/16	5.0	3.7	246	248	232	233	251	252	213	213
1x50RMC/16	7.2	3.7	292	295	276	277	301	303	255	256
1x70RMC/25	10.0	5.3	353	361	337	338	370	376	316	317
1x95RMC/35	13.6	7.1	418	436	405	408	446	462	385	388
1x120RMC/50	17.2	9.8	462	497	459	465	502	533	441	446
1x150RMC/50	21.5	9.8	512	561	516	524	566	609	501	509
1x185RMC/50	26.5	9.8	568	636	581	593	638	698	571	582
1x240RMC/50	34.3	9.8	643	742	675	692	740	830	674	690
1x300RMC/50	42.9	9.8	707	840	758	782	829	953	767	790
1x400RMC/50	57.2	9.8	783	964	858	891	940	114	886	918
1x500RMC/50	71.5	9.8	861	1100	966	1011	1056	1294	1016	1061
1x630RMC/50	90.1	9.8	947	1256	1083	1144	1184	1508	1164	1224
1x800RMC/50	114.4	9.8	1027	1417	1196	1277	1309	1738	1314	1395
1x1000RMC/50	143.0	9.8	1095	1570	1295	1395	1417	1957	1446	1549

MEDIUM VOLTAGE XLPE POWER CABLES

Longitudinally and Radially Sealed 8.7/15 (17.5) kV

XRUHAKXS acc. to HD 620 S3: 2023 Part 10 Section R
A2XS(FL)2Y acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
NA2XS(FL)2Y acc. to DIN VDE 0276-620:2018

Description: ALUMINIUM CONDUCTOR - Circular, stranded and compacted conductor Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x50RMC	8.25 $^{+0.10}$	4.5	18.5	16	22.5	28.6	780	1.5	0.60
1x70RMC	9.5 $^{+0.20}$	4.5	19.7	25	23.8	29.8	950	2.1	0.63
1x95RMC	11.3 $^{+0.20}$	4.5	21.5	35	25.6	31.6	1160	2.85	0.68
1x120RMC	12.5 $^{+0.20}$	4.5	22.7	50	26.8	32.8	1400	3.6	0.71
1x150RMC	14.2 $^{+0.20}$	4.5	24.4	50	28.5	34.5	1520	4.5	0.75
1x185RMC	15.8 $^{+0.20}$	4.5	26.0	50	30.1	36.1	1660	5.55	0.79
1x240RMC	17.9 $^{+0.10}$	4.5	28.1	50	32.2	38.2	1860	7.2	0.84
1x300RMC	20.0 $^{+0.30}$	4.5	30.2	50	34.3	40.3	2080	9	0.89
1x400RMC	22.9 $^{+0.30}$	4.5	33.1	50	37.2	43.2	2380	12	0.97
1x500RMC	25.7 $^{+0.40}$	4.5	36.4	50	40.7	46.7	2800	15	1.05
1x630RMC	29.3 $^{+0.50}$	4.5	40.3	50	44.5	50.8	3290	18.9	1.15
1x800RMC	33.0 $^{+0.50}$	4.5	44.4	50	48.6	55.3	3910	24	1.25
1x1000RMC	38.0 $^{+0.50}$	4.5	49.4	50	53.6	60.5	4630	30	1.38

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_0	Zero reactance X_0	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ o°o² o°o³	o°o¹ o°o² o°o³	o°o¹ o°o² o°o³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.44	0.137	0.833
1x50RMC/16	0.641	0.822	1.12	1.38	2.72/1.37	1.63	0.078	0.19	17.2	0.51	0.73	0.230	0.853
											0.62	0.195	0.845
											0.42	0.131	0.583
1x70RMC/25	0.443	0.568	0.72	0.89	2.63/1.40	1.17	0.073	0.20	15.7	0.56	0.71	0.222	0.610
											0.60	0.189	0.599
											0.39	0.124	0.429
1x95RMC/35	0.320	0.411	0.51	0.63	2.53/1.45	0.88	0.066	0.23	13.9	0.63	0.67	0.212	0.462
											0.58	0.182	0.449
											0.38	0.120	0.346
1x120RMC/50	0.253	0.325	0.36	0.44	2.48/1.47	0.67	0.063	0.25	12.9	0.67	0.66	0.206	0.385
											0.57	0.178	0.370
											0.37	0.115	0.289
1x150RMC/50	0.206	0.265	0.36	0.44	2.42/1.51	0.61	0.059	0.27	11.8	0.74	0.63	0.199	0.331
											0.55	0.173	0.316
											0.35	0.111	0.238
1x185RMC/50	0.164	0.211	0.36	0.44	2.37/1.53	0.55	0.055	0.29	10.9	0.80	0.62	0.193	0.286
											0.54	0.169	0.270
											0.34	0.107	0.193
1x240RMC/50	0.125	0.161	0.36	0.44	2.32/1.56	0.50	0.052	0.32	9.9	0.88	0.59	0.187	0.247
											0.53	0.165	0.231
											0.33	0.103	0.166
1x300RMC/50	0.100	0.130	0.36	0.44	2.28/1.59	0.46	0.049	0.35	9.1	0.96	0.58	0.181	0.223
											0.51	0.161	0.207
											0.32	0.099	0.142
1x400RMC/50	0.0778	0.102	0.36	0.44	2.24/1.61	0.43	0.046	0.39	8.1	1.07	0.55	0.174	0.202
											0.50	0.157	0.187
											0.31	0.097	0.126
1x500RMC/50	0.0605	0.0800	0.36	0.44	2.18/1.62	0.40	0.044	0.43	7.3	1.18	0.54	0.169	0.187
											0.49	0.155	0.174
											0.30	0.094	0.113
1x630RMC/50	0.0469	0.0633	0.36	0.44	2.14/1.65	0.38	0.042	0.49	6.5	1.33	0.52	0.163	0.175
											0.48	0.152	0.165
											0.29	0.092	0.105
1x800RMC/50	0.0367	0.0511	0.36	0.44	2.11/1.67	0.36	0.040	0.54	5.9	1.49	0.50	0.158	0.166
											0.48	0.150	0.158
											0.28	0.088	0.098
1x1000RMC/50	0.0291	0.0425	0.36	0.44	2.08/1.69	0.34	0.037	0.61	5.2	1.67	0.48	0.151	0.157
											0.47	0.147	0.153

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	**kA/s**		**A**							
1x50RMC/16	4.7	3.7	226	228	213	214	234	236	200	200
1x70RMC/25	6.6	5.3	274	279	261	262	288	292	247	247
1x95RMC/35	9.0	7.1	326	336	313	315	348	357	300	302
1x120RMC/50	11.3	9.8	365	383	355	359	394	411	343	347
1x150RMC/50	14.2	9.8	407	432	400	405	445	470	391	395
1x185RMC/50	17.5	9.8	455	491	453	460	506	541	447	454
1x240RMC/50	22.7	9.8	516	572	525	535	586	639	526	536
1x300RMC/50	28.4	9.8	571	649	592	606	660	736	601	615
1x400RMC/50	37.8	9.8	638	749	677	699	755	864	699	720
1x500RMC/50	47.3	9.8	705	859	768	798	852	1007	808	838
1x630RMC/50	59.5	9.8	778	987	871	913	960	1181	935	977
1x800RMC/50	75.6	9.8	846	1123	975	1034	1064	1368	1065	1125
1x1000RMC/50	94.5	9.8	915	1271	1078	1157	1175	1584	1206	1287

MEDIUM VOLTAGE XLPE POWER CABLES Longitudinally and Radially Sealed 8.7/15 (17.5) kV

XRUHKXS acc. to HD 620 S3: 2023 Part 10 Section R
2XS(FL)2Y acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
N2XS(FL)2Y acc. to DIN VDE 0276-620:2018

Description: COPPER CONDUCTOR - Circular, stranded and compacted conductor
Class 2

Operating Conditions

For laying in ground		For installation in air	
Depth of lay:	0.7 m	Ambient temperature:	25°C
Ground temperature:	20°C	Protection from direct solar radiation	
Soil thermal resistivity:	1.0 K · m/W		

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x35RMC	7.0 $^{+0.15}$	4.5	17.2	16	21.3	27.3	920	1.75	0.57
1x50RMC	8.25 $^{+0.20}$	4.5	18.5	16	22.5	28.6	1060	2.5	0.60
1x70RMC	9.6 $^{+0.20}$	4.5	19.8	25	23.9	29.9	1370	3.5	0.63
1x95RMC	11.5 $^{+0.20}$	4.5	21.7	35	25.8	31.8	1740	4.75	0.68
1x120RMC	12.9 $^{+0.25}$	4.5	23.1	50	27.2	33.2	2140	6	0.72
1x150RMC	14.5 $^{+0.30}$	4.5	24.7	50	28.8	34.8	2420	7.5	0.76
1x185RMC	16.0 $^{+0.30}$	4.5	26.2	50	30.3	36.3	2780	9.25	0.79
1x240RMC	18.5 $^{+0.30}$	4.5	28.7	50	32.8	38.8	3340	12	0.86
1x300RMC	20.5 $^{+0.30}$	4.5	30.7	50	34.8	40.8	3930	15	0.91
1x400RMC	23.5 $^{+0.30}$	4.5	33.7	50	37.8	43.8	4800	20	0.98
1x500RMC	26.5 $^{+0.40}$	4.5	37.2	50	41.5	47.5	5910	25	1.07
1x630RMC	30.3 $+^{0.40}$	4.5	41.3	50	45.5	51.8	7270	31.5	1.18
1x800RMC	34.6 $^{+0.50}$	4.5	46.0	50	50.2	56.9	8970	40	1.30
1x1000RMC	38.2 $^{+0.40}$	4.5	49.6	50	53.8	60.7	10880	50	1.38

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.46	0.145	0.684
1x35RMC/16	0.524	0.668	1.12	1.38	2.84/1.32	1.48	0.085	0.17	19.1	0.46	0.76	0.239	0.710
											0.65	0.203	0.698
											0.44	0.137	0.512
1x50RMC/16	0.387	0.494	1.12	1.38	2.72/1.37	1.30	0.078	0.19	17.2	0.51	0.73	0.230	0.544
											0.62	0.195	0.531
											0.42	0.131	0.366
1x70RMC/25	0.268	0.342	0.72	0.89	2.63/1.41	0.94	0.072	0.20	15.6	0.56	0.70	0.221	0.407
											0.60	0.189	0.391
											0.39	0.123	0.276
1x95RMC/35	0.193	0.247	0.51	0.63	2.52/1.45	0.71	0.066	0.23	13.7	0.63	0.67	0.211	0.324
											0.58	0.181	0.306
											0.38	0.119	0.229
1x120RMC/50	0.153	0.196	0.36	0.44	2.46/1.48	0.55	0.062	0.25	12.7	0.69	0.65	0.204	0.283
											0.56	0.177	0.264
											0.36	0.114	0.196
1x150RMC/50	0.124	0.159	0.36	0.44	2.41/1.51	0.51	0.058	0.27	11.6	0.75	0.63	0.198	0.254
											0.55	0.172	0.234
											0.35	0.111	0.169
1x185RMC/50	0.0991	0.128	0.36	0.44	2.37/1.54	0.47	0.055	0.30	10.8	0.81	0.61	0.193	0.231
											0.54	0.169	0.212
											0.34	0.106	0.144
1x240RMC/50	0.0754	0.0978	0.36	0.44	2.31/1.57	0.43	0.051	0.33	9.6	0.90	0.59	0.185	0.209
											0.52	0.164	0.191
											0.33	0.103	0.129
1x300RMC/50	0.0601	0.0789	0.36	0.44	2.27/1.59	0.41	0.048	0.36	8.9	0.98	0.57	0.180	0.196
											0.51	0.161	0.179
											0.31	0.098	0.117
1x400RMC/50	0.0470	0.0629	0.36	0.44	2.23/1.62	0.39	0.045	0.40	7.9	1.10	0.55	0.173	0.184
											0.50	0.156	0.169
											0.31	0.096	0.108
1x500RMC/50	0.0366	0.0505	0.36	0.44	2.17/1.63	0.37	0.043	0.44	7.2	1.21	0.53	0.167	0.175
											0.49	0.154	0.162
											0.30	0.093	0.102
1x630RMC/50	0.0283	0.0410	0.36	0.44	2.13/1.65	0.35	0.041	0.50	6.4	1.37	0.51	0.161	0.166
											0.48	0.151	0.156

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.29	0.091	0.097
1x800RMC/50	0.0221	0.0342	0.36	0.44	2.1/1.67	0.34	0.039	0.57	5.6	1.55	0.49	0.155	0.159
											0.47	0.149	0.152
											0.28	0.088	0.093
1x1000RMC/50	0.0176	0.0295	0.36	0.44	2.08/1.69	0.33	0.037	0.62	5.2	1.68	0.48	0.151	0.154
											0.47	0.146	0.149

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	**kA/s**		**A**							
1x35RMC/16	5.0	3.7	244	247	232	233	251	253	215	215
1x50RMC/16	7.2	3.7	289	294	275	276	300	304	258	258
1x70RMC/25	10.0	5.3	350	360	336	338	368	377	318	319
1x95RMC/35	13.6	7.1	413	435	404	408	443	463	387	391
1x120RMC/50	17.2	9.8	455	496	457	465	498	534	443	449
1x150RMC/50	21.5	9.8	502	560	513	523	559	610	503	512
1x185RMC/50	26.5	9.8	555	634	577	592	627	698	572	585
1x240RMC/50	34.3	9.8	624	740	667	689	723	830	672	693
1x300RMC/50	42.9	9.8	682	838	749	779	805	952	764	793
1x400RMC/50	57.2	9.8	749	962	848	890	905	1113	880	921
1x500RMC/50	71.5	9.8	816	1097	951	1009	1008	1291	1006	1062
1x630RMC/50	90.1	9.8	887	1252	1062	1140	1117	1504	1146	1225
1x800RMC/50	114.4	9.8	951	1412	1165	1269	1220	1731	1288	1393
1x1000RMC/50	143.0	9.8	1003	1562	1257	1387	1306	1946	1411	1545

MEDIUM VOLTAG XLPE POWER CABLES 12/20 (24) kV

YHAKXS acc. to HD 620 S3: 2023 Part 10 Section R
A2XSY acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
NA2XSY acc. to DIN VDE 0276-620:2018

Description: ALUMINIUM CONDUCTOR - Circular, stranded and compacted conductor Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x50RMC	8.25 +0.10	5.5	20.5	16	24.4	29.1	860	1.5	0.44
1x70RMC	9.5 +0.20	5.5	21.7	25	25.6	30.4	1040	2.1	0.46
1x95RMC	11.3 +0.20	5.5	23.5	35	27.4	32.2	1260	2.85	0.48
1x120RMC	12.5 +0.20	5.5	24.7	50	28.6	33.4	1500	3.6	0.50
1x150RMC	14.2 +0.20	5.5	26.4	50	30.3	35.1	1620	4.5	0.53
1x185RMC	15.8 +0.20	5.5	28.0	50	31.9	36.7	1770	5.55	0.55
1x240RMC	17.9 +0.10	5.5	30.1	50	34.0	38.8	1980	7.2	0.58
1x300RMC	20.0 +0.30	5.5	32.2	50	36.1	40.9	2200	9	0.61
1x400RMC	22.9 +0.30	5.5	35.1	50	39.0	43.8	2510	12	0.66
1x500RMC	25.7 +0.40	5.5	38.4	50	42.5	47.3	2940	15	0.71
1x630RMC	29.3 +0.50	5.5	42.3	50	46.4	51.3	3460	18.9	0.77
1x800RMC	33.0 +0.50	5.5	46.4	50	50.5	55.8	4100	24	0.84
1x1000RMC	38.0 +0.50	5.5	51.4	50	55.5	61.0	4850	30	0.92

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_0	Zero reactance X_0	Capacitance C	Capacitive reactance X_C	Charging current I_C	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ o°o¹ o°o¹ ooo² ooo² ooo² ooo³ ooo³ ooo³		
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.44	0.138	0.834
1x50RMC/16	0.641	0.822	1.12	1.38	3.27/1.48	2.20	0.081	0.16	19.8	0.61	0.73	0.230	0.854
											0.63	0.197	0.845
											0.42	0.132	0.583
1x70RMC/25	0.443	0.568	0.72	0.89	3.15/1.52	1.45	0.075	0.18	18.1	0.66	0.71	0.222	0.610
											0.61	0.190	0.599
											0.40	0.125	0.429
1x95RMC/35	0.320	0.411	0.51	0.63	3.01/1.58	1.04	0.069	0.20	16.1	0.74	0.68	0.212	0.462
											0.58	0.183	0.450
											0.39	0.121	0.347
1x120RMC/50	0.253	0.325	0.36	0.44	2.94/1.61	0.77	0.065	0.21	15.0	0.80	0.66	0.207	0.385
											0.57	0.179	0.371
											0.37	0.116	0.289
1x150RMC/50	0.206	0.265	0.36	0.44	2.86/1.65	0.71	0.061	0.23	13.8	0.87	0.64	0.200	0.331
											0.55	0.174	0.317
											0.36	0.112	0.239
1x185RMC/50	0.164	0.211	0.36	0.44	2.80/1.68	0.65	0.058	0.25	12.7	0.94	0.62	0.194	0.286
											0.54	0.170	0.271
											0.34	0.108	0.194
1x240RMC/50	0.125	0.161	0.36	0.44	2.73/1.71	0.60	0.054	0.27	11.6	1.04	0.60	0.187	0.247
											0.53	0.166	0.231
											0.33	0.104	0.166
1x300RMC/50	0.100	0.130	0.36	0.44	2.67/1.74	0.57	0.051	0.30	10.6	1.13	0.58	0.181	0.223
											0.52	0.162	0.208
											0.32	0.100	0.143
1x400RMC/50	0.0778	0.102	0.36	0.44	2.61/1.78	0.54	0.047	0.33	9.6	1.25	0.56	0.175	0.202
											0.50	0.158	0.188
											0.31	0.098	0.126
1x500RMC/50	0.0605	0.0799	0.36	0.44	2.54/1.79	0.52	0.046	0.37	8.7	1.38	0.54	0.169	0.187
											0.50	0.156	0.175
											0.30	0.094	0.114
1x630RMC/50	0.0469	0.0633	0.36	0.44	2.49/1.83	0.51	0.043	0.41	7.7	1.55	0.52	0.163	0.175
											0.49	0.153	0.165
											0.29	0.092	0.105
1x800RMC/50	0.0367	0.0511	0.36	0.44	2.45/1.85	0.49	0.041	0.46	7.0	1.73	0.50	0.158	0.166
											0.48	0.150	0.159
											0.28	0.089	0.099
1x1000RMC/50	0.0291	0.0425	0.36	0.44	2.41/1.88	0.48	0.038	0.51	6.2	1.94	0.48	0.152	0.157
											0.47	0.147	0.153

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	**kA/s**		**A**							
1x50RMC/16	4.7	3.7	226	228	213	214	234	236	200	200
1x70RMC/25	6.6	5.3	274	279	261	262	288	292	247	247
1x95RMC/35	9.0	7.1	326	336	313	315	348	357	300	302
1x120RMC/50	11.3	9.8	365	383	355	359	394	411	343	347
1x150RMC/50	14.2	9.8	407	432	400	405	445	470	391	395
1x185RMC/50	17.5	9.8	455	491	453	460	506	541	447	454
1x240RMC/50	22.7	9.8	516	572	525	535	586	639	526	536
1x300RMC/50	28.4	9.8	571	649	592	606	660	736	601	615
1x400RMC/50	37.8	9.8	638	749	677	699	755	864	699	720
1x500RMC/50	47.3	9.8	705	859	768	798	852	1007	808	838
1x630RMC/50	59.5	9.8	778	987	871	913	960	1181	935	977
1x800RMC/50	75.6	9.8	846	1123	975	1034	1064	1368	1065	1125
1x1000RMC/50	94.5	9.8	915	1271	1078	1157	1175	1584	1206	1287

MEDIUM VOLTAGE XLPE POWER CABLES 12/20 (24) kV

YHKXS acc. to HD 620 S3: 2023 Part 10 Section R
2XSY acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
N2XSY acc. to DIN VDE 0276-620:2018

Description: COPPER CONDUCTOR - Circular, stranded and compacted conductor Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x35RMC	7.0 $^{+0.15}$	5.5	19.2	16	23.1	27.9	990	1.75	0.42
1x50RMC	8.25 $^{+0.20}$	5.5	20.5	16	24.4	29.1	1140	2.5	0.44
1x70RMC	9.6 $^{+0.20}$	5.5	21.8	25	25.7	30.5	1450	3.5	0.46
1x95RMC	11.5 $^{+0.20}$	5.5	23.7	35	27.6	32.4	1830	4.75	0.49
1x120RMC	12.9 $^{+0.25}$	5.5	25.1	50	29.0	33.8	2230	6	0.51
1x150RMC	14.5 $^{+0.30}$	5.5	26.7	50	30.6	35.4	2520	7.5	0.53
1x185RMC	16.0 $^{+0.30}$	5.5	28.2	50	32.1	36.9	2890	9.25	0.55
1x240RMC	18.5 $^{+0.30}$	5.5	30.7	50	34.6	39.4	3460	12	0.59
1x300RMC	20.5 $^{+0.30}$	5.5	32.7	50	36.6	41.4	4060	15	0.62
1x400RMC	23.5 $^{+0.30}$	5.5	35.7	50	39.6	44.4	4940	20	0.67
1x500RMC	26.5 $^{+0.40}$	5.5	39.2	50	43.3	48.1	6050	25	0.72
1x630RMC	30.3 $^{+0.40}$	5.5	43.3	50	47.4	52.5	7460	31.5	0.79
1x800RMC	34.6 $^{+0.50}$	5.5	48.0	50	52.1	57.4	9170	40	0.86
1x1000RMC	38.2 $^{+0.40}$	5.5	51.6	50	55.7	61.4	11130	50	0.92

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ ooo² ooo³	o°o¹ ooo² ooo³	o°o¹ ooo² ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.47	0.146	0.684
1x35RMC/16	0.524	0.668	1.12	1.38	3.43/1.43	2.05	0.088	0.15	21.8	0.55	0.76	0.240	0.710
											0.65	0.204	0.699
											0.44	0.138	0.513
1x50RMC/16	0.387	0.494	1.12	1.38	3.27/1.48	1.88	0.081	0.16	19.8	0.61	0.73	0.230	0.545
											0.63	0.197	0.531
											0.42	0.132	0.367
1x70RMC/25	0.268	0.342	0.72	0.89	3.14/1.53	1.23	0.075	0.18	18.0	0.67	0.70	0.221	0.407
											0.60	0.190	0.391
											0.40	0.124	0.276
1x95RMC/35	0.193	0.247	0.51	0.63	3/1.58	0.88	0.068	0.20	15.9	0.75	0.67	0.211	0.325
											0.58	0.182	0.307
											0.38	0.120	0.230
1x120RMC/50	0.153	0.196	0.36	0.44	2.92/1.62	0.64	0.064	0.22	14.7	0.82	0.65	0.205	0.283
											0.57	0.178	0.265
											0.37	0.115	0.196
1x150RMC/50	0.124	0.159	0.36	0.44	2.85/1.65	0.60	0.060	0.23	13.5	0.89	0.63	0.198	0.254
											0.55	0.173	0.235
											0.36	0.112	0.170
1x185RMC/50	0.0991	0.128	0.36	0.44	2.79/1.68	0.57	0.057	0.25	12.6	0.95	0.61	0.193	0.231
											0.54	0.170	0.212
											0.34	0.107	0.145
1x240RMC/50	0.0754	0.0978	0.36	0.44	2.71/1.72	0.54	0.053	0.28	11.3	1.06	0.59	0.185	0.210
											0.52	0.165	0.192
											0.33	0.103	0.130
1x300RMC/50	0.0601	0.0788	0.36	0.44	2.66/1.75	0.52	0.050	0.30	10.4	1.15	0.57	0.180	0.197
											0.51	0.161	0.180
											0.32	0.099	0.117
1x400RMC/50	0.0470	0.0628	0.36	0.44	2.6/1.79	0.51	0.047	0.34	9.4	1.28	0.55	0.173	0.184
											0.50	0.157	0.169
											0.31	0.097	0.109
1x500RMC/50	0.0366	0.0504	0.36	0.44	2.53/1.8	0.49	0.045	0.38	8.5	1.42	0.53	0.168	0.175
											0.49	0.155	0.163
											0.30	0.094	0.102
1x630RMC/50	0.0283	0.0409	0.36	0.44	2.48/1.83	0.48	0.042	0.42	7.5	1.59	0.51	0.162	0.167
											0.48	0.152	0.157

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ ooo² ooo³	o°o¹ ooo² ooo³	o°o¹ ooo² ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.29	0.091	0.097
1x800RMC/50	0.0221	0.0341	0.36	0.44	2.44/1.86	0.48	0.040	0.48	6.7	1.79	0.50	0.156	0.159
											0.47	0.149	0.153
											0.25	0.089	0.094
1x1000RMC/50	0.0176	0.0294	0.36	0.44	2.41/1.88	0.47	0.038	0.52	6.2	1.95	0.48	0.151	0.154
											0.47	0.147	0.150

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	**kA/s**		**A**							
1x35RMC/16	5.0	3.7	241	243	229	229	246	248	212	212
1x50RMC/16	7.2	3.7	286	289	272	272	295	298	254	255
1x70RMC/25	10.0	5.3	346	354	332	333	363	369	314	315
1x95RMC/35	13.6	7.1	411	427	399	401	438	452	382	385
1x120RMC/50	17.2	9.8	455	487	452	458	493	522	438	443
1x150RMC/50	21.5	9.8	505	550	508	516	555	596	498	505
1x185RMC/50	26.5	9.8	560	623	573	584	626	682	567	577
1x240RMC/50	34.3	9.8	635	728	665	682	725	811	668	683
1x300RMC/50	42.9	9.8	699	825	748	771	813	931	760	782
1x400RMC/50	57.2	9.8	775	947	849	881	922	1088	878	909
1x500RMC/50	71.5	9.8	854	1082	957	1000	1036	1263	1007	1050
1x630RMC/50	90.1	9.8	938	1235	1071	1131	1159	1469	1152	1211
1x800RMC/50	114.4	9.8	1020	1395	1187	1265	1282	1693	1300	1379
1x1000RMC/50	143.0	9.8	1086	1545	1285	1384	1382	1902	1430	1530

MEDIUM VOLTAG XLPE POWER CABLES Longitudinally Sealed 12/20 (24) kV

XUHAKXS acc. to HD 620 S3: 2023 Part 10 Section R
A2XS(F)2Y acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
NA2XS(F)2Y acc. to DIN VDE 0276-620:2018

Description: ALUMINIUM CONDUCTOR - Circular, stranded and compacted conductor Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x50RMC	8.25 +0.10	5.5	20.5	16	24.4	29.1	860	1.5	0.44
1x70RMC	9.5 +0.20	5.5	21.7	25	25.6	30.4	1040	2.1	0.46
1x95RMC	11.3 +0.20	5.5	23.5	35	27.4	32.2	1260	2.85	0.48
1x120RMC	12.5 +0.20	5.5	24.7	50	28.6	33.4	1500	3.6	0.50
1x150RMC	14.2 +0.20	5.5	26.4	50	30.3	35.1	1620	4.5	0.53
1x185RMC	15.8 +0.20	5.5	28.0	50	31.9	36.7	1770	5.55	0.55
1x240RMC	17.9 +0.10	5.5	30.1	50	34.0	38.8	1980	7.2	0.58
1x300RMC	20.0 +0.30	5.5	32.2	50	36.1	40.9	2200	9	0.61
1x400RMC	22.9 +0.30	5.5	35.1	50	39.0	43.8	2510	12	0.66
1x500RMC	25.7 +0.40	5.5	38.4	50	42.5	47.3	2940	15	0.71
1x630RMC	29.3 +0.50	5.5	42.3	50	46.4	51.3	3460	18.9	0.77
1x800RMC	33.0 +0.50	5.5	46.4	50	50.5	55.8	4100	24	0.84
1x1000RMC	38.0 +0.50	5.5	51.4	50	55.5	61.0	4850	30	0.92

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_0	Zero reactance X_0	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ ooo² ooo³	o°o¹ ooo² ooo³	o°o¹ ooo² ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.45	0.141	0.834
1x50RMC/16	0.641	0.822	1.12	1.38	3.27/1.48	2.20	0.081	0.16	19.8	0.61	0.73	0.231	0.854
											0.63	0.199	0.846
											0.43	0.134	0.584
1x70RMC/25	0.443	0.568	0.72	0.89	3.15/1.52	1.45	0.076	0.18	18.1	0.66	0.71	0.223	0.610
											0.61	0.192	0.600
											0.40	0.127	0.430
1x95RMC/35	0.320	0.411	0.51	0.63	3.01/1.58	1.04	0.069	0.20	16.1	0.74	0.68	0.213	0.462
											0.59	0.185	0.450
											0.39	0.123	0.347
1x120RMC/50	0.253	0.325	0.36	0.44	2.94/1.61	0.77	0.066	0.21	15.0	0.80	0.66	0.207	0.385
											0.58	0.181	0.372
											0.38	0.118	0.290
1x150RMC/50	0.206	0.265	0.36	0.44	2.86/1.65	0.71	0.061	0.23	13.8	0.87	0.64	0.200	0.332
											0.56	0.176	0.318
											0.36	0.114	0.240
1x185RMC/50	0.164	0.211	0.36	0.44	2.80/1.68	0.65	0.058	0.25	12.7	0.94	0.62	0.194	0.287
											0.55	0.172	0.272
											0.35	0.109	0.195
1x240RMC/50	0.125	0.161	0.36	0.44	2.73/1.71	0.60	0.054	0.27	11.6	1.04	0.60	0.188	0.247
											0.53	0.168	0.233
											0.34	0.106	0.167
1x300RMC/50	0.100	0.129	0.36	0.44	2.67/1.74	0.57	0.051	0.30	10.6	1.13	0.58	0.182	0.223
											0.52	0.164	0.209
											0.32	0.101	0.143
1x400RMC/50	0.0778	0.101	0.36	0.44	2.61/1.78	0.54	0.048	0.33	9.6	1.25	0.56	0.175	0.202
											0.51	0.159	0.189
											0.31	0.099	0.127
1x500RMC/50	0.0605	0.0799	0.36	0.44	2.54/1.79	0.52	0.046	0.37	8.7	1.38	0.54	0.170	0.188
											0.50	0.157	0.176
											0.30	0.096	0.115
1x630RMC/50	0.0469	0.0632	0.36	0.44	2.49/1.83	0.51	0.043	0.41	7.7	1.55	0.52	0.164	0.175
											0.49	0.154	0.166
											0.30	0.093	0.106
1x800RMC/50	0.0367	0.0510	0.36	0.44	2.45/1.85	0.49	0.041	0.46	7.0	1.73	0.50	0.158	0.166
											0.48	0.151	0.160
											0.29	0.090	0.099
1x1000RMC/50	0.0291	0.0424	0.36	0.44	2.41/1.88	0.48	0.038	0.51	6.2	1.94	0.48	0.152	0.158
											0.47	0.148	0.154

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	**kA/s**		**A**							
1x50RMC/16	4.7	3.7	225	226	213	213	233	234	200	200
1x70RMC/25	6.6	5.3	274	278	260	261	287	290	246	247
1x95RMC/35	9.0	7.1	327	334	313	314	348	355	300	301
1x120RMC/50	11.3	9.8	367	381	355	358	395	409	343	346
1x150RMC/50	14.2	9.8	410	430	400	403	448	467	391	394
1x185RMC/50	17.5	9.8	461	489	453	458	510	537	448	453
1x240RMC/50	22.7	9.8	526	570	525	533	593	635	527	534
1x300RMC/50	28.4	9.8	585	646	594	605	672	731	603	614
1x400RMC/50	37.8	9.8	658	746	681	697	773	859	704	719
1x500RMC/50	47.3	9.8	734	855	776	798	879	1002	815	837
1x630RMC/50	59.5	9.8	819	984	883	915	1002	1175	946	977
1x800RMC/50	75.6	9.8	901	1121	991	1035	1123	1362	1082	1126
1x1000RMC/50	94.5	9.8	986	1269	1103	1162	1255	1578	1231	1290

MEDIUM VOLTAGE XLPE POWER CABLES Longitudinally Sealed 12/20 (24) kV

XUHKXS acc. to HD 620 S3: 2023 Part 10 Section R
2XS(F)2Y acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
N2XS(F)2Y acc. to DIN VDE 0276-620:2018

Description: COPPER CONDUCTOR - Circular, stranded and compacted conductor Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x35RMC	7.0 $^{+0.15}$	5.5	19.2	16	23.1	27.9	990	1.75	0.42
1x50RMC	8.25 $^{+0.20}$	5.5	20.5	16	24.4	29.1	1140	2.5	0.44
1x70RMC	9.6 $^{+0.20}$	5.5	21.8	25	25.7	30.5	1450	3.5	0.46
1x95RMC	11.5 $^{+0.20}$	5.5	23.7	35	27.6	32.4	1830	4.75	0.49
1x120RMC	12.9 $^{+0.25}$	5.5	25.1	50	29.0	33.8	2230	6	0.51
1x150RMC	14.5 $^{+0.30}$	5.5	26.7	50	30.6	35.4	2520	7.5	0.53
1x185RMC	16.0 $^{+0.30}$	5.5	28.2	50	32.1	36.9	2890	9.25	0.55
1x240RMC	18.5 $^{+0.30}$	5.5	30.7	50	34.6	39.4	3460	12	0.59
1x300RMC	20.5 $^{+0.30}$	5.5	32.7	50	36.6	41.4	4060	15	0.62
1x400RMC	23.5 $^{+0.30}$	5.5	35.7	50	39.6	44.4	4940	20	0.67
1x500RMC	26.5 $^{+0.40}$	5.5	39.2	50	43.3	48.1	6050	25	0.72
1x630RMC	30.3 $^{+0.40}$	5.5	43.3	50	47.4	52.5	7460	31.5	0.79
1x800RMC	34.6 $^{+0.50}$	5.5	48.0	50	52.1	57.4	9170	40	0.86
1x1000RMC	38.2 $^{+0.40}$	5.5	51.6	50	55.7	61.4	11130	50	0.92

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ ooo² ooo³	o°o¹ ooo² ooo³	o°o¹ ooo² ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.47	0.148	0.685
1x35RMC/16	0.524	0.668	1.12	1.38	3.43/1.43	2.05	0.088	0.15	21.8	0.55	0.76	0.240	0.710
											0.66	0.206	0.699
											0.45	0.141	0.513
1x50RMC/16	0.387	0.494	1.12	1.38	3.27/1.48	1.88	0.081	0.16	19.8	0.61	0.73	0.231	0.545
											0.63	0.199	0.532
											0.43	0.134	0.367
1x70RMC/25	0.268	0.342	0.72	0.89	3.14/1.53	1.23	0.075	0.18	18.0	0.67	0.71	0.222	0.408
											0.61	0.192	0.392
											0.40	0.126	0.277
1x95RMC/35	0.193	0.247	0.51	0.63	3/1.58	0.88	0.069	0.20	15.9	0.75	0.67	0.212	0.325
											0.59	0.184	0.308
											0.39	0.122	0.230
1x120RMC/50	0.153	0.196	0.36	0.44	2.92/1.62	0.64	0.065	0.22	14.7	0.82	0.65	0.205	0.284
											0.57	0.180	0.266
											0.37	0.117	0.197
1x150RMC/50	0.124	0.159	0.36	0.44	2.85/1.65	0.60	0.061	0.23	13.5	0.89	0.63	0.199	0.255
											0.56	0.175	0.237
											0.36	0.113	0.171
1x185RMC/50	0.0991	0.128	0.36	0.44	2.79/1.68	0.57	0.058	0.25	12.6	0.95	0.62	0.194	0.232
											0.55	0.172	0.214
											0.34	0.108	0.146
1x240RMC/50	0.0754	0.0978	0.36	0.44	2.71/1.72	0.54	0.053	0.28	11.3	1.06	0.59	0.186	0.210
											0.53	0.166	0.193
											0.33	0.105	0.131
1x300RMC/50	0.0601	0.0787	0.36	0.44	2.66/1.75	0.52	0.051	0.30	10.4	1.15	0.58	0.181	0.197
											0.52	0.163	0.181
											0.32	0.101	0.119
1x400RMC/50	0.0470	0.0628	0.36	0.44	2.6/1.79	0.51	0.047	0.34	9.4	1.28	0.55	0.174	0.185
											0.51	0.159	0.171
											0.31	0.098	0.110
1x500RMC/50	0.0366	0.0503	0.36	0.44	2.53/1.8	0.49	0.045	0.38	8.5	1.42	0.54	0.168	0.176
											0.50	0.156	0.164
											0.30	0.095	0.103
1x630RMC/50	0.0283	0.0408	0.38	0.44	2.48/1.83	0.48	0.043	0.42	7.5	1.59	0.52	0.162	0.167
											0.49	0.153	0.158

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ ooo² ooo³	o°o¹ ooo² ooo³	o°o¹ ooo² ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.29	0.092	0.098
1x800RMC/50	0.0221	0.0340	0.36	0.44	2.44/1.86	0.48	0.040	0.48	6.7	1.79	0.50	0.156	0.160
											0.48	0.150	0.154
											0.29	0.090	0.095
1x1000RMC/50	0.0176	0.0293	0.36	0.44	2.41/1.88	0.47	0.038	0.52	6.2	1.95	0.48	0.152	0.155
											0.47	0.148	0.151

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	**kA/s**		**A**							
1x35RMC/16	5.0	3.7	244	246	231	231	250	252	215	215
1x50RMC/16	7.2	3.7	289	292	275	275	300	303	257	258
1x70RMC/25	10.0	5.3	351	358	335	337	369	375	318	319
1x95RMC/35	13.6	7.1	416	432	403	406	445	460	387	390
1x120RMC/50	17.2	9.8	461	493	457	463	502	531	443	449
1x150RMC/50	21.5	9.8	511	556	514	522	566	606	504	511
1x185RMC/50	26.5	9.8	567	631	579	590	638	694	574	584
1x240RMC/50	34.3	9.8	643	736	672	689	740	825	677	692
1x300RMC/50	42.9	9.8	708	834	756	779	829	947	770	792
1x400RMC/50	57.2	9.8	785	958	857	889	940	1107	889	920
1x500RMC/50	71.5	9.8	864	1093	965	1009	1057	1285	1020	1063
1x630RMC/50	90.1	9.8	949	1249	1082	1142	1185	1496	1168	1227
1x800RMC/50	114.4	9.8	1032	1410	1198	1277	1312	1725	1319	1398
1x1000RMC/50	143.0	9.8	1100	1561	1297	1397	1417	1941	1452	1553

MEDIUM VOLTAGE XLPE POWER CABLES

Longitudinally and Radially Sealed 12/20 (24) kV

XRUHAKXS acc. to HD 620 S3: 2023 Part 10 Section R
A2XS(FL)2Y acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
NA2XS(FL)2Y acc. to DIN VDE 0276-620:2018

Description: ALUMINIUM CONDUCTOR - Circular, stranded and compacted conductor Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x50RMC	8.25 +0.10	5.5	20.5	16	24.4	29.1	860	1.5	0.44
1x70RMC	9.5 +0.20	5.5	21.7	25	25.6	30.4	1040	2.1	0.46
1x95RMC	11.3 +0.20	5.5	23.5	35	27.4	32.2	1260	2.85	0.48
1x120RMC	12.5 +0.20	5.5	24.7	50	28.6	33.4	1500	3.6	0.50
1x150RMC	14.2 +0.20	5.5	26.4	50	30.3	35.1	1620	4.5	0.53
1x185RMC	15.8 +0.20	5.5	28.0	50	31.9	36.7	1770	5.55	0.55
1x240RMC	17.9 +0.10	5.5	30.1	50	34.0	38.8	1980	7.2	0.58
1x300RMC	20.0 +0.30	5.5	32.2	50	36.1	40.9	2200	9	0.61
1x400RMC	22.9 +0.30	5.5	35.1	50	39.0	43.8	2510	12	0.66
1x500RMC	25.7 +0.40	5.5	38.4	50	42.5	47.3	2940	15	0.71
1x630RMC	29.3 +0.50	5.5	42.3	50	46.4	51.3	3460	18.9	0.77
1x800RMC	33.0 +0.50	5.5	46.4	50	50.5	55.8	4100	24	0.84
1x1000RMC	38.0 +0.50	5.5	51.4	50	55.5	61.0	4850	30	0.92

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_0	Zero reactance X_0	Capacitance C	Capacitive reactance X_C	Charging current I_C	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ ooo² ooo³	o°o¹ ooo² ooo³	o°o¹ ooo² ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.45	0.142	0.834
1x50RMC/16	0.641	0.822	1.12	1.38	3.27/1.48	1.60	0.083	0.16	19.8	0.61	0.74	0.231	0.854
											0.64	0.200	0.846
											0.43	0.135	0.584
1x70RMC/25	0.443	0.568	0.72	0.89	3.15/1.52	1.16	0.078	0.18	18.1	0.66	0.71	0.223	0.610
											0.62	0.193	0.600
											0.41	0.128	0.430
1x95RMC/35	0.320	0.411	0.51	0.63	3.01/1.58	0.86	0.071	0.20	16.1	0.74	0.68	0.213	0.463
											0.59	0.186	0.451
											0.39	0.124	0.347
1x120RMC/50	0.253	0.325	0.36	0.44	2.94/1.61	0.67	0.067	0.21	15.0	0.80	0.66	0.207	0.385
											0.58	0.182	0.372
											0.38	0.119	0.290
1x150RMC/50	0.206	0.265	0.36	0.44	2.86/1.65	0.61	0.063	0.23	13.8	0.87	0.64	0.200	0.332
											0.56	0.177	0.318
											0.36	0.115	0.240
1x185RMC/50	0.164	0.211	0.36	0.44	2.80/1.68	0.55	0.060	0.25	12.7	0.94	0.62	0.195	0.287
											0.55	0.173	0.273
											0.35	0.110	0.195
1x240RMC/50	0.125	0.161	0.36	0.44	2.73/1.71	0.49	0.056	0.27	11.6	1.04	0.60	0.188	0.248
											0.54	0.168	0.233
											0.34	0.106	0.168
1x300RMC/50	0.100	0.129	0.36	0.44	2.67/1.74	0.46	0.053	0.30	10.6	1.13	0.58	0.182	0.224
											0.52	0.164	0.209
											0.32	0.102	0.144
1x400RMC/50	0.0778	0.101	0.36	0.44	2.61/1.78	0.43	0.049	0.33	9.6	1.25	0.56	0.175	0.203
											0.51	0.160	0.190
											0.32	0.099	0.128
1x500RMC/50	0.0605	0.0799	0.36	0.44	2.54/1.79	0.40	0.047	0.37	8.7	1.38	0.54	0.170	0.188
											0.50	0.157	0.177
											0.31	0.097	0.115
1x630RMC/50	0.0469	0.0632	0.36	0.44	2.49/1.83	0.38	0.044	0.41	7.7	1.55	0.52	0.164	0.176
											0.49	0.155	0.167
											0.30	0.094	0.107
1x800RMC/50	0.0367	0.0510	0.36	0.44	2.45/1.85	0.36	0.042	0.46	7.0	1.73	0.50	0.159	0.167
											0.48	0.152	0.160
											0.29	0.091	0.100
1x1000RMC/50	0.0291	0.0423	0.36	0.44	2.41/1.88	0.34	0.039	0.51	6.2	1.94	0.48	0.152	0.158
											0.47	0.149	0.155

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	**kA/s**		**A**							
1x50RMC/16	4.7	3.7	224	226	212	213	233	235	201	201
1x70RMC/25	6.6	5.3	272	277	260	261	287	291	248	249
1x95RMC/35	9.0	7.1	324	334	312	314	347	356	301	303
1x120RMC/50	11.3	9.8	363	380	354	357	393	409	345	348
1x150RMC/50	14.2	9.8	405	429	398	403	444	467	392	397
1x185RMC/50	17.5	9.8	453	488	451	458	504	538	449	455
1x240RMC/50	22.7	9.8	515	568	523	533	585	635	527	537
1x300RMC/50	28.4	9.8	570	644	589	603	659	731	603	616
1x400RMC/50	37.8	9.8	637	744	675	696	753	858	701	721
1x500RMC/50	47.3	9.8	705	853	766	795	851	1000	810	838
1x630RMC/50	59.5	9.8	778	981	870	912	958	1171	936	977
1x800RMC/50	75.6	9.8	848	1117	974	1032	1063	1357	1067	1125
1x1000RMC/50	94.5	9.8	916	1264	1077	1155	1173	1570	1208	1287

MEDIUM VOLTAGE XLPE POWER CABLES

Longitudinally and Radially Sealed 12/20 (24) kV

XRUHKXS acc. to HD 620 S3: 2023 Part 10 Section R
2XS(FL)2Y acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
N2XS(FL)2Y acc. to DIN VDE 0276-620:2018

Description: COPPER CONDUCTOR - Circular, stranded and compacted conductor
Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x35RMC	7.0 $^{+0.15}$	5.5	19.2	16	23.1	27.9	990	1.75	0.42
1x50RMC	8.25 $^{+0.20}$	5.5	20.5	16	24.4	29.1	1140	2.5	0.44
1x70RMC	9.6 $^{+0.20}$	5.5	21.8	25	25.7	30.5	1450	3.5	0.46
1x95RMC	11.5 $^{+0.20}$	5.5	23.7	35	27.6	32.4	1830	4.75	0.49
1x120RMC	12.9 $^{+0.25}$	5.5	25.1	50	29.0	33.8	2230	6	0.51
1x150RMC	14.5 $^{+0.30}$	5.5	26.7	50	30.6	35.4	2520	7.5	0.53
1x185RMC	16.0 $^{+0.30}$	5.5	28.2	50	32.1	36.9	2890	9.25	0.55
1x240RMC	18.5 $^{+0.30}$	5.5	30.7	50	34.6	39.4	3460	12	0.59
1x300RMC	20.5 $^{+0.30}$	5.5	32.7	50	36.6	41.4	4060	15	0.62
1x400RMC	23.5 $^{+0.30}$	5.5	35.7	50	39.6	44.4	4940	20	0.67
1x500RMC	26.5 $^{+0.40}$	5.5	39.2	50	43.3	48.1	6050	25	0.72
1x630RMC	30.3 $^{+0.40}$	5.5	43.3	50	47.4	52.5	7460	31.5	0.79
1x800RMC	34.6 $^{+0.50}$	5.5	48.0	50	52.1	57.4	9170	40	0.86
1x1000RMC	38.2 $^{+0.40}$	5.5	51.6	50	55.7	61.4	11130	50	0.92

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ ooo² ooo³	o°o¹ ooo² ooo³	o°o¹ ooo² ooo³
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kV/mm	Ω/km	Ω/km	µF/km	Ω/km	A/km	mH/km	Ω/km	Ω/km
											0.47	0.149	0.685
1x35RMC/16	0.524	0.668	1.12	1.38	3.43/1.43	1.46	0.090	0.15	21.8	0.55	0.77	0.240	0.710
											0.66	0.207	0.700
											0.45	0.142	0.514
1x50RMC/16	0.387	0.494	1.12	1.38	3.27/1.48	1.27	0.083	0.16	19.8	0.61	0.74	0.231	0.545
											0.64	0.200	0.533
											0.43	0.135	0.368
1x70RMC/25	0.268	0.342	0.72	0.89	3.14/1.53	0.93	0.077	0.18	18.0	0.67	0.71	0.222	0.408
											0.61	0.193	0.393
											0.40	0.127	0.277
1x95RMC/35	0.193	0.247	0.51	0.63	3/1.58	0.70	0.070	0.20	15.9	0.75	0.67	0.212	0.325
											0.59	0.185	0.308
											0.39	0.122	0.231
1x120RMC/50	0.153	0.196	0.36	0.44	2.92/1.62	0.54	0.066	0.22	14.7	0.82	0.65	0.206	0.284
											0.57	0.180	0.266
											0.37	0.118	0.198
1x150RMC/50	0.124	0.159	0.36	0.44	2.85/1.65	0.50	0.062	0.23	13.5	0.89	0.63	0.199	0.255
											0.56	0.176	0.237
											0.36	0.114	0.171
1x185RMC/50	0.0991	0.128	0.36	0.44	2.79/1.68	0.47	0.059	0.25	12.6	0.95	0.62	0.194	0.232
											0.55	0.172	0.214
											0.35	0.109	0.146
1x240RMC/50	0.0754	0.0977	0.36	0.44	2.71/1.72	0.43	0.055	0.28	11.3	1.06	0.59	0.186	0.210
											0.53	0.167	0.194
											0.34	0.106	0.132
1x300RMC/50	0.0601	0.0787	0.36	0.44	2.66/1.75	0.41	0.052	0.30	10.4	1.15	0.58	0.181	0.197
											0.52	0.164	0.182
											0.32	0.101	0.119
1x400RMC/50	0.0470	0.0627	0.36	0.44	2.6/1.79	0.39	0.048	0.34	9.4	1.28	0.55	0.174	0.185
											0.51	0.159	0.171
											0.31	0.099	0.111
1x500RMC/50	0.0366	0.0503	0.36	0.44	2.53/1.8	0.37	0.046	0.38	8.5	1.42	0.54	0.169	0.176
											0.50	0.157	0.165
											0.30	0.096	0.104
1x630RMC/50	0.0283	0.0408	0.36	0.44	2.48/1.83	0.35	0.044	0.42	7.5	1.59	0.52	0.162	0.167
											0.49	0.154	0.159

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ ooo² ooo³	o°o¹ ooo² ooo³	o°o¹ ooo² ooo³
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kV/mm	Ω/km	Ω/km	µF/km	Ω/km	A/km	mH/km	Ω/km	Ω/km
											0.30	0.093	0.099
1x800RMC/50	0.0221	0.0340	0.36	0.44	2.44/1.86	0.34	0.041	0.48	6.7	1.79	0.50	0.157	0.160
											0.48	0.151	0.155
											0.29	0.091	0.095
1x1000RMC/50	0.0176	0.0292	0.36	0.44	2.41/1.88	0.33	0.039	0.52	6.2	1.95	0.48	0.152	0.155
											0.47	0.149	0.152

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	kA/s		A							
1x35RMC/16	5.0	3.7	242	245	231	231	250	252	216	217
1x50RMC/16	7.2	3.7	287	292	274	275	300	303	259	260
1x70RMC/25	10.0	5.3	347	357	334	336	367	376	319	321
1x95RMC/35	13.6	7.1	411	431	402	406	442	461	389	392
1x120RMC/50	17.2	9.8	453	492	455	462	497	531	445	451
1x150RMC/50	21.5	9.8	501	555	511	521	558	606	505	514
1x185RMC/50	26.5	9.8	554	629	575	589	627	694	574	587
1x240RMC/50	34.3	9.8	624	735	666	687	722	824	675	695
1x300RMC/50	42.9	9.8	682	832	747	776	805	946	767	794
1x400RMC/50	57.2	9.8	750	955	846	887	906	1105	883	922
1x500RMC/50	71.5	9.8	818	1089	949	1006	1008	1281	1008	1064
1x630RMC/50	90.1	9.8	889	1244	1060	1138	1117	1491	1150	1227
1x800RMC/50	114.4	9.8	954	1403	1167	1271	1220	1716	1291	1395
1x1000RMC/50	143.0	9.8	1006	1554	1257	1387	1305	1931	1415	1548

MEDIUM VOLTAGE XLPE POWER CABLES 18/30 (36) kV

YHAKXS acc. to HD 620 S3: 2023 Part 10 Section R
A2XSY acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
NA2XSY acc. to DIN VDE 0276-620:2018

Description: ALUMINIUM CONDUCTOR - Circular, stranded and compacted conductor Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x50RMC	8.25 $^{+0.10}$	8.0	25.5	16	29.4	34.1	1080	1.5	0.51
1x70RMC	9.5 $^{+0.20}$	8.0	26.7	25	30.6	35.4	1270	2.1	0.53
1x95RMC	11.3 $^{+0.20}$	8.0	28.5	35	32.4	37.2	1500	2.85	0.56
1x120RMC	12.5 $^{+0.20}$	8.0	29.7	50	33.6	38.4	1750	3.6	0.58
1x150RMC	14.2 $^{+0.20}$	8.0	31.4	50	35.3	40.1	1890	4.5	0.60
1x185RMC	15.8 $^{+0.20}$	8.0	33.0	50	36.9	41.7	2050	5.55	0.63
1x240RMC	17.9 $^{+0.10}$	8.0	35.1	50	39.0	43.8	2280	7.2	0.66
1x300RMC	20.0 $^{+0.30}$	8.0	37.2	50	41.1	45.9	2510	9	0.69
1x400RMC	22.9 $^{+0.30}$	8.0	40.1	50	44.0	48.8	2850	12	0.73
1x500RMC	25.7 $^{+0.40}$	8.0	43.4	50	47.5	52.7	3350	15	0.79
1x630RMC	29.3 $^{+0.50}$	8.0	47.3	50	51.4	56.7	3890	18.9	0.85
1x800RMC	33.0 $^{+0.50}$	8.0	51.4	50	55.5	61.0	4550	24	0.92
1x1000RMC	38.0 $^{+0.50}$	8.0	56.4	50	60.5	66.4	5370	30	1.00

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_0	Zero reactance X_0	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ ooo² ooo³	o°o¹ ooo² ooo³	o°o¹ ooo² ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.47	0.148	0.835
1x50RMC/16	0.641	0.822	1.12	1.38	3.85/1.40	2.20	0.093	0.13	25.2	0.71	0.74	0.233	0.854
											0.66	0.206	0.847
											0.45	0.142	0.586
1x70RMC/25	0.443	0.568	0.72	0.89	3.67/1.44	1.45	0.087	0.14	23.2	0.77	0.72	0.225	0.611
											0.64	0.200	0.602
											0.43	0.134	0.432
1x95RMC/35	0.320	0.411	0.51	0.63	3.48/1.50	1.04	0.080	0.15	20.9	0.86	0.68	0.215	0.464
											0.61	0.192	0.453
											0.41	0.130	0.350
1x120RMC/50	0.253	0.325	0.36	0.44	3.38/1.54	0.77	0.076	0.16	19.6	0.92	0.67	0.210	0.386
											0.60	0.188	0.375
											0.40	0.124	0.292
1x150RMC/50	0.206	0.265	0.36	0.44	3.26/1.58	0.71	0.071	0.18	18.1	1.00	0.64	0.202	0.333
											0.58	0.183	0.321
											0.38	0.120	0.243
1x185RMC/50	0.164	0.211	0.36	0.44	3.17/1.62	0.65	0.067	0.19	16.8	1.07	0.63	0.197	0.288
											0.57	0.178	0.276
											0.37	0.115	0.198
1x240RMC/50	0.125	0.161	0.36	0.44	3.08/1.66	0.60	0.063	0.21	15.4	1.17	0.60	0.190	0.249
											0.55	0.174	0.237
											0.35	0.111	0.171
1x300RMC/50	0.100	0.129	0.36	0.44	3.00/1.69	0.57	0.059	0.22	14.2	1.26	0.59	0.184	0.225
											0.54	0.170	0.213
											0.34	0.107	0.147
1x400RMC/50	0.0778	0.101	0.36	0.44	2.91/1.73	0.54	0.055	0.25	12.9	1.40	0.56	0.177	0.204
											0.52	0.165	0.194
											0.33	0.104	0.131
1x500RMC/50	0.0605	0.0797	0.36	0.44	2.82/1.76	0.52	0.053	0.27	11.7	1.53	0.55	0.172	0.190
											0.52	0.162	0.181
											0.32	0.101	0.119
1x630RMC/50	0.0469	0.0630	0.36	0.44	2.75/1.80	0.51	0.050	0.30	10.5	1.71	0.53	0.166	0.177
											0.51	0.159	0.171
											0.31	0.098	0.110
1x800RMC/50	0.0367	0.0507	0.36	0.44	2.69/1.84	0.49	0.047	0.33	9.5	1.89	0.51	0.160	0.168
											0.50	0.156	0.164
											0.30	0.094	0.103
1x1000RMC/50	0.0291	0.0420	0.36	0.44	2.63/1.87	0.48	0.044	0.37	8.5	2.12	0.49	0.154	0.160
											0.49	0.152	0.158

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	**kA/s**		**A**							
1x50RMC/16	4.7	3.7	219	220	208	209	229	230	200	200
1x70RMC/25	6.6	5.3	267	270	255	256	282	284	247	247
1x95RMC/35	9.0	7.1	319	325	307	308	341	347	300	301
1x120RMC/50	11.3	9.8	357	371	348	350	387	399	343	345
1x150RMC/50	14.2	9.8	402	418	392	395	438	455	390	393
1x185RMC/50	17.5	9.8	452	476	445	450	499	523	447	451
1x240RMC/50	22.7	9.8	517	555	517	524	580	618	524	531
1x300RMC/50	28.4	9.8	577	630	584	594	657	710	600	609
1x400RMC/50	37.8	9.8	650	728	670	684	756	833	699	712
1x500RMC/50	47.3	9.8	726	834	763	784	858	969	808	828
1x630RMC/50	59.5	9.8	811	961	870	900	978	1134	936	965
1x800RMC/50	75.6	9.8	895	1095	980	1022	1097	1314	1071	1112
1x1000RMC/50	94.5	9.8	980	1241	1091	1147	1222	1518	1216	1272

MEDIUM VOLTAGE XLPE POWER CABLES 18/30 (36) kV

YHKXS acc. to HD 620 S3: 2023 Part 10 Section R
2XSY acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
N2XSY acc. to DIN VDE 0276-620:2018

Description: COPPER CONDUCTOR - Circular, stranded and compacted conductor
Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x35RMC	7.0 $^{+0.15}$	8.0	24.2	16	28.1	32.9	1210	1.75	0.49
1x50RMC	8.25 $^{+0.20}$	8.0	25.5	16	29.4	34.1	1370	2.5	0.51
1x70RMC	9.6 $^{+0.20}$	8.0	26.8	25	30.7	35.5	1690	3.5	0.53
1x95RMC	11.5 $^{+0.20}$	8.0	28.7	35	32.6	37.4	2080	4.75	0.56
1x120RMC	12.9 $^{+0.25}$	8.0	30.1	50	34.0	38.8	2490	6	0.58
1x150RMC	14.5 $^{+0.30}$	8.0	31.7	50	35.6	40.4	2800	7.5	0.61
1x185RMC	16.0 $^{+0.30}$	8.0	33.2	50	37.1	41.9	3180	9.25	0.63
1x240RMC	18.5 $^{+0.30}$	8.0	35.7	50	39.6	44.4	3760	12	0.67
1x300RMC	20.5 $^{+0.30}$	8.0	37.7	50	41.6	46.4	4370	15	0.70
1x400RMC	23.5 $^{+0.30}$	8.0	40.7	50	44.6	49.6	5290	20	0.74
1x500RMC	26.5 $^{+0.40}$	8.0	44.2	50	48.3	53.5	6460	25	0.80
1x630RMC	30.3 $^{+0.40}$	8.0	48.3	50	52.4	57.7	7880	31.5	0.87
1x800RMC	34.6 $^{+0.50}$	8.0	53.0	50	57.1	62.8	9660	40	0.94
1x1000RMC	38.2 $^{+0.40}$	8.0	56.6	50	60.7	66.6	11620	50	1.00

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ ooo² ooo³	o°o¹ ooo² ooo³	o°o¹ ooo² ooo³
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kV/mm	Ω/km	Ω/km	µF/km	Ω/km	A/km	mH/km	Ω/km	Ω/km
											0.50	0.156	0.686
1x35RMC/16	0.524	0.668	1.12	1.38	4.07/1.34	2.05	0.101	0.12	27.6	0.65	0.77	0.243	0.711
											0.68	0.215	0.702
											0.47	0.148	0.516
1x50RMC/16	0.387	0.494	1.12	1.38	3.85/1.40	1.88	0.093	0.13	25.2	0.71	0.74	0.233	0.546
											0.66	0.206	0.535
											0.45	0.141	0.370
1x70RMC/25	0.268	0.342	0.72	0.89	3.66/1.45	1.23	0.087	0.14	23.1	0.78	0.71	0.224	0.409
											0.64	0.200	0.396
											0.42	0.133	0.280
1x95RMC/35	0.193	0.247	0.51	0.63	3.47/1.51	0.88	0.079	0.15	20.7	0.87	0.68	0.214	0.327
											0.61	0.191	0.312
											0.41	0.128	0.234
1x120RMC/50	0.153	0.196	0.36	0.44	3.35/1.55	0.64	0.075	0.17	19.2	0.94	0.66	0.208	0.285
											0.59	0.187	0.270
											0.39	0.124	0.201
1x150RMC/50	0.124	0.159	0.36	0.44	3.25/1.59	0.60	0.070	0.18	17.8	1.01	0.64	0.201	0.256
											0.58	0.182	0.241
											0.38	0.120	0.175
1x185RMC/50	0.0991	0.127	0.36	0.44	3.16/1.62	0.57	0.067	0.19	16.7	1.08	0.62	0.196	0.234
											0.57	0.178	0.219
											0.36	0.114	0.150
1x240RMC/50	0.0754	0.0976	0.36	0.44	3.05/1.67	0.54	0.062	0.21	15.1	1.19	0.60	0.188	0.212
											0.55	0.172	0.198
											0.35	0.111	0.136
1x300RMC/50	0.0601	0.0786	0.36	0.44	2.98/1.70	0.52	0.059	0.23	14.0	1.29	0.58	0.183	0.199
											0.54	0.169	0.186
											0.34	0.106	0.123
1x400RMC/50	0.0470	0.0625	0.36	0.44	2.90/1.74	0.50	0.054	0.25	12.6	1.42	0.56	0.176	0.187
											0.52	0.164	0.176
											0.33	0.103	0.115
1x500RMC/50	0.0366	0.0500	0.36	0.44	2.80/1.77	0.49	0.052	0.28	11.5	1.57	0.54	0.170	0.178
											0.51	0.161	0.169
											0.32	0.100	0.108
1x630RMC/50	0.0283	0.0404	0.36	0.44	2.73/1.81	0.48	0.049	0.31	10.3	1.75	0.52	0.164	0.169
											0.50	0.158	0.163

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ ooo² ooo³	o°o¹ ooo² ooo³	o°o¹ ooo² ooo³
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kV/mm	Ω/km	Ω/km	µF/km	Ω/km	A/km	mH/km	Ω/km	Ω/km
											0.31	0.097	0.102
1x800RMC/50	0.0221	0.0336	0.36	0.44	2.67/1.85	0.48	0.046	0.35	9.2	1.97	0.50	0.158	0.162
											0.49	0.155	0.158
											0.30	0.094	0.098
1x1000RMC/50	0.0176	0.0288	0.36	0.44	2.63/1.87	0.47	0.044	0.38	8.5	2.13	0.49	0.154	0.157
											0.48	0.152	0.155

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	kA/s		A							
1x35RMC/16	5.0	3.7	237	239	226	226	246	247	215	216
1x50RMC/16	7.2	3.7	282	284	269	269	294	296	258	258
1x70RMC/25	10.0	5.3	342	348	329	330	361	367	318	319
1x95RMC/35	13.6	7.1	407	420	396	398	436	449	387	389
1x120RMC/50	17.2	9.8	453	480	448	453	492	518	443	447
1x150RMC/50	21.5	9.8	503	541	504	511	555	590	503	509
1x185RMC/50	26.5	9.8	559	614	569	579	626	676	572	582
1x240RMC/50	34.3	9.8	636	717	661	676	726	802	674	688
1x300RMC/50	42.9	9.8	702	814	744	765	814	919	767	786
1x400RMC/50	57.2	9.8	779	934	845	875	923	1072	885	913
1x500RMC/50	71.5	9.8	859	1066	953	995	1035	1242	1014	1053
1x630RMC/50	90.1	9.8	946	1220	1072	1129	1163	1446	1160	1215
1x800RMC/50	114.4	9.8	1029	1379	1187	1263	1283	1663	1309	1384
1x1000RMC/50	143.0	9.8	1098	1529	1289	1386	1389	1871	1442	1538

MEDIUM VOLTAGE XLPE POWER CABLES Longitudinally Sealed 18/30 (36) kV

XUHAKXS acc. to HD 620 S3: 2023 Part 10 Section R
A2XS(F)2Y acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
NA2XS(F)2Y acc. to DIN VDE 0276-620:2018

Description: ALUMINIUM CONDUCTOR - Circular, stranded and compacted conductor Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x50RMC	8.25 $^{+0.10}$	8.0	25.5	16	29.6	35.1	1000	1.5	0.53
1x70RMC	9.5 $^{+0.20}$	8.0	26.7	25	30.8	36.4	1190	2.1	0.55
1x95RMC	11.3 $^{+0.20}$	8.0	28.5	35	32.6	38.2	1410	2.85	0.57
1x120RMC	12.5 $^{+0.20}$	8.0	29.7	50	33.8	39.4	1660	3.6	0.59
1x150RMC	14.2 $^{+0.20}$	8.0	31.4	50	35.5	41.1	1800	4.5	0.62
1x185RMC	15.8 $^{+0.20}$	8.0	33.0	50	37.1	42.7	1960	5.55	0.64
1x240RMC	17.9 $^{+0.10}$	8.0	35.1	50	39.2	44.8	2180	7.2	0.67
1x300RMC	20.0 $^{+0.30}$	8.0	37.2	50	41.3	46.9	2410	9	0.70
1x400RMC	22.9 $^{+0.30}$	8.0	40.1	50	44.2	49.8	2740	12	0.75
1x500RMC	25.7 $^{+0.40}$	8.0	43.4	50	47.7	53.7	3210	15	0.81
1x630RMC	29.3 $^{+0.50}$	8.0	47.3	50	51.6	57.7	3740	18.9	0.87
1x800RMC	33.0 $^{+0.50}$	8.0	51.4	50	55.7	62.0	4380	24	0.93
1x1000RMC	38.0 $^{+0.50}$	8.0	56.4	50	60.7	67.4	5160	30	1.01

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_0	Zero reactance X_0	Capacitance C	Capacitive reactance X_C	Charging current I_C	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ ooo² ooo³	o°o¹ ooo² ooo³	o°o¹ ooo² ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.48	0.150	0.836
1x50RMC/16	0.641	0.822	1.12	1.38	3.85/1.40	2.20	0.094	0.13	25.2	0.71	0.74	0.234	0.855
											0.66	0.208	0.848
											0.46	0.144	0.586
1x70RMC/25	0.443	0.568	0.72	0.89	3.67/1.44	1.45	0.087	0.14	23.2	0.77	0.72	0.226	0.611
											0.64	0.202	0.603
											0.43	0.136	0.432
1x95RMC/35	0.320	0.411	0.51	0.63	3.48/1.50	1.04	0.080	0.15	20.9	0.86	0.69	0.216	0.464
											0.62	0.194	0.454
											0.42	0.131	0.350
1x120RMC/50	0.253	0.325	0.36	0.44	3.38/1.54	0.77	0.076	0.16	19.6	0.92	0.67	0.210	0.387
											0.60	0.189	0.376
											0.40	0.126	0.293
1x150RMC/50	0.206	0.265	0.36	0.44	3.26/1.58	0.71	0.071	0.18	18.1	1.00	0.65	0.203	0.334
											0.59	0.184	0.322
											0.39	0.122	0.243
1x185RMC/50	0.164	0.211	0.36	0.44	3.17/1.62	0.65	0.067	0.19	16.8	1.07	0.63	0.197	0.289
											0.57	0.180	0.277
											0.37	0.117	0.199
1x240RMC/50	0.125	0.161	0.36	0.44	3.08/1.66	0.60	0.063	0.21	15.4	1.17	0.61	0.191	0.250
											0.56	0.175	0.238
											0.36	0.113	0.172
1x300RMC/50	0.100	0.129	0.36	0.44	3.00/1.69	0.57	0.060	0.22	14.2	1.26	0.59	0.185	0.226
											0.54	0.171	0.214
											0.34	0.108	0.148
1x400RMC/50	0.0778	0.101	0.36	0.44	2.91/1.73	0.54	0.055	0.25	12.9	1.40	0.57	0.178	0.205
											0.53	0.166	0.195
											0.34	0.106	0.132
1x500RMC/50	0.0605	0.0797	0.36	0.44	2.82/1.76	0.52	0.053	0.27	11.7	1.53	0.55	0.173	0.190
											0.52	0.164	0.182
											0.32	0.102	0.120
1x630RMC/50	0.0469	0.0629	0.36	0.44	2.75/1.80	0.51	0.050	0.30	10.5	1.71	0.53	0.166	0.178
											0.51	0.160	0.172
											0.31	0.099	0.111
1x800RMC/50	0.0367	0.0506	0.36	0.44	2.69/1.84	0.49	0.047	0.33	9.5	1.89	0.51	0.161	0.169
											0.50	0.157	0.165
											0.30	0.095	0.104
1x1000RMC/50	0.0291	0.0419	0.36	0.44	2.63/1.87	0.48	0.044	0.37	8.5	2.12	0.49	0.155	0.160
											0.49	0.153	0.159

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	**kA/s**		**A**							
1x50RMC/16	4.7	3.7	219	220	208	209	229	230	200	200
1x70RMC/25	6.6	5.3	267	270	255	256	282	284	247	247
1x95RMC/35	9.0	7.1	319	325	307	308	341	347	300	301
1x120RMC/50	11.3	9.8	357	371	348	350	387	399	343	345
1x150RMC/50	14.2	9.8	402	418	392	395	438	455	390	393
1x185RMC/50	17.5	9.8	452	476	445	450	499	523	447	451
1x240RMC/50	22.7	9.8	517	555	517	524	580	618	524	531
1x300RMC/50	28.4	9.8	577	630	584	594	657	710	600	609
1x400RMC/50	37.8	9.8	650	728	670	684	756	833	699	712
1x500RMC/50	47.3	9.8	726	834	763	784	858	969	808	828
1x630RMC/50	59.5	9.8	811	961	870	900	978	1134	936	965
1x800RMC/50	75.6	9.8	895	1095	980	1022	1097	1314	1071	1112
1x1000RMC/50	94.5	9.8	980	1241	1091	1147	1222	1518	1216	1272

MEDIUM VOLTAGE XLPE POWER CABLES Longitudinally Sealed 18/30 (36) kV

XUHKXS acc. to HD 620 S3: 2023 Part 10 Section R
2XS(F)2Y acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
N2XS(F)2Y acc. to DIN VDE 0276-620:2018

Description: COPPER CONDUCTOR - Circular, stranded and compacted conductor
Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x35RMC	7.0 $^{+0.15}$	8.0	24.2	16	28.3	33.9	1140	1.75	0.51
1x50RMC	8.25 $^{+0.20}$	8.0	25.5	16	29.6	35.1	1290	2.5	0.53
1x70RMC	9.6 $^{+0.20}$	8.0	26.8	25	30.9	36.5	1600	3.5	0.55
1x95RMC	11.5 $^{+0.20}$	8.0	28.7	35	32.8	38.4	1990	4.75	0.58
1x120RMC	12.9 $^{+0.25}$	8.0	30.1	50	34.2	39.8	2400	6	0.60
1x150RMC	14.5 $^{+0.30}$	8.0	31.7	50	35.8	41.4	2710	7.5	0.62
1x185RMC	16.0 $^{+0.30}$	8.0	33.2	50	37.3	42.9	3080	9.25	0.64
1x240RMC	18.5 $^{+0.30}$	8.0	35.7	50	39.8	45.4	3660	12	0.68
1x300RMC	20.5 $^{+0.30}$	8.0	37.7	50	41.8	47.4	4270	15	0.71
1x400RMC	23.5 $^{+0.30}$	8.0	40.7	50	44.8	50.6	5170	20	0.76
1x500RMC	26.5 $^{+0.40}$	8.0	44.2	50	48.5	54.5	6330	25	0.82
1x630RMC	30.3 $^{+0.40}$	8.0	48.3	50	52.6	58.7	7720	31.5	0.88
1x800RMC	34.6 $^{+0.50}$	8.0	53.0	50	57.3	63.8	9470	40	0.96
1x1000RMC	38.2 $^{+0.40}$	8.0	56.6	50	60.9	67.6	11410	50	1.01

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.50	0.158	0.687
1x35RMC/16	0.524	0.668	1.12	1.38	4.07/1.34	2.05	0.101	0.12	27.6	0.65	0.77	0.243	0.711
											0.69	0.216	0.702
											0.48	0.150	0.516
1x50RMC/16	0.387	0.494	1.12	1.38	3.85/1.40	1.88	0.094	0.13	25.2	0.71	0.74	0.234	0.546
											0.66	0.208	0.536
											0.46	0.143	0.371
1x70RMC/25	0.268	0.342	0.72	0.89	3.66/1.45	1.23	0.087	0.14	23.1	0.78	0.72	0.225	0.409
											0.64	0.201	0.397
											0.43	0.135	0.281
1x95RMC/35	0.193	0.247	0.51	0.63	3.47/1.51	0.88	0.079	0.15	20.7	0.87	0.68	0.215	0.327
											0.61	0.193	0.313
											0.41	0.130	0.235
1x120RMC/50	0.153	0.196	0.36	0.44	3.35/1.55	0.64	0.075	0.17	19.2	0.94	0.66	0.208	0.286
											0.60	0.188	0.271
											0.40	0.125	0.202
1x150RMC/50	0.124	0.159	0.36	0.44	3.25/1.59	0.60	0.071	0.18	17.8	1.01	0.64	0.202	0.257
											0.58	0.183	0.243
											0.39	0.121	0.176
1x185RMC/50	0.0991	0.127	0.36	0.44	3.16/1.62	0.57	0.067	0.19	16.7	1.08	0.63	0.197	0.234
											0.57	0.179	0.220
											0.37	0.116	0.151
1x240RMC/50	0.0754	0.0976	0.36	0.44	3.05/1.67	0.54	0.062	0.21	15.1	1.19	0.60	0.189	0.213
											0.55	0.174	0.199
											0.36	0.112	0.137
1x300RMC/50	0.0601	0.0785	0.36	0.44	2.98/1.70	0.52	0.059	0.23	14.0	1.29	0.58	0.183	0.200
											0.54	0.170	0.187
											0.34	0.107	0.124
1x400RMC/50	0.0470	0.0625	0.36	0.44	2.90/1.74	0.50	0.055	0.25	12.6	1.42	0.56	0.177	0.187
											0.53	0.166	0.177
											0.33	0.105	0.116
1x500RMC/50	0.0366	0.0500	0.36	0.44	2.80/1.77	0.49	0.052	0.28	11.5	1.57	0.54	0.171	0.178
											0.52	0.163	0.170
											0.32	0.101	0.109
1x630RMC/50	0.0283	0.0404	0.36	0.44	2.73/1.81	0.48	0.049	0.31	10.3	1.75	0.52	0.165	0.170
											0.51	0.159	0.164

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.31	0.098	0.103
1x800RMC/50	0.0221	0.0335	0.36	0.44	2.67/1.85	0.48	0.046	0.35	9.2	1.97	0.51	0.159	0.162
											0.50	0.156	0.159
											0.30	0.095	0.099
1x1000RMC/50	0.0176	0.0287	0.36	0.44	2.63/1.87	0.47	0.044	0.38	8.5	2.13	0.49	0.154	0.157
											0.49	0.153	0.156

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	**kA/s**		**A**							
1x35RMC/16	5.0	3.7	240	241	228	228	249	250	218	218
1x50RMC/16	7.2	3.7	284	287	271	272	298	300	261	261
1x70RMC/25	10.0	5.3	345	352	332	333	367	372	321	322
1x95RMC/35	13.6	7.1	411	425	399	402	443	456	391	394
1x120RMC/50	17.2	9.8	458	485	452	457	500	525	448	452
1x150RMC/50	21.5	9.8	509	547	509	516	564	599	509	515
1x185RMC/50	26.5	9.8	566	620	575	584	636	686	579	588
1x240RMC/50	34.3	9.8	643	724	667	682	738	813	682	695
1x300RMC/50	42.9	9.8	710	821	750	771	829	933	776	795
1x400RMC/50	57.2	9.8	788	943	853	883	940	1089	895	924
1x500RMC/50	71.5	9.8	869	1077	962	1004	1056	1262	1026	1066
1x630RMC/50	90.1	9.8	957	1232	1082	1139	1187	1470	1175	1231
1x800RMC/50	114.4	9.8	1041	1393	1198	1274	1313	1693	1327	1403
1x1000RMC/50	143.0	9.8	1111	1545	1301	1398	1423	1905	1463	1559

MEDIUM VOLTAGE XLPE POWER CABLES Longitudinally and Radially Sealed 18/30 (36) kV

XRUHAKXS acc. to HD 620 S3: 2023 Part 10 Section R
A2XS(FL)2Y acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
NA2XS(FL)2Y acc. to DIN VDE 0276-620:2018

Description: ALUMINIUM CONDUCTOR - Circular, stranded and compacted conductor Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x50RMC	8.25 $^{+0.10}$	8.0	25.5	16	29.5	35.6	1080	1.5	0.78
1x70RMC	9.5 $^{+0.20}$	8.0	26.7	25	30.8	36.8	1270	2.1	0.81
1x95RMC	11.3 $^{+0.20}$	8.0	28.5	35	32.6	38.6	1500	2.85	0.85
1x120RMC	12.5 $^{+0.20}$	8.0	29.7	50	33.8	39.8	1750	3.6	0.88
1x150RMC	14.2 $^{+0.20}$	8.0	31.4	50	35.5	41.5	1880	4.5	0.92
1x185RMC	15.8 $^{+0.20}$	8.0	33.0	50	37.1	43.1	2040	5.55	0.96
1x240RMC	17.9 $^{+0.10}$	8.0	35.1	50	39.2	45.2	2270	7.2	1.02
1x300RMC	20.0 $^{+0.30}$	8.0	37.2	50	41.3	47.3	2500	9	1.07
1x400RMC	22.9 $^{+0.30}$	8.0	40.1	50	44.2	50.4	2850	12	1.15
1x500RMC	25.7 $^{+0.40}$	8.0	43.4	50	47.7	54.1	3320	15	1.24
1x630RMC	29.3 $^{+0.50}$	8.0	47.3	50	51.5	58.4	3880	18.9	1.34
1x800RMC	33.0 $^{+0.50}$	8.0	51.4	50	55.6	62.7	4520	24	1.44
1x1000RMC	38.0 $^{+0.50}$	8.0	56.4	50	60.6	68.1	5320	30	1.57

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_0	Zero reactance X_0	Capacitance C	Capacitive reactance X_C	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ ooo² ooo³	o°o¹ ooo² ooo³	o°o¹ ooo² ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.48	0.151	0.836
1x50RMC/16	0.641	0.822	1.12	1.38	3.85/1.40	1.55	0.095	0.13	25.2	0.71	0.74	0.234	0.855
											0.67	0.209	0.848
											0.46	0.144	0.586
1x70RMC/25	0.443	0.568	0.72	0.89	3.67/1.44	1.12	0.089	0.14	23.2	0.77	0.72	0.226	0.611
											0.64	0.202	0.603
											0.43	0.136	0.433
1x95RMC/35	0.320	0.411	0.51	0.63	3.48/1.50	0.85	0.082	0.15	20.9	0.86	0.69	0.216	0.464
											0.62	0.195	0.454
											0.42	0.132	0.351
1x120RMC/50	0.253	0.325	0.36	0.44	3.38/1.54	0.66	0.078	0.16	19.6	0.92	0.67	0.210	0.387
											0.61	0.190	0.376
											0.40	0.127	0.293
1x150RMC/50	0.206	0.265	0.36	0.44	3.26/1.58	0.60	0.073	0.18	18.1	1.00	0.65	0.203	0.334
											0.59	0.185	0.323
											0.39	0.122	0.244
1x185RMC/50	0.164	0.211	0.36	0.44	3.17/1.62	0.54	0.069	0.19	16.8	1.07	0.63	0.197	0.289
											0.57	0.180	0.278
											0.37	0.117	0.199
1x240RMC/50	0.125	0.161	0.36	0.44	3.08/1.66	0.49	0.064	0.21	15.4	1.17	0.61	0.191	0.250
											0.56	0.176	0.238
											0.36	0.113	0.172
1x300RMC/50	0.100	0.129	0.36	0.44	3.00/1.69	0.45	0.061	0.22	14.2	1.26	0.59	0.185	0.226
											0.55	0.171	0.215
											0.35	0.109	0.149
1x400RMC/50	0.0778	0.101	0.36	0.44	2.91/1.73	0.42	0.057	0.25	12.9	1.40	0.57	0.178	0.205
											0.53	0.167	0.195
											0.34	0.106	0.133
1x500RMC/50	0.0605	0.0797	0.36	0.44	2.82/1.76	0.39	0.054	0.27	11.7	1.53	0.55	0.173	0.190
											0.52	0.164	0.182
											0.33	0.103	0.120
1x630RMC/50	0.0469	0.0629	0.36	0.44	2.75/1.80	0.36	0.051	0.30	10.5	1.71	0.53	0.167	0.178
											0.51	0.161	0.173
											0.32	0.100	0.112
1x800RMC/50	0.0367	0.0506	0.36	0.44	2.69/1.84	0.35	0.048	0.33	9.5	1.89	0.51	0.161	0.169
											0.50	0.158	0.166
											0.31	0.096	0.105
1x1000RMC/50	0.0291	0.0418	0.36	0.44	2.63/1.87	0.33	0.045	0.37	8.5	2.12	0.49	0.155	0.160
											0.49	0.154	0.160

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	**kA/s**		**A**							
1x50RMC/16	4.7	3.7	220	222	210	210	231	233	203	203
1x70RMC/25	6.6	5.3	268	272	257	257	285	288	250	251
1x95RMC/35	9.0	7.1	319	328	308	310	344	352	304	305
1x120RMC/50	11.3	9.8	359	374	351	354	390	405	348	350
1x150RMC/50	14.2	9.8	401	422	394	399	441	462	395	399
1x185RMC/50	17.5	9.8	449	480	447	453	501	531	452	457
1x240RMC/50	22.7	9.8	512	559	518	528	581	626	530	539
1x300RMC/50	28.4	9.8	568	634	585	598	655	720	605	617
1x400RMC/50	37.8	9.8	636	732	670	689	748	844	703	722
1x500RMC/50	47.3	9.8	705	840	761	789	845	982	812	838
1x630RMC/50	59.5	9.8	779	966	864	905	953	1149	938	977
1x800RMC/50	75.6	9.8	849	1102	968	1025	1060	1331	1069	1124
1x1000RMC/50	94.5	9.8	919	1248	1075	1152	1169	1538	1209	1286

MEDIUM VOLTAGE XLPE POWER CABLES

Longitudinally and Radially Sealed 18/30 (36) kV

XRUHKXS acc. to HD 620 S3: 2023 Part 10 Section R
2XS(FL)2Y acc. to IEC 60502-2:2014 and BS 7870-4.10:2011
N2XS(FL)2Y acc. to DIN VDE 0276-620:2018

Description: COPPER CONDUCTOR - Circular, stranded and compacted conductor Class 2

Operating Conditions

For laying in ground	
Depth of lay:	0.7 m
Ground temperature:	20°C
Soil thermal resistivity:	1.0 K · m/W

For installation in air	
Ambient temperature:	25°C
Protection from direct solar radiation	

Parameters

Conductor – nominal cross sectional area	Conductor diameter	Insulation		Metallic screen		Cable diameter D_e	Cable weight	Maximum cable pulling force	Recom. min. bending radius for laying
		Thickness	Diameter over insulation	Cross sectional area	Diameter over metallic screen				
mm²	**mm**			**mm²**	**mm**	**mm**	**kg/km**	**kN**	**m**
1x35RMC	7.0 $^{+0.15}$	8.0	24.2	16	28.3	34.3	1210	1.75	0.74
1x50RMC	8.25 $^{+0.20}$	8.0	25.5	16	29.5	35.6	1370	2.5	0.78
1x70RMC	9.6 $^{+0.20}$	8.0	26.8	25	30.9	36.9	1690	3.5	0.81
1x95RMC	11.5 $^{+0.20}$	8.0	28.7	35	32.8	38.8	2080	4.75	0.86
1x120RMC	12.9 $^{+0.25}$	8.0	30.1	50	34.2	40.2	2490	6	0.89
1x150RMC	14.5 $^{+0.30}$	8.0	31.7	50	35.8	41.8	2790	7.5	0.93
1x185RMC	16.0 $^{+0.30}$	8.0	33.2	50	37.3	43.3	3170	9.25	0.97
1x240RMC	18.5 $^{+0.30}$	8.0	35.7	50	39.8	45.8	3750	12	1.03
1x300RMC	20.5 $^{+0.30}$	8.0	37.7	50	41.8	47.8	4360	15	1.08
1x400RMC	23.5 $^{+0.30}$	8.0	40.7	50	44.8	51.0	5270	20	1.16
1x500RMC	26.5 $^{+0.40}$	8.0	44.2	50	48.5	54.9	6440	25	1.25
1x630RMC	30.3 $^{+0.40}$	8.0	48.3	50	52.5	59.4	7860	31.5	1.35
1x800RMC	34.6 $^{+0.50}$	8.0	53.0	50	57.2	64.5	9620	40	1.47
1x1000RMC	38.2 $^{+0.40}$	8.0	56.6	50	60.8	68.3	11570	50	1.56

Electrical Data

RM (RMC) — Circular Stranded Compacted Conductor, Class 2
SPB — Single Point Bonded
CB — Cross Bonded
BE — Both Ends
De — Cable diameter

1 — Cables in trefoil formation, the distance between cables D_e
2 — Cables in flat formation (in the ground), the distance between cables D_e + 70 mm
3 — Cables in flat formation (in the air), the distance between cables 2 x D_e

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.51	0.159	0.687
1x35RMC/16	0.524	0.668	1.12	1.38	4.07/1.34	1.41	0.103	0.12	27.6	0.65	0.78	0.244	0.711
											0.69	0.217	0.703
											0.48	0.151	0.516
1x50RMC/16	0.387	0.494	1.12	1.38	3.85/1.40	1.22	0.095	0.13	25.2	0.71	0.74	0.234	0.546
											0.67	0.209	0.536
											0.46	0.144	0.371
1x70RMC/25	0.268	0.342	0.72	0.89	3.66/1.45	0.89	0.088	0.14	23.1	0.78	0.72	0.225	0.410
											0.64	0.202	0.397
											0.43	0.136	0.281
1x95RMC/35	0.193	0.247	0.51	0.63	3.47/1.51	0.68	0.081	0.15	20.7	0.87	0.68	0.215	0.327
											0.62	0.194	0.314
											0.42	0.131	0.235
1x120RMC/50	0.153	0.196	0.36	0.44	3.35/1.55	0.53	0.076	0.17	19.2	0.94	0.66	0.209	0.286
											0.60	0.189	0.272
											0.40	0.126	0.203
1x150RMC/50	0.124	0.159	0.36	0.44	3.25/1.59	0.49	0.072	0.18	17.8	1.01	0.64	0.202	0.257
											0.59	0.184	0.243
											0.39	0.122	0.176
1x185RMC/50	0.0991	0.127	0.36	0.44	3.16/1.62	0.46	0.068	0.19	16.7	1.08	0.63	0.197	0.234
											0.57	0.180	0.220
											0.37	0.116	0.152
1x240RMC/50	0.0754	0.0976	0.36	0.44	3.05/1.67	0.42	0.063	0.21	15.1	1.19	0.60	0.189	0.213
											0.55	0.174	0.200
											0.36	0.112	0.137
1x300RMC/50	0.0601	0.0785	0.36	0.44	2.98/1.70	0.40	0.060	0.23	14.0	1.29	0.58	0.184	0.200
											0.54	0.171	0.188
											0.34	0.108	0.125
1x400RMC/50	0.0470	0.0625	0.36	0.44	2.90/1.74	0.38	0.056	0.25	12.6	1.42	0.56	0.177	0.187
											0.53	0.166	0.177
											0.33	0.105	0.116
1x500RMC/50	0.0366	0.0499	0.36	0.44	2.80/1.77	0.36	0.053	0.28	11.5	1.57	0.54	0.171	0.178
											0.52	0.163	0.171
											0.32	0.102	0.109
1x630RMC/50	0.0283	0.0403	0.36	0.44	2.73/1.81	0.34	0.050	0.31	10.3	1.75	0.53	0.165	0.170
											0.51	0.160	0.165

Nominal cross sectional area	Conductor resistance		Metallic screen resistance		Electrical field stress at conductor/ insulation	Zero resistance R_o	Zero reactance X_o	Capacitance C	Capacitive reactance X_c	Charging current I_c	Induc-tance L	Inductive reac-tance XI	Impe-dance
Conductor/ Metallic screen	DC 20°C	AC 90°C	DC 20°C	AC 80°C							o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³	o°o¹ / ooo² / ooo³
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**Ω/km**	**Ω/km**	**µF/km**	**Ω/km**	**A/km**	**mH/km**	**Ω/km**	**Ω/km**
											0.31	0.098	0.104
1x800RMC/50	0.0221	0.0334	0.36	0.44	2.67/1.85	0.33	0.047	0.35	9.2	1.97	0.51	0.159	0.163
											0.50	0.156	0.160
											0.30	0.096	0.100
1x1000RMC/50	0.0176	0.0287	0.36	0.44	2.63/1.87	0.32	0.045	0.38	8.5	2.13	0.49	0.155	0.157
											0.49	0.154	0.156

Current – carrying capacity

Nominal cross sectional area	Max short circuit capacity		GROUND				AIR			
			FLAT		TREFOIL		FLAT		TREFOIL	
	Conductor	Metallic screen	BE	SPB, CB	BE	SPB,CB	BE	SPB, CB	BE	SPB, CB
mm²	**kA/s**		**A**							
1x35RMC/16	5.0	3.7	238	241	228	228	248	250	219	219
1x50RMC/16	7.2	3.7	282	286	271	272	297	301	262	262
1x70RMC/25	10.0	5.3	342	351	331	332	364	372	323	324
1x95RMC/35	13.6	7.1	406	424	397	401	439	456	392	395
1x120RMC/50	17.2	9.8	450	483	451	457	495	525	448	454
1x150RMC/50	21.5	9.8	499	546	506	515	556	599	509	517
1x185RMC/50	26.5	9.8	552	618	571	584	625	685	578	590
1x240RMC/50	34.3	9.8	623	723	661	680	721	813	679	697
1x300RMC/50	42.9	9.8	683	820	743	770	804	932	771	797
1x400RMC/50	57.2	9.8	753	940	841	881	905	1087	887	924
1x500RMC/50	71.5	9.8	821	1073	945	999	1006	1259	1013	1066
1x630RMC/50	90.1	9.8	894	1226	1058	1134	1116	1464	1155	1229
1x800RMC/50	114.4	9.8	959	1386	1165	1267	1220	1684	1298	1398
1x1000RMC/50	143.0	9.8	1014	1534	1260	1389	1306	1894	1423	1552

HIGH-VOLTAGE Cables

2

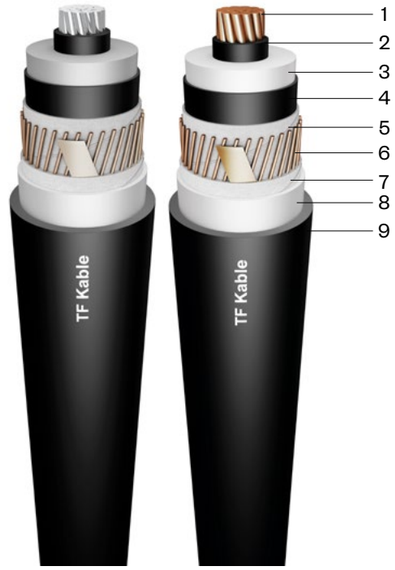
Table of Contents

TYPES OF CABLES

Cable constructions are shown in the following figures:

Figure 1 :
XRUHAKXS, XRUHKXS – NA2XS(FL)2Y, N2XS(FL)2Y.

Description of Figure 1
1 – Aluminium or copper conductor
2 – Semi-conductive screen extruded on the phase conductor
3 – XLPE insulation
4 – Semi-conductive screen extruded on insulation
5 – Wrapping of semi-conductive water swelling tape
6 – Metallic screen
7 – Wrapping of semi-conductive water swelling tape
8 – Longitudinally applied aluminium tape coated with PE copolymer
9 – HDPE / MDPE outer sheath



For unusual applications TELE-FONIKA Kable offers you the single-core cables:

Figure 2:
YHAKXS, YHKXS – NA2XSY, N2XSY – XHAKXS, XHKXS – NA2XS2Y, N2XS2Y, NHAKXS, NHKXS – NA2XSH, N2XSH.

Description of Figure 2
1 – Aluminium or copper conductor
2 – Semi-conductive screen extruded on the phase conductor
3 – XLPE insulation
4 – Semi-conductive screen extruded on insulation
5 – Wrapping of semi-conductive tape
6 – Metallic screen
7 – Wrapping of polyester tape
8 – Outer sheath: PVC, HDPE / MDPE, LSOH

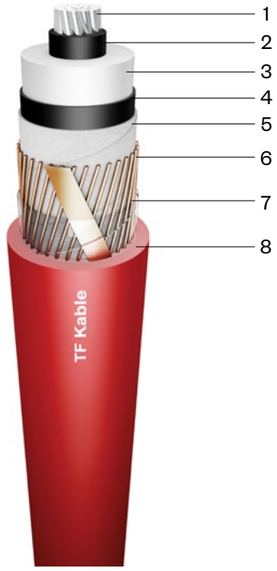
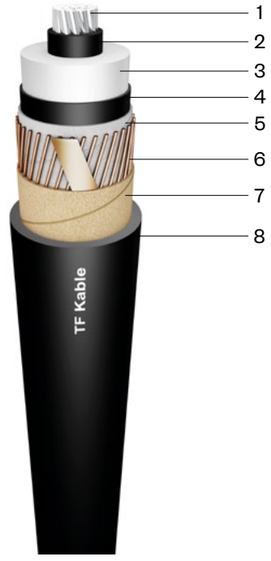
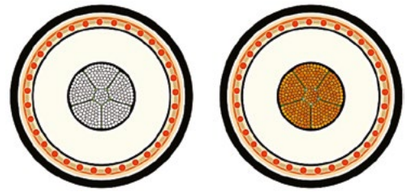


Figure 3:
XUHAKXS, XUHKXS – NA2XS(F)2Y, N2XS(F)2Y, NUHAKXS, NUHKXS – NA2XS(F)H, N2XS(F)H.

Description of Figure 3
1 – Aluminium or copper conductor
2 – Semi-conductive screen extruded on the phase conductor
3 – XLPE insulation
4 – Semi-conductive screen extruded on insulation
5 – Wrapping of semi-conductive water swelling tape
6 – Metallic screen
7 – Wrapping of non-conductive water swelling tape
8 – Outer sheath: HDPE / MDPE, LSOH



Milliken design conductors are applied for cables conductors with cross-sections > 1000 mm²



Selection of cable

High voltage cables are manufactured based on customer specifications and factory standards.
Cable structures are based on the requirements of IEC standards:
IEC 60287 – Calculation of current-carrying capacity of cables (load factor 100%)
IEC 60853 – Calculation of current-carrying capacity of cables for cyclic load or fault conditions
IEC 60949 - Calculation of maximum short circuit current for cables
IEC 61443 – Maximum short circuit temperature for cables for voltages above 30kV
IEC 60228 – Conductors of wires and cables
When selecting cable, specialized software is used to simulate the cable system operation.
The Minimal diameter of casing pipes: min. 1.5 x D (mm), where D = external diameter of cable in mm.

Calculation basis

In the soil – the temperature of 20°C , cabling depth 1.0 m, soil thermal resistivity K = 1.0 Km/W,
In the distance between phases = 2xD.
In the air – the temperature of 35°C

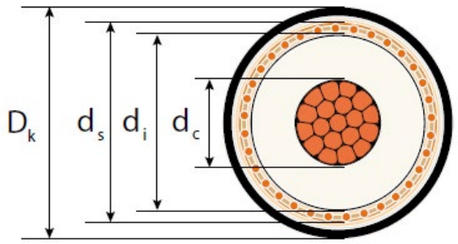
Installation data

Minimal temperature of the cable during whole laying process: >0°C.
Enviromental temperature > -5°C (detailed information can be found in the laying guidelines).
Minimal bending radius and the maximum pulling force for conductor:
values are given in the parameter tables.
Pulling forces for outer sheath (cable grip) can be found in the laying guidelines.
The minimal inner diameter of the duct: 1.5 x D , where D = external diameter of the cable.

HIGH-VOLTAGE XLPE POWER CABLES 36/60÷69(72.5) kV

XRUHKXS according to IEC 60840
2XS(FL)2Y according to IEC 60840
N2XS(FL)2Y according to DIN VDE 0276-632

Description: COPPER CONDUCTOR



Parameters

Conductor		Insulation		Metallic screen		D_e			
Cross section	Diameter	Nominal thickness	Diameter over insulation	Cross section	Diameter over screen	Outer diameter of cable	Cable weight	Maximum cable pulling force	Minimal bending radius
mm²	**mm**	**mm**	**mm**	**mm²**	**mm²**	**mm**	**kg/km**	**kN**	**m**
120RM	12.8 $^{+0.3}$	10.0	34.0	35	37.8	44.1	2670	6.0	1.10
150RM	14.25 $^{+0.3}$	10.0	35.4	35	39.2	45.6	2980	7.5	1.14
185RM	15.85 $^{+0.3}$	10.0	37.0	35	40.8	47.2	3370	9.25	1.18
240RM	18.5 $^{+0.3}$	10.0	39.7	35	43.5	50.0	3990	12.0	1.25
300RM	20.3 $^{+0.4}$	10.0	41.5	35	45.3	51.8	4610	15.0	1.30
400RM	23.5 $^{+0.4}$	10.0	45.1	35	49.3	56.2	5650	20.0	1.40
500RM	26.3 $^{+0.5}$	10.0	47.9	35	52.1	59.2	6780	25.0	1.48
630RM	30.0 $^{+0.5}$	10.0	51.8	35	56.0	63.3	8190	31.5	1.58
800RM	34.4 $^{+0.7}$	10.0	56.2	35	60.4	67.9	9940	40.0	1.70
1000RM	38.3 $^{+0.7}$	10.0	60.5	35	65.1	73.0	12130	50.0	1.83
1200RMS	42.0 $^{+0.8}$	10.0	66.0	50	70.6	78.9	14530	60.0	1.97
1400RMS	45.8 $^{+0.8}$	10.0	69.8	50	74.4	82.9	16620	70.0	2.08
1600RMS	49.0 $^{+1.2}$	10.0	73.0	50	77.6	86.3	18520	80.0	2.16
1800RMS	52.1 $^{+1.0}$	10.0	76.1	50	80.7	89.8	20880	90.0	2.25
2000RMS	54.4 $^{+1.0}$	10.0	78.4	50	83.0	92.1	22460	100.0	2.31
2500RMS	60.5 $^{+1.0}$	10.0	85.5	50	90.5	100.2	27490	100.0	2.50
3000RMS	68.4 $^{+1.0}$	10.0	93.4	50	98.4	108.7	33760	100.0	2.72

Electrical Data

RM (RMC) — Round Multiwire Conductor IC (C - compacted), Class 2
RM (Milliken type) — Round Multiwire Segmented Conductor
SPB — Single Point Bonded
CB — Cross Bonded

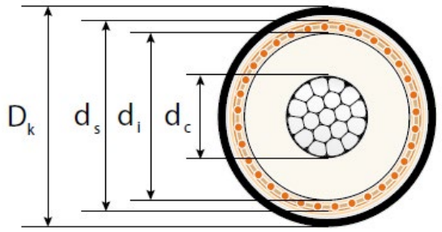
De — Cable diameter
1 — Cables in flat formation, the distance between cables 2 x D_e
2 — Cables in trefoil formation, the distance between cables D_e

Cross section of conductor	Resistance of conductor		Resistance of metallic screen		Electric field stress at the conductor screen / insulation	Short-circuit current		Capacitance	Inductance	Current-carrying capacity	
	DC 20°C	AC 90°C	DC 20°C	DC 80°C		Conductor	Metallic screen			In ground	In air
									ooo[1]	SPB,CB	SPB,CB
									o^{O}o[2]	SPB,CB	SPB,CB
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**kA/s**	**kA/s**	**µF/km**	**mH/km**	**A**	**A**
120RM	0.1530	0.1957	0.526	0.650	5.8 / 2.39	17.4	7.4	0.150	0.621	390	480
									0.436	370	415
150RM	0.1240	0.1589	0.526	0.650	5.62 / 2.44	21.8	7.4	0.160	0.606	440	545
									0.421	415	470
185RM	0.0991	0.1273	0.526	0.650	5.45 / 2.5	26.8	7.4	0.171	0.592	495	625
									0.407	470	540
240RM	0.0754	0.0975	0.526	0.650	5.22 / 2.59	34.7	7.4	0.190	0.572	575	740
									0.387	545	635
300RM	0.0601	0.0784	0.526	0.650	5.09 / 2.64	43.4	7.4	0.203	0.561	650	850
									0.376	615	730
400RM	0.0470	0.0622	0.526	0.650	4.89 / 2.72	57.8	7.4	0.228	0.548	745	985
									0.363	700	845
500RM	0.0366	0.0497	0.526	0.650	4.77 / 2.78	72.2	7.4	0.247	0.536	850	1145
									0.351	795	975
630RM	0.0283	0.0400	0.526	0.650	4.64 / 2.85	90.8	7.4	0.273	0.523	970	1330
									0.338	895	1120
800RM	0.0221	0.0332	0.526	0.650	4.52 / 2.91	115.3	7.4	0.303	0.509	1090	1535
									0.325	1000	1275
1000RM	0.0176	0.0283	0.378	0.467	4.43 / 2.97	144.0	10.6	0.332	0.502	1210	1720
									0.318	1090	1420
1200RMS	0.0151	0.0224	0.378	0.467	4.34 / 3.02	172.7	10.6	0.369	0.500	1335	1915
									0.315	1235	1625
1400RMS	0.0129	0.0200	0.378	0.467	4.28 / 3.06	201.4	10.6	0.395	0.492	1435	2090
									0.307	1320	1760
1600RMS	0.0113	0.0184	0.378	0.467	4.24 / 3.08	230.1	10.6	0.416	0.487	1520	2245
									0.302	1385	1880
1800RMS	0.0101	0.0172	0.378	0.467	4.21 / 3.1	258.8	10.6	0.437	0.482	1590	2380
									0.298	1440	1980
2000RMS	0.0090	0.0161	0.378	0.467	4.19 / 3.12	287.4	10.6	0.453	0.479	1660	2490
									0.294	1490	2060
2500RMS	0.0072	0.0143	0.378	0.467	4.13 / 3.16	359.1	10.6	0.500	0.474	1790	2720
									0.290	1595	2240
3000RMS	0.0060	0.0132	0.378	0.467	4.07 / 3.2	430.8	10.6	0.553	0.466	1930	3005
									0.281	1695	2440

HIGH-VOLTAGE XLPE POWER CABLES 36/60÷69(72.5) kV

XRUHAKXS according to IEC 60840
A2XS(FL)2Y according to IEC 60840
NA2XS(FL)2Y according to DIN VDE 0276-632

Description: ALUMINIUM CONDUCTOR



Parameters

Conductor		Insulation		Metallic screen		D_e	Cable	Maximum	Minimal
Cross section	Diameter	Nominal thickness	Diameter over insulation	Cross section	Diameter over screen	Outer diameter of cable	weight	cable pulling force	bending radius
mm²	**mm**	**mm**	**mm**	**mm²**	**mm²**	**mm**	**kg/km**	**kN**	**m**
120RM	12.6 $^{+0.2}$	10.0	33.8	35	37.6	43.9	1930	3.6	1.10
150RM	14.2 $^{+0.2}$	10.0	35.4	35	39.2	45.5	2070	4.5	1.14
185RM	15.8 $^{+0.2}$	10.0	37.0	35	40.8	47.1	2240	5.55	1.18
240RM	17.9 $^{+0.2}$	10.0	39.1	35	42.9	49.2	2480	7.2	1.23
300RM	20.0 $^{+0.3}$	10.0	41.2	35	45.0	51.5	2750	9.0	1.29
400RM	22.9 $^{+0.3}$	10.0	44.5	35	48.7	55.4	3200	12.0	1.39
500RM	25.7 $^{+0.4}$	10.0	47.3	35	51.5	58.4	3640	15.0	1.46
630RM	29.3 $^{+0.5}$	10.0	50.9	35	55.1	62.4	4210	18.9	1.56
800RM	33.0 $^{+0.4}$	10.0	54.8	35	59.0	66.5	4870	24.0	1.67
1000RM	38.0 $^{+0.5}$	10.0	60.2	35	64.8	72.7	5810	30.0	1.82
1200RM	42.5 $^{+0.6}$	10.0	64.7	50	69.3	77.6	6820	36.0	1.94
1200RMS	43.0 $^{+0.8}$	10.0	67.0	50	71.6	79.9	7190	36.0	2.00
1400RMS	45.1 $^{+0.8}$	10.0	69.1	50	73.7	82.2	7760	42.0	2.06
1600RMS	48.5 $^{+1.2}$	10.0	72.5	50	77.1	85.8	8530	48.0	2.15
1800RMS	52.7 $^{+1.0}$	10.0	76.7	50	81.3	90.4	9460	54.0	2.26
2000RMS	54.5 $^{+1.0}$	10.0	78.5	50	83.1	92.2	10030	60.0	2.31
2500RMS	59.0 $^{+1.0}$	10.0	84.0	50	89.0	98.5	11560	75.0	2.47
3000RMS	67.0 $^{+1.0}$	10.0	92.0	50	97.0	107.1	14010	90.0	2.68

Electrical Data

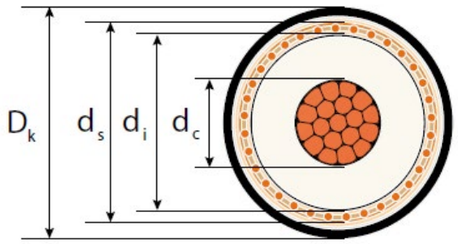
RM (RMC) — Round Multiwire Conductor IC (C - compacted), Class 2
RM (Milliken type) — Round Multiwire Segmented Conductor
SPB — Single Point Bonded
CB — Cross Bonded
De — Cable diameter
1 — Cables in flat formation, the distance between cables 2 x D_e
2 — Cables in trefoil formation, the distance between cables D_e

Cross section of conductor	Resistance of conductor		Resistance of metallic screen		Electric field stress at the conductor screen / insulation	Short-circuit current		Capacitance	Inductance	Current-carrying capacity	
	DC 20°C	AC 90°C	DC 20°C	DC 80°C		Conductor	Metallic screen			In ground	In air
									ooo[1]	SPB,CB	SPB,CB
									o^{O}o[2]	SPB,CB	SPB,CB
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**kA/s**	**kA/s**	**µF/km**	**mH/km**	**A**	**A**
120RM	0.2530	0.3247	0.526	0.650	5.82 / 2.38	11.6	7.4	0.149	0.623	300	370
									0.438	285	320
150RM	0.2060	0.2645	0.526	0.650	5.62 / 2.44	14.5	7.4	0.160	0.606	340	420
									0.422	320	365
185RM	0.1640	0.2108	0.526	0.650	5.45 / 2.5	17.8	7.4	0.171	0.592	385	485
									0.407	365	415
240RM	0.1250	0.1610	0.526	0.650	5.26 / 2.57	23.1	7.4	0.186	0.576	445	570
									0.391	425	490
300RM	0.1000	0.1291	0.526	0.650	5.11 / 2.63	28.8	7.4	0.201	0.563	505	655
									0.378	480	565
400RM	0.0778	0.1010	0.526	0.650	4.92 / 2.71	38.3	7.4	0.223	0.550	580	765
									0.365	550	660
500RM	0.0605	0.0792	0.526	0.650	4.8 / 2.77	47.8	7.4	0.243	0.538	665	890
									0.353	625	765
630RM	0.0469	0.0623	0.526	0.650	4.67 / 2.83	60.2	7.4	0.267	0.525	765	1045
									0.340	715	890
800RM	0.0367	0.0499	0.526	0.650	4.56 / 2.89	76.4	7.4	0.294	0.514	870	1210
									0.329	810	1025
1000RM	0.0291	0.0409	0.378	0.467	4.44 / 2.96	95.3	10.6	0.330	0.503	980	1395
									0.318	905	1175
1200RM	0.0247	0.0359	0.378	0.467	4.36 / 3.01	114.3	10.6	0.361	0.494	1070	1545
									0.309	975	1290
1200RMS	0.0247	0.0319	0.378	0.467	4.32 / 3.03	114.3	10.6	0.376	0.497	1115	1605
									0.313	1040	1375
1400RMS	0.0212	0.0275	0.378	0.467	4.29 / 3.05	133.3	10.6	0.390	0.494	1210	1755
									0.309	1130	1505
1600RMS	0.0186	0.0242	0.378	0.467	4.25 / 3.08	152.3	10.6	0.413	0.488	1300	1910
									0.303	1210	1635
1800RMS	0.0165	0.0215	0.378	0.467	4.2 / 3.11	171.2	10.6	0.441	0.481	1395	2080
									0.297	1295	1775
2000RMS	0.0149	0.0195	0.378	0.467	4.19 / 3.12	190.2	10.6	0.453	0.479	1470	2205
									0.294	1360	1880
2500RMS	0.0127	0.0168	0.378	0.467	4.14 / 3.15	237.5	10.6	0.490	0.476	1605	2425
									0.291	1475	2065
3000RMS	0.0100	0.0135	0.378	0.467	4.08 / 3.19	284.9	10.6	0.544	0.467	1855	2875
									0.282	1690	2425

HIGH-VOLTAGE XLPE POWER CABLES 64/110÷115(123) kV

XRUHKXS according to IEC 60840
2XS(FL)2Y according to IEC 60840
N2XS(FL)2Y according to DIN VDE 0276-632

Description: COPPER CONDUCTOR



Parameters

Conductor		Insulation		Metallic screen		D_e	Cable	Maximum	Minimal
Cross section	Diameter	Nominal thickness	Diameter over insulation	Cross section	Diameter over screen	Outer diameter of cable	weight	cable pulling force	bending radius
mm²	**mm**	**mm**	**mm**	**mm²**	**mm²**	**mm**	**kg/km**	**kN**	**m**
150RM	14.25 $^{+0.3}$	17.0	51.3	95	57.1	64.9	5060	7.5	1.63
185RM	15.85 $^{+0.3}$	17.0	52.3	95	58.1	66.1	5470	9.3	1.66
240RM	18.5 $^{+0.3}$	16.0	52.5	95	58.3	66.4	5900	12.0	1.66
300RM	20.3 $^{+0.4}$	15.0	52.3	95	58.1	66.2	6370	15.0	1.66
400RM	23.5 $^{+0.4}$	14.0	55.5	95	59.3	67.4	7180	20.0	1.69
500RM	26.3 $^{+0.5}$	14.0	56.3	95	62.1	70.4	8350	25.0	1.76
630RM	30.0 $^{+0.5}$	14.0	60.6	95	66.4	75.1	9900	31.5	1.88
800RM	34.4 $^{+0.7}$	14.0	65.0	95	70.8	79.7	11710	40.0	2.00
1000RM	38.3 $^{+0.7}$	14.0	68.9	95	74.7	84.0	13870	50.0	2.10
1200RMS	42.0 $^{+0.8}$	14.0	74.0	95	79.8	89.3	16110	60.0	2.24
1400RMS	45.8 $^{+0.8}$	14.0	77.8	95	83.6	93.5	18280	70.0	2.34
1600RMS	49.0 $^{+1.2}$	14.0	81.0	95	86.8	96.9	20240	80.0	2.43
1800RMS	52.1 $^{+1.0}$	14.0	84.1	95	89.9	100.2	22620	90.0	2.51
2000RMS	54.4 $^{+1.0}$	14.0	86.4	95	92.2	102.7	24250	100.0	2.57
2500RMS	60.5 $^{+1.0}$	14.5	94.5	95	100.7	111.8	29550	100.0	2.80
3000RMS	68.4 $^{+1.0}$	14.5	102.4	95	108.6	120.3	35950	100.0	3.01

Electrical Data

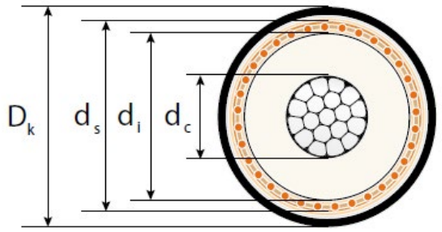
RM (RMC) — Round Multiwire Conductor IC (C - compacted), Class 2
RM (Milliken type) — Round Multiwire Segmented Conductor
SPB — Single Point Bonded
CB — Cross Bonded
De — Cable diameter
1 — Cables in flat formation, the distance between cables 2 x D_e
2 — Cables in trefoil formation, the distance between cables D_e

Cross section of conductor	Resistance of conductor		Resistance of metallic screen		Electric field stress at the conductor screen / insulation	Short-circuit current		Capacitance	Inductance	Current-carrying capacity	
	DC 20°C	AC 90°C	DC 20°C	DC 80°C		Conductor	Metallic screen			In ground	In air
									ooo[1]	SPB,CB	SPB,CB
									o^{O}o[2]	SPB,CB	SPB,CB
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**kA/s**	**kA/s**	**µF/km**	**mH/km**	**A**	**A**
120RM	0.2530	0.3247	0.526	0.650	5.82 / 2.38	11.6	7.4	0.149	0.623	300	370
									0.438	285	320
150RM	0.2060	0.2645	0.526	0.650	5.62 / 2.44	14.5	7.4	0.160	0.606	340	420
									0.422	320	365
185RM	0.1640	0.2108	0.526	0.650	5.45 / 2.5	17.8	7.4	0.171	0.592	385	485
									0.407	365	415
240RM	0.1250	0.1610	0.526	0.650	5.26 / 2.57	23.1	7.4	0.186	0.576	445	570
									0.391	425	490
300RM	0.1000	0.1291	0.526	0.650	5.11 / 2.63	28.8	7.4	0.201	0.563	505	655
									0.378	480	565
400RM	0.0778	0.1010	0.526	0.650	4.92 / 2.71	38.3	7.4	0.223	0.550	580	765
									0.365	550	660
500RM	0.0605	0.0792	0.526	0.650	4.8 / 2.77	47.8	7.4	0.243	0.538	665	890
									0.353	625	765
630RM	0.0469	0.0623	0.526	0.650	4.67 / 2.83	60.2	7.4	0.267	0.525	765	1045
									0.340	715	890
800RM	0.0367	0.0499	0.526	0.650	4.56 / 2.89	76.4	7.4	0.294	0.514	870	1210
									0.329	810	1025
1000RM	0.0291	0.0409	0.378	0.467	4.44 / 2.96	95.3	10.6	0.330	0.503	980	1395
									0.318	905	1175
1200RM	0.0247	0.0359	0.378	0.467	4.36 / 3.01	114.3	10.6	0.361	0.494	1070	1545
									0.309	975	1290
1200 RMS	0.0247	0.0319	0.378	0.467	4.32 / 3.03	114.3	10.6	0.376	0.497	1115	1605
									0.313	1040	1375
1400RMS	0.0212	0.0275	0.378	0.467	4.29 / 3.05	133.3	10.6	0.390	0.494	1210	1755
									0.309	1130	1505
1600RMS	0.0186	0.0242	0.378	0.467	4.25 / 3.08	152.3	10.6	0.413	0.488	1300	1910
									0.303	1210	1635
1800RMS	0.0165	0.0215	0.378	0.467	4.2 / 3.11	171.2	10.6	0.441	0.481	1395	2080
									0.297	1295	1775
2000RMS	0.0149	0.0195	0.378	0.467	4.19 / 3.12	190.2	10.6	0.453	0.479	1470	2205
									0.294	1360	1880
2500RMS	0.0127	0.0168	0.378	0.467	4.14 / 3.15	237.5	10.6	0.490	0.476	1605	2425
									0.291	1475	2065
3000RMS	0.0100	0.0135	0.378	0.467	4.08 / 3.19	284.9	10.6	0.544	0.467	1855	2875
									0.282	1690	2425

HIGH-VOLTAGE XLPE POWER CABLES 64/110÷115(123) kV

XRUHAKXS according to IEC 60840
A2XS(FL)2Y according to IEC 60840
NA2XS(FL)2Y according to DIN VDE 0276-632

Description: ALUMINIUM CONDUCTOR



Parameters

Conductor		Insulation		Metallic screen		D_e			
Cross section	Diameter	Nominal thickness	Diameter over insulation	Cross section	Diameter over screen	Outer diameter of cable	Cable weight	Maximum cable pulling force	Minimal bending radius
mm²	**mm**	**mm**	**mm**	**mm²**	**mm²**	**mm**	**kg/km**	**kN**	**m**
150RM	14.2 $^{+0.2}$	17.0	51.2	95	57.0	64.9	4150	4.5	1.63
185RM	15.8 $^{+0.2}$	17.0	52.2	95	58.0	66.1	4330	5.55	1.62
240RM	17.9 $^{+0.2}$	16.0	51.9	95	57.7	65.8	4390	7.2	1.65
300RM	20.0 $^{+0.3}$	15.0	52.0	95	57.8	65.9	4500	9.0	1.65
400RM	22.9 $^{+0.3}$	14.0	52.9	95	58.7	66.8	4740	12.0	1.67
500RM	25.7 $^{+0.4}$	14.0	55.7	95	61.5	69.8	5220	15.0	1.75
630RM	29.3 $^{+0.5}$	14.0	59.7	95	65.5	74.0	5880	18.9	1.85
800RM	33.0 $^{+0.4}$	14.0	63.6	95	69.4	78.3	6620	24.0	1.96
1000RM	38.0 $^{+0.5}$	14.0	68.6	95	74.4	83.7	7550	30.0	2.10
1200RM	42.5 $^{+0.6}$	14.0	73.1	95	78.9	88.4	8440	36.0	2.21
1200RMS	43.0 $^{+0.8}$	14.0	75.0	95	80.8	90.5	8810	36.0	2.27
1400RMS	45.1 $^{+0.8}$	14.0	77.1	95	82.9	92.8	9410	42.0	2.32
1600RMS	48.5 $^{+1.2}$	14.0	80.5	95	86.3	96.4	10230	48.0	2.42
1800RMS	52.7 $^{+1.0}$	14.0	84.7	95	90.5	100.8	11190	54.0	2.52
2000RMS	54.5 $^{+1.0}$	14.0	86.5	95	92.3	102.8	11820	60.0	2.57
2500RMS	59.0 $^{+1.0}$	14.5	93.0	95	99.2	110.1	13600	75.0	2.76
3000RMS	67.0 $^{+1.0}$	14.5	101.0	95	107.2	118.7	16170	90.0	2.97

Electrical Data

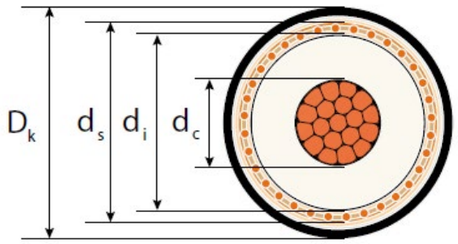
RM (RMC) — Round Multiwire Conductor IC (C - compacted), Class 2
RM (Milliken type) — Round Multiwire Segmented Conductor
SPB — Single Point Bonded
CB — Cross Bonded
De — Cable diameter
1 — Cables in flat formation, the distance between cables 2 x D_e
2 — Cables in trefoil formation, the distance between cables D_e

Cross section of conductor	Resistance of conductor		Resistance of metallic screen		Electric field stress at the conductor screen / insulation	Short-circuit current		Capacitance	Inductance	Current-carrying capacity	
	DC 20°C	AC 90°C	DC 20°C	DC 80°C		Conductor	Metallic screen			In ground	In air
									ooo[1]	SPB,CB	SPB,CB
									o^{O}o[2]	SPB,CB	SPB,CB
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**kA/s**	**kA/s**	**µF/km**	**mH/km**	**A**	**A**
150RM	0.2060	0.2645	0.195	0.241	6.82 / 2.29	14.5	19.5	0.122	0.677	335	400
									0.493	320	365
185RM	0.1640	0.2107	0.195	0.241	6.67 / 2.33	17.8	19.5	0.127	0.660	380	460
									0.475	360	415
240RM	0.1250	0.1609	0.195	0.241	6.71 / 2.57	23.1	19.5	0.139	0.634	440	545
									0.449	420	490
300RM	0.1000	0.1290	0.195	0.241	6.76 / 2.86	28.8	19.5	0.155	0.612	500	630
									0.427	475	560
400RM	0.0778	0.1008	0.195	0.241	6.82 / 3.21	38.3	19.5	0.177	0.588	575	735
									0.403	545	655
500RM	0.0605	0.0790	0.195	0.241	6.62 / 3.29	47.8	19.5	0.191	0.573	660	855
									0.388	625	760
630RM	0.0469	0.0620	0.195	0.241	6.38 / 3.39	60.2	19.5	0.211	0.559	760	1000
									0.374	715	885
800RM	0.0367	0.0495	0.195	0.241	6.2 / 3.47	76.4	19.5	0.230	0.546	865	1155
									0.361	810	1015
1000RM	0.0291	0.0405	0.195	0.241	6.01 / 3.56	95.3	19.5	0.254	0.531	980	1335
									0.347	905	1165
1200RM	0.0247	0.0355	0.195	0.241	5.88 / 3.63	114.3	19.5	0.276	0.520	1065	1475
									0.335	980	1275
1200RMS	0.0247	0.0319	0.195	0.241	5.83 / 3.65	114.3	19.5	0.285	0.522	1110	1530
									0.337	1040	1355
1400RMS	0.0212	0.0274	0.195	0.241	5.78 / 3.68	133.3	19.5	0.295	0.518	1205	1675
									0.333	1125	1475
1600RMS	0.0186	0.0241	0.195	0.241	5.7 / 3.72	152.3	19.5	0.312	0.511	1295	1820
									0.326	1205	1600
1800RMS	0.0165	0.0215	0.195	0.241	5.62 / 3.77	171.2	19.5	0.332	0.503	1390	1980
									0.318	1285	1735
2000RMS	0.0149	0.0195	0.195	0.241	5.59 / 3.78	190.2	19.5	0.341	0.500	1465	2100
									0.316	1355	1840
2500RMS	0.0127	0.0167	0.195	0.241	5.35 / 3.68	237.5	19.5	0.357	0.498	1600	2310
									0.313	1470	2020
3000RMS	0.0100	0.0134	0.195	0.241	5.25 / 3.74	284.9	19.5	0.394	0.488	1850	2730
									0.303	1685	2365

HIGH-VOLTAGE XLPE POWER CABLES 76/132÷138(145) kV

XRUHKXS according to IEC 60840
2XS(FL)2Y according to IEC 60840
N2XS(FL)2Y according to DIN VDE 0276-632

Description: COPPER CONDUCTOR



Parameters

Conductor		Insulation		Metallic screen		D_e	Cable	Maximum	Minimal
Cross section	Diameter	Nominal thickness	Diameter over insulation	Cross section	Diameter over screen	Outer diameter of cable	weight	cable pulling force	bending radius
mm²	**mm**	**mm**	**mm**	**mm²**	**mm²**	**mm**	**kg/km**	**kN**	**m**
185RM	15.85 $^{+0.3}$	18.0	54.9	95	60.7	68.9	5730	9.3	1.73
240RM	18.5 $^{+0.3}$	17.0	55.5	95	61.3	69.6	6220	12.0	1.74
300RM	20.3 $^{+0.4}$	16.5	55.7	95	61.5	69.8	6720	15.0	1.75
400RM	23.5 $^{+0.4}$	16.0	57.5	95	63.4	71.8	7610	20.0	1.80
500RM	26.3 $^{+0.5}$	16.0	60.3	95	66.1	74.8	8800	25.0	1.87
630RM	30.0 $^{+0.5}$	16.0	64.6	95	70.4	79.3	10350	31.5	1.99
800RM	34.4 $^{+0.7}$	16.0	69.0	95	74.8	84.1	12220	40.0	2.11
1000RM	38.3 $^{+0.7}$	16.0	72.9	95	78.7	88.2	14380	50.0	2.21
1200RMS	42.0 $^{+0.8}$	16.0	78.0	95	83.8	93.7	16690	60.0	2.35
1400RMS	45.8 $^{+0.8}$	16.0	81.8	95	87.6	97.7	18850	70.0	2.45
1600RMS	49.0 $^{+1.2}$	16.0	85.0	95	90.8	101.1	20830	80.0	2.53
1800RMS	52.1 $^{+1.0}$	16.0	88.1	95	93.9	104.4	23230	90.0	2.61
2000RMS	54.4 $^{+1.0}$	16.0	90.4	95	96.2	106.9	24870	100.0	2.68
2500RMS	60.5 $^{+1.0}$	16.0	97.5	95	103.7	115.0	30070	100.0	2.88
3000RMS	68.4 $^{+1.0}$	16.0	105.4	95	111.6	123.5	36510	100.0	3.09

Electrical Data

RM (RMC) — Round Multiwire Conductor IC (C - compacted), Class 2
RM (Milliken type) — Round Multiwire Segmented Conductor
SPB — Single Point Bonded
CB — Cross Bonded

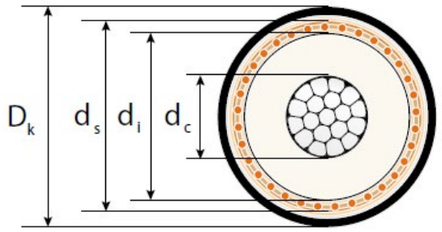
De — Cable diameter
1 — Cables in flat formation, the distance between cables 2 x D_e
2 — Cables in trefoil formation, the distance between cables D_e

Cross section of conductor	Resistance of conductor		Resistance of metallic screen		Electric field stress at the conductor screen / insulation	Short-circuit current		Capacitance	Inductance	Current-carrying capacity	
	DC 20°C	AC 90°C	DC 20°C	DC 80°C		Conductor	Metallic screen			In ground	In air
									ooo[1]	SPB,CB	SPB,CB
									o^{o}o[2]	SPB,CB	SPB,CB
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**kA/s**	**kA/s**	**µF/km**	**mH/km**	**A**	**A**
185RM	0.0991	0.1272	0.195	0.241	6.66 / 2.33	26.8	19.5	0.127	0.659	490	595
									0.474	465	540
240RM	0.0754	0.0973	0.195	0.241	6.64 / 2.59	34.7	19.5	0.142	0.629	570	710
									0.444	545	635
300RM	0.0601	0.0781	0.195	0.241	6.73 / 2.87	43.4	19.5	0.156	0.610	645	815
									0.425	615	725
400RM	0.0470	0.0619	0.195	0.241	6.63 / 3.28	57.8	19.5	0.190	0.584	740	950
									0.399	700	840
500RM	0.0366	0.0493	0.195	0.241	6.58 / 3.31	72.2	19.5	0.194	0.570	845	1100
									0.386	795	970
630RM	0.0283	0.0395	0.195	0.241	6.33 / 3.41	90.8	19.5	0.215	0.557	965	1275
									0.372	900	1120
800RM	0.0221	0.0325	0.195	0.241	6.14 / 3.49	115.3	19.5	0.237	0.542	1090	1465
									0.357	1005	1275
1000RM	0.0176	0.0276	0.195	0.241	6 / 3.56	144.0	19.5	0.256	0.531	1205	1650
									0.346	1105	1415
1200RMS	0.0151	0.0222	0.195	0.241	5.85 / 3.64	172.7	19.5	0.280	0.524	1330	1830
									0.339	1235	1605
1400RMS	0.0129	0.0198	0.195	0.241	5.76 / 3.69	201.4	19.5	0.299	0.516	1430	2000
									0.331	1320	1740
1600RMS	0.0113	0.0182	0.195	0.241	5.69 / 3.73	230.1	19.5	0.314	0.510	1515	2140
									0.325	1390	1855
1800RMS	0.0101	0.0169	0.195	0.241	5.64 / 3.76	258.8	19.5	0.329	0.504	1590	2270
									0.319	1450	1955
2000RMS	0.0090	0.0159	0.195	0.241	5.6 / 3.78	287.4	19.5	0.340	0.501	1655	2375
									0.316	1500	2035
2500RMS	0.0072	0.0141	0.195	0.241	5.33 / 3.7	359.1	19.5	0.364	0.496	1790	2595
									0.311	1605	2210
3000RMS	0.0060	0.0129	0.195	0.241	5.24 / 3.75	430.8	19.5	0.400	0.486	1930	2860
									0.302	1710	2410

HIGH-VOLTAGE XLPE POWER CABLES 76/132÷138(145) kV

XRUHAKXS according to IEC 60840
A2XS(FL)2Y according to IEC 60840
NA2XS(FL)2Y according to DIN VDE 0276-632

Description: ALUMINIUM CONDUCTOR



Parameters

Conductor		Insulation		Metallic screen		D_e			
Cross section	Diameter	Nominal thickness	Diameter over insulation	Cross section	Diameter over screen	Outer diameter of cable	Cable weight	Maximum cable pulling force	Minimal bending radius
mm²	**mm**	**mm**	**mm**	**mm²**	**mm²**	**mm**	**kg/km**	**kN**	**m**
185RM	15.8 $^{+0.2}$	18.0	54.8	95	60.6	68.9	4600	5.55	1.73
240RM	17.9 $^{+0.2}$	17.0	54.9	95	60.7	69.0	4710	7.2	1.73
300RM	20.0 $^{+0.3}$	16.5	55.4	95	61.2	69.5	4850	9.0	1.74
400RM	22.9 $^{+0.3}$	16.0	56.9	95	62.7	71.0	5150	12.0	1.78
500RM	25.7 $^{+0.4}$	16.0	59.7	95	65.5	74.0	5650	15.0	1.85
630RM	29.3 $^{+0.5}$	16.0	63.7	95	69.5	78.4	6360	18.9	1.96
800RM	33.0 $^{+0.4}$	16.0	67.6	95	73.4	82.5	8000	24.0	2.07
1000RM	38.0 $^{+0.5}$	16.0	72.6	95	78.4	87.9	8060	30.0	2.20
1200RM	42.5 $^{+0.6}$	16.0	77.1	95	82.9	92.8	9030	36.0	2.32
1200RMS	43.0 $^{+0.8}$	16.0	79.0	95	84.8	94.7	9360	36.0	2.37
1400RMS	45.1 $^{+0.8}$	16.0	81.1	95	86.9	97.0	9980	42.0	2.43
1600RMS	48.5 $^{+1.2}$	16.0	84.5	95	90.3	100.6	10820	48.0	2.52
1800RMS	52.7 $^{+1.0}$	16.0	88.7	95	94.5	105.2	11840	54.0	2.63
2000RMS	54.5 $^{+1.0}$	16.0	90.5	95	96.3	107.0	12450	60.0	2.68
2500RMS	59.0 $^{+1.0}$	16.0	96.0	95	102.2	113.3	14110	75.0	2.84
3000RMS	67.0 $^{+1.0}$	16.0	104.0	95	110.2	121.9	16720	90.0	3.05

Electrical Data

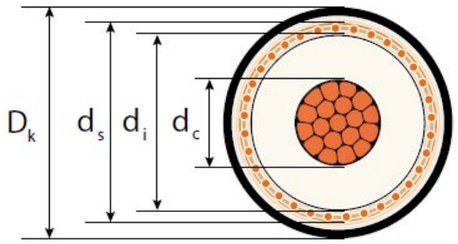
RM (RMC) — Round Multiwire Conductor IC (C - compacted), Class 2
RM (Milliken type) — Round Multiwire Segmented Conductor
SPB — Single Point Bonded
CB — Cross Bonded
De — Cable diameter
1 — Cables in flat formation, the distance between cables 2 x D_e
2 — Cables in trefoil formation, the distance between cables D_e

Cross section of conductor	Resistance of conductor		Resistance of metallic screen		Electric field stress at the conductor screen / insulation	Short-circuit current		Capacitance	Inductance	Current-carrying capacity	
	DC 20°C	AC 90°C	DC 20°C	DC 80°C		Conductor	Metallic screen			In ground	In air
									ooo[1]	SPB,CB	SPB,CB
									o^{O}o[2]	SPB,CB	SPB,CB
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**kA/s**	**kA/s**	**µF/km**	**mH/km**	**A**	**A**
185RM	0.1640	0.2107	0.195	0.241	7.56 / 2.59	17.8	19.5	0.125	0.668	380	460
									0.483	360	415
240RM	0.1250	0.1609	0.195	0.241	7.53 / 2.87	23.1	19.5	0.138	0.643	440	545
									0.458	420	490
300RM	0.1000	0.1290	0.195	0.241	7.49 / 3.03	28.8	19.5	0.147	0.623	500	630
									0.438	475	560
400RM	0.0778	0.1008	0.195	0.241	7.39 / 3.23	38.3	19.5	0.161	0.600	575	735
									0.415	545	655
500RM	0.0605	0.0790	0.195	0.241	7.15 / 3.32	47.8	19.5	0.174	0.585	660	855
									0.400	625	760
630RM	0.0469	0.0620	0.195	0.241	6.87 / 3.42	60.2	19.5	0.191	0.570	760	1000
									0.385	715	885
800RM	0.0367	0.0495	0.195	0.241	6.66 / 3.51	76.4	19.5	0.208	0.557	865	1155
									0.372	810	1015
1000RM	0.0291	0.0404	0.195	0.241	6.44 / 3.6	95.3	19.5	0.229	0.541	980	1335
									0.356	905	1165
1200RM	0.0247	0.0354	0.195	0.241	6.29 / 3.68	114.3	19.5	0.249	0.530	1065	1475
									0.345	980	1275
1200RMS	0.0247	0.0319	0.195	0.241	6.23 / 3.71	114.3	19.5	0.257	0.531	1110	1530
									0.347	1040	1355
1400RMS	0.0212	0.0274	0.195	0.241	6.17 / 3.73	133.3	19.5	0.266	0.527	1205	1675
									0.342	1125	1475
1600RMS	0.0186	0.0241	0.195	0.241	6.08 / 3.78	152.3	19.5	0.280	0.519	1295	1820
									0.335	1205	1600
1800RMS	0.0165	0.0215	0.195	0.241	5.99 / 3.83	171.2	19.5	0.298	0.512	1390	1980
									0.327	1285	1735
2000RMS	0.0149	0.0195	0.195	0.241	5.95 / 3.85	190.2	19.5	0.306	0.508	1465	2100
									0.324	1355	1840
2500RMS	0.0127	0.0167	0.195	0.241	5.86 / 3.9	237.5	19.5	0.329	0.504	1600	2310
									0.319	1470	2020
3000RMS	0.0100	0.0134	0.195	0.241	5.74 / 3.97	284.9	19.5	0.363	0.493	1850	2730
									0.308	1685	2365

HIGH-VOLTAGE XLPE POWER CABLES 87/150÷161(170) kV

XRUHKXS according to IEC 60840
2XS(FL)2Y according to IEC 60840
N2XS(FL)2Y according to DIN VDE 0276-632

Description: COPPER CONDUCTOR



Parameters

Conductor	Diameter	Insulation		Metallic screen		D_e	Cable	Maximum	Minimal
Cross section	Diameter	Nominal thickness	Diameter over insulation	Cross section	Diameter over screen	Outer diameter of cable	weight	cable pulling force	bending radius
mm²	**mm**	**mm**	**mm**	**mm²**	**mm²**	**mm**	**kg/km**	**kN**	**m**
240RM	18.5 $^{+0.3}$	21.0	63.5	95	69.3	78.2	7120	12.0	1.96
300RM	20.3 $^{+0.4}$	20.5	64.1	95	69.9	78.8	7670	15.0	1.97
400RM	23.5 $^{+0.4}$	19.5	64.9	95	70.7	79.6	8450	20.0	1.99
500RM	26.3 $^{+0.5}$	19.0	66.7	95	72.5	81.6	9560	25.0	2.04
630RM	30.0 $^{+0.5}$	19.0	70.6	95	76.4	85.7	11100	31.5	2.15
800RM	34.4 $^{+0.7}$	19.0	75.0	95	80.8	90.5	13020	40.0	2.27
1000RM	38.3 $^{+0.7}$	19.0	78.9	95	84.7	94.6	15210	50.0	2.37
1200RMS	42.0 $^{+0.8}$	19.0	84.0	95	89.8	100.1	17570	60.0	2.51
1400RMS	45.8 $^{+0.8}$	19.0	87.8	95	93.6	104.1	19780	70.0	2.61
1600RMS	49.0 $^{+1.2}$	19.0	91.0	95	96.8	107.5	21780	80.0	2.69
1800RMS	52.1 $^{+1.0}$	19.0	94.1	95	99.9	110.8	24210	90.0	2.77
2000RMS	54.4 $^{+1.0}$	18.0	94.4	95	100.2	111.3	25560	100.0	2.79
2500RMS	60.5 $^{+1.0}$	18.0	101.5	95	107.7	119.2	30780	100.0	2.98
3000RMS	68.4 $^{+1.0}$	18.0	109.4	95	115.6	127.5	37230	100.0	3.19

Electrical Data

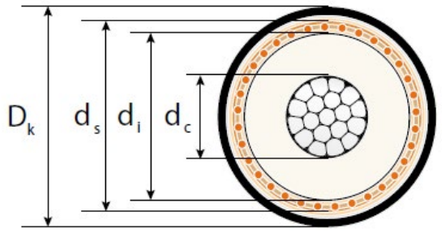
RM (RMC) — Round Multiwire Conductor IC (C - compacted), Class 2
RM (Milliken type) — Round Multiwire Segmented Conductor
SPB — Single Point Bonded
CB — Cross Bonded
De — Cable diameter
1 — Cables in flat formation, the distance between cables 2 x D_e
2 — Cables in trefoil formation, the distance between cables D_e

Cross section of conductor	Resistance of conductor		Resistance of metallic screen		Electric field stress at the conductor screen / insulation	Short-circuit current		Capacitance	Inductance	Current-carrying capacity	
	DC 20°C	AC 90°C	DC 20°C	DC 80°C		Conductor	Metallic screen			In ground	In air
									ooo[1]	SPB,CB	SPB,CB
									o^{O}o[2]	SPB,CB	SPB,CB
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**kA/s**	**kA/s**	**µF/km**	**mH/km**	**A**	**A**
240RM	0.0754	0.0972	0.195	0.241	7.47 / 2.53	34.7	19.5	0.123	0.662	570	710
									0.477	545	635
300RM	0.0601	0.0780	0.195	0.241	7.38 / 2.66	43.4	19.5	0.131	0.645	645	815
									0.460	615	725
400RM	0.0470	0.0618	0.195	0.241	7.31 / 2.92	57.8	19.5	0.145	0.617	740	950
									0.433	700	840
500RM	0.0366	0.0491	0.195	0.241	7.19 / 3.09	72.2	19.5	0.158	0.600	845	1100
									0.415	795	970
630RM	0.0283	0.0392	0.195	0.241	6.91 / 3.19	90.8	19.5	0.173	0.583	965	1275
									0.399	900	1120
800RM	0.0221	0.0321	0.195	0.241	6.66 / 3.28	115.3	19.5	0.189	0.567	1090	1465
									0.382	1005	1275
1000RM	0.0176	0.0272	0.195	0.241	6.47 / 3.36	144.0	19.5	0.203	0.554	1205	1650
									0.369	1105	1415
1200RMS	0.0151	0.0221	0.195	0.241	6.28 / 3.44	172.7	19.5	0.221	0.547	1330	1830
									0.362	1235	1605
1400RMS	0.0129	0.0197	0.195	0.241	6.16 / 3.49	201.4	19.5	0.235	0.538	1430	2000
									0.353	1320	1740
1600RMS	0.0113	0.0180	0.195	0.241	6.07 / 3.54	230.1	19.5	0.247	0.531	1515	2140
									0.346	1390	1855
1800RMS	0.0101	0.0168	0.195	0.241	6 / 3.58	258.8	19.5	0.258	0.524	1590	2270
									0.340	1450	1955
2000RMS	0.0090	0.0157	0.195	0.241	6.2 / 3.84	287.4	19.5	0.278	0.517	1655	2375
									0.332	1500	2035
2500RMS	0.0072	0.0139	0.195	0.241	6.06 / 3.91	359.1	19.5	0.304	0.509	1790	2595
									0.324	1605	2210
3000RMS	0.0060	0.0128	0.195	0.241	5.94 / 3.99	430.8	19.5	0.334	0.498	1930	2860
									0.313	1710	2410

HIGH-VOLTAGE XLPE POWER CABLES 87/150÷161(170) kV

XRUHAKXS according to IEC 60840
A2XS(FL)2Y according to IEC 60840
NA2XS(FL)2Y according to DIN VDE 0276-632

Description: ALUMINIUM CONDUCTOR



Parameters

Conductor		Insulation		Metallic screen		D_e			
Cross section	Diameter	Nominal thickness	Diameter over insulation	Cross section	Diameter over screen	Outer diameter of cable	Cable weight	Maximum cable pulling force	Minimal bending radius
mm²	**mm**	**mm**	**mm**	**mm²**	**mm²**	**mm**	**kg/km**	**kN**	**m**
240RM	17.9 $^{+0.2}$	21.0	62.9	95	68.7	77.6	5600	7.2	1.94
300RM	20.0 $^{+0.3}$	20.5	63.8	95	69.6	78.5	5800	9.0	1.97
400RM	22.9 $^{+0.3}$	19.5	64.3	95	70.1	79.0	6000	12.0	1.98
500RM	25.7 $^{+0.4}$	19.0	66.1	95	71.9	81.0	6420	15.0	2.03
630RM	29.3 $^{+0.5}$	19.0	69.7	95	75.5	84.8	7090	18.9	2.13
800RM	33.0 $^{+0.4}$	19.0	73.6	95	79.4	88.9	7880	24.0	2.23
1000RM	38.0 $^{+0.5}$	19.0	78.6	95	84.4	94.3	8890	30.0	2.36
1200RM	42.5 $^{+0.6}$	19.0	83.1	95	88.9	99.2	9900	36.0	2.48
1200RMS	43.0 $^{+0.8}$	19.0	85.0	95	90.8	101.1	10260	36.0	2.53
1400RMS	45.1 $^{+0.8}$	19.0	87.2	95	92.9	103.4	10890	42.0	2.59
1600RMS	48.5 $^{+1.2}$	19.0	90.5	95	96.3	107.0	11760	48.0	2.68
1800RMS	52.7 $^{+1.0}$	19.0	94.7	95	100.5	111.6	12830	54.0	2.79
2000RMS	54.5 $^{+1.0}$	18.0	94.5	95	100.3	111.4	13140	60.0	2.79
2500RMS	59.0 $^{+1.0}$	18.0	100.0	95	106.2	117.7	14840	75.0	2.95
3000RMS	67.0 $^{+1.0}$	18.0	108.0	95	114. 2	126.1	17510	90.0	3.16

Electrical Data

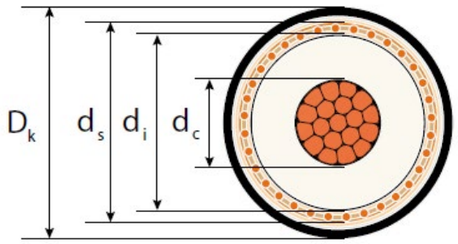
RM (RMC) — Round Multiwire Conductor IC (C - compacted), Class 2
RM (Milliken type) — Round Multiwire Segmented Conductor
SPB — Single Point Bonded
CB — Cross Bonded
De — Cable diameter
1 — Cables in flat formation, the distance between cables 2 x D_e
2 — Cables in trefoil formation, the distance between cables D_e

Cross section of conductor	Resistance of conductor		Resistance of metallic screen		Electric field stress at the conductor screen / insulation	Short-circuit current		Capacitance	Inductance	Current-carrying capacity	
	DC 20°C	AC 90°C	DC 20°C	DC 80°C		Conductor	Metallic screen			In ground	In air
									ooo[1]	SPB,CB	SPB,CB
									o^{o}o[2]	SPB,CB	SPB,CB
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**kA/s**	**kA/s**	**µF/km**	**mH/km**	**A**	**A**
240RM	0.1250	0.1609	0.195	0.241	7.56 / 2.51	23.1	19.5	0.121	0.667	440	545
									0.482	420	490
300RM	0.1000	0.1290	0.195	0.241	7.42 / 2.65	28.8	19.5	0.130	0.647	500	630
									0.462	475	560
400RM	0.0778	0.1008	0.195	0.241	7.37 / 2.9	38.3	19.5	0.143	0.621	575	735
									0.436	545	655
500RM	0.0605	0.0789	0.195	0.241	7.24 / 3.08	47.8	19.5	0.156	0.603	660	855
									0.418	625	760
630RM	0.0469	0.0619	0.195	0.241	6.97 / 3.17	60.2	19.5	0.169	0.586	760	1000
									0.401	715	885
800RM	0.0367	0.0494	0.195	0.241	6.73 / 3.26	76.4	19.5	0.184	0.572	865	1155
									0.387	810	1015
1000RM	0.0291	0.0403	0.195	0.241	6.49 / 3.35	95.3	19.5	0.202	0.555	980	1335
									0.370	905	1165
1200RM	0.0247	0.0352	0.195	0.241	6.31 / 3.43	114.3	19.5	0.218	0.543	1065	1475
									0.358	980	1275
1200RMS	0.0247	0.0319	0.195	0.241	6.25 / 3.45	114.3	19.5	0.225	0.544	1110	1530
									0.360	1040	1355
1400RMS	0.0212	0.0274	0.195	0.241	6.18 / 3.49	133.3	19.5	0.233	0.539	1205	1675
									0.355	1125	1475
1600RMS	0.0186	0.0241	0.195	0.241	6.09 / 3.53	152.3	19.5	0.245	0.532	1295	1820
									0.347	1205	1600
1800RMS	0.0165	0.0215	0.195	0.241	5.98 / 3.58	171.2	19.5	0.260	0.524	1390	1980
									0.339	1285	1735
2000RMS	0.0149	0.0195	0.195	0.241	6.2 / 3.84	190.2	19.5	0.278	0.516	1465	2100
									0.332	1355	1840
2500RMS	0.0127	0.0167	0.195	0.241	6.09 / 3.9	237.5	19.5	0.299	0.512	1600	2310
									0.327	1470	2020
3000RMS	0.0100	0.0134	0.195	0.241	5.96 / 3.97	284.9	19.5	0.329	0.500	1850	2730
									0.315	1685	2365

HIGH-VOLTAGE XLPE POWER CABLES 127/220÷230(245) kV

XRUHKXS according to IEC 62067
2XS(FL)2Y according to IEC 62067

Description: COPPER CONDUCTOR



Parameters

Conductor		Insulation		Metallic screen		D_e			
Cross section	Diameter	Nominal thickness	Diameter over insulation	Cross section	Diameter over screen	Outer diameter of cable	Cable weight	Maximum cable pulling force	Minimal bending radius
mm²	**mm**	**mm**	**mm**	**mm²**	**mm²**	**mm**	**kg/km**	**kN**	**m**
400RM	23.5 $^{+0.4}$	24.0	74.7	150	81.3	90.9	10310	20.0	2.28
500RM	26.3 $^{+0.5}$	23.0	75.3	150	81.9	91.5	11250	25.0	2.29
630RM	30.0 $^{+0.5}$	22.0	77.2	150	83.8	93.6	12590	31.5	2.34
800RM	34.4 $^{+0.7}$	22.0	81.0	150	87.6	97.6	14430	40.0	2.44
1000RM	38.3 $^{+0.7}$	21.0	82.9	150	89.5	99.7	16370	50.0	2.50
1200RMS	42.0 $^{+0.8}$	21.0	88.0	150	94.6	105.2	18780	60.0	2.63
1400RMS	45.8 $^{+0.8}$	21.0	91.8	150	98.4	109.2	21020	70.0	2.73
1600RMS	49.0 $^{+1.2}$	21.0	95.0	150	101.6	112.6	23050	80.0	2.82
1800RMS	52.1 $^{+1.0}$	21.0	98.1	150	104.7	115.9	25500	90.0	2.90
2000RMS	54.4 $^{+1.0}$	21.0	100.4	150	107.0	118.4	27190	100.0	2.96
2500RMS	60.5 $^{+1.0}$	21.5	108.5	150	115.7	127.5	32720	100.0	3.19
3000RMS	68.4 $^{+1.0}$	21.5	116.4	150	123.6	135.4	39190	100.0	3.39

Electrical Data

RM (RMC) — Round Multiwire Conductor IC (C - compacted), Class 2
RM (Milliken type) — Round Multiwire Segmented Conductor
SPB — Single Point Bonded
CB — Cross Bonded

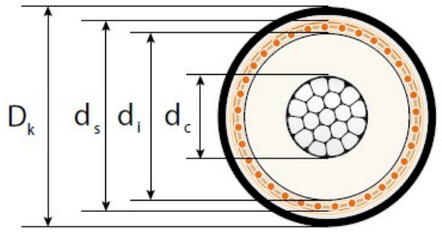
De — Cable diameter
1 — Cables in flat formation, the distance between cables 2 x D_e
2 — Cables in trefoil formation, the distance between cables D_e

Cross section of conductor	Resistance of conductor		Resistance of metallic screen		Electric field stress at the conductor screen / insulation	Short-circuit current		Capacitance	Inductance		Current-carrying capacity	
	DC 20°C	AC 90°C	DC 20°C	DC 80°C		Conductor	Metallic screen				In ground	In air
									ooo[1]		SPB,CB	SPB,CB
									o^{O}o[2]		SPB,CB	SPB,CB
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**kA/s**	**kA/s**	**µF/km**	**mH/km**		**A**	**A**
400RM	0.0470	0.0616	0.124	0.153	9.25 / 3.31	57.8	29.5	0.130	0.644		730	910
									0.459		690	825
500RM	0.0366	0.0489	0.124	0.153	9.18 / 3.57	72.2	29.5	0.141	0.623		835	1055
									0.438		785	950
630RM	0.0283	0.0391	0.124	0.153	9.07 / 3.9	90.8	29.5	0.158	0.601		950	1230
									0.416		890	1100
800RM	0.0221	0.0320	0.124	0.153	8.76 / 4	115.3	29.5	0.170	0.582		1075	1415
									0.397		995	1255
1000RM	0.0176	0.0271	0.124	0.153	8.79 / 4.34	144.0	29.5	0.189	0.565		1190	1585
									0.380		1090	1395
1200RMS	0.0151	0.0221	0.124	0.153	8.51 / 4.45	172.7	29.5	0.206	0.557		1310	1770
									0.372		1215	1570
1400RMS	0.0129	0.0197	0.124	0.153	8.34 / 4.52	201.4	29.5	0.218	0.547		1410	1930
									0.362		1300	1705
1600RMS	0.0113	0.0180	0.124	0.153	8.21 / 4.58	230.1	29.5	0.228	0.540		1490	2070
									0.355		1365	1815
1800RMS	0.0101	0.0167	0.124	0.153	8.1 / 4.63	258.8	29.5	0.239	0.533		1565	2190
									0.349		1425	1915
2000RMS	0.0090	0.0156	0.124	0.153	8.03 / 4.67	287.4	29.5	0.246	0.529		1630	2290
									0.344		1475	1995
2500RMS	0.0072	0.0138	0.124	0.153	7.68 / 4.64	359.1	29.5	0.264	0.523		1760	2495
									0.338		1580	2165
3000RMS	0.0060	0.0127	0.124	0.153	7.5 / 4.73	430.8	29.5	0.289	0.510		1895	2750
									0.325		1685	2355

HIGH-VOLTAGE XLPE POWER CABLES 127/220÷230(245) kV

XRUHAKXS according to IEC 62067
A2XS(FL)2Y according to IEC 62067

Description: ALUMINIUM CONDUCTOR



Parameters

Conductor		Insulation		Metallic screen		D_e			
Cross section	Diameter	Nominal thickness	Diameter over insulation	Cross section	Diameter over screen	Outer diameter of cable	Cable weight	Maximum cable pulling force	Minimal bending radius
mm²	**mm**	**mm**	**mm**	**mm²**	**mm²**	**mm**	**kg/km**	**kN**	**m**
400RM	$22.9^{+0.3}$	24.0	74.1	150.0	80.7	90.4	7860	12.00	2.26
500RM	$25.7^{+0.4}$	23.0	74.7	150.0	81.3	91.0	8100	15.00	2.27
630RM	$29.3^{+0.4}$	22.0	76.3	150.0	82.9	92.7	8570	18.90	2.32
800RM	$33.0^{+0.4}$	22.0	79.6	150.0	86.2	96.2	9300	24.00	2.41
1000RM	$38.0^{+0.5}$	21.0	82.6	150.0	89.2	99.4	10070	30.00	2.49
1200RM	$42.5^{+0.6}$	21.0	87.1	150.0	93.7	104.2	11080	36.00	2.61
1200RMS	$43.0^{+0.8}$	21.0	89.0	150.0	95.6	106.2	11480	36.00	2.66
1400RMS	$45.1^{+0.8}$	21.0	91.1	150.0	97.7	108.5	12130	42.00	2.71
1600RMS	$48.5^{+1.2}$	21.0	94.5	150.0	101.1	112.1	13030	48.00	2.80
1800RMS	$52.7^{+1.0}$	21.0	98.7	150.0	105.3	116.5	14100	54.00	2.91
2000RMS	$54.5^{+1.0}$	21.0	100.5	150.0	107.1	118.5	14770	60.00	2.96
2500RMS	$59.0^{+1.0}$	21.5	107.0	150.0	114.2	126.0	16760	75.00	3.15
3000RMS	$67.0^{+1.0}$	21.5	115.0	150.0	122.2	134.0	19410	90.00	3.35

Electrical Data

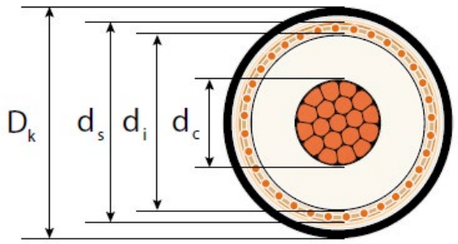
RM (RMC) — Round Multiwire Conductor IC (C - compacted), Class 2
RM (Milliken type) — Round Multiwire Segmented Conductor
SPB — Single Point Bonded
CB — Cross Bonded
De — Cable diameter
1 — Cables in flat formation, the distance between cables 2 x D_e
2 — Cables in trefoil formation, the distance between cables D_e

Cross section of conductor	Resistance of conductor		Resistance of metallic screen		Electric field stress at the conductor screen / insulation	Short-circuit current		Capacitance	Inductance	Current-carrying capacity	
	DC 20°C	AC 90°C	DC 20°C	DC 80°C		Conductor	Metallic screen			In ground	In air
									ooo[1]	SPB,CB	SPB,CB
									o^{O}o[2]	SPB,CB	SPB,CB
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**kA/s**	**kA/s**	**µF/km**	**mH/km**	**A**	**A**
400RM	0.0778	0.1007	0.124	0.153	9.33 / 3.28	38.3	29.5	0.128	0.648	570	705
									0.463	540	640
500RM	0.0605	0.0788	0.124	0.153	9.25 / 3.55	47.8	29.5	0.139	0.626	650	825
									0.441	615	745
630RM	0.0469	0.0618	0.124	0.153	9.15 / 3.87	60.2	29.5	0.155	0.604	750	965
									0.419	705	865
800RM	0.0367	0.0493	0.124	0.153	8.87 / 3.97	76.4	29.5	0.166	0.587	855	1115
									0.403	800	995
1000RM	0.0291	0.0402	0.124	0.153	8.81 / 4.33	95.3	29.5	0.188	0.566	965	1285
									0.381	895	1140
1200RM	0.0247	0.0351	0.124	0.153	8.56 / 4.43	114.3	29.5	0.203	0.553	1050	1420
									0.368	965	1255
1200RMS	0.0247	0.0319	0.124	0.153	8.46 / 4.47	114.3	29.5	0.209	0.554	1090	1480
									0.369	1020	1325
1400RMS	0.0212	0.0274	0.124	0.153	8.37 / 4.51	133.3	29.5	0.216	0.549	1185	1615
									0.364	1105	1445
1600RMS	0.0186	0.0241	0.124	0.153	8.23 / 4.57	152.3	29.5	0.227	0.541	1275	1760
									0.356	1185	1565
1800RMS	0.0165	0.0215	0.124	0.153	8.08 / 4.64	171.2	29.5	0.241	0.532	1365	1910
									0.347	1265	1695
2000RMS	0.0149	0.0195	0.124	0.153	8.02 / 4.67	190.2	29.5	0.246	0.529	1440	2025
									0.344	1330	1795
2500RMS	0.0127	0.0167	0.124	0.153	7.72 / 4.62	237.5	29.5	0.259	0.525	1570	2220
									0.340	1440	1969
3000RMS	0.0100	0.0134	0.124	0.153	7.53 / 4.72	284.9	29.5	0.285	0.512	1815	2620
									0.327	1650	2300

HIGH-VOLTAGE XLPE POWER CABLES 220/380÷400(420) kV

XRUHKXS according to IEC 62067
2XS(FL)2Y according to IEC 62067

Description: COPPER CONDUCTOR



Parameters

Conductor		Insulation		Metallic screen		D_e			
Cross section	Diameter	Nominal thickness	Diameter over insulation	Cross section	Diameter over screen	Outer diameter of cable	Cable weight	Maximum cable pulling force	Minimal bending radius
mm²	**mm**	**mm**	**mm**	**mm²**	**mm²**	**mm**	**kg/km**	**kN**	**m**
630RM	30.0 $^{+0.5}$	32.0	98.2	150	105.4	116.6	16070	31.5	2.92
800RM	34.4 $^{+0.7}$	31.0	100.6	150	107.8	119.2	17830	40.0	2.98
1000RM	38.3 $^{+0.7}$	30.0	102.5	150	109.7	121.3	19850	50.0	3.04
1200RMS	42.0 $^{+0.8}$	28.0	102.0	150	109.2	120.8	21330	60.0	3.02
1400RMS	45.8 $^{+0.8}$	27.0	103.8	150	111.0	122.6	23260	70.0	3.07
1600RMS	49.0 $^{+1.2}$	27.0	107.0	150	114.2	126.0	25360	80.0	3.15
1800RMS	52.1 $^{+1.0}$	27.0	110.1	150	117.3	129.1	27840	90.0	3.23
2000RMS	54.4 $^{+1.0}$	27.0	112.4	150	119.6	131.4	29540	100.0	3.29
2500RMS	60.5 $^{+1.0}$	27.0	119.5	150	126.7	138.5	34810	100.0	3.47
3000RMS	68.4 $^{+1.0}$	27.0	127.4	150	134.6	146.4	41400	100.0	3.66

Electrical Data

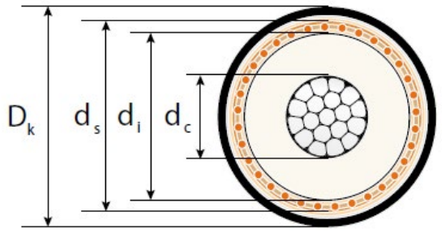
RM (RMC) — Round Multiwire Conductor IC (C - compacted), Class 2
RM (Milliken type) — Round Multiwire Segmented Conductor
SPB — Single Point Bonded
CB — Cross Bonded
De — Cable diameter
1 — Cables in flat formation, the distance between cables 2 x D_e
2 — Cables in trefoil formation, the distance between cables D_e

Cross section of conductor	Resistance of conductor		Resistance of metallic screen		Electric field stress at the conductor screen / insulation	Short-circuit current		Capacitance	Inductance	Current-carrying capacity	
	DC 20°C	AC 90°C	DC 20°C	DC 80°C		Conductor	Metallic screen			In ground	In air
									ooo[1]	SPB,CB	SPB,CB
									o^{O}o[2]	SPB,CB	SPB,CB
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**kA/s**	**kA/s**	**μF/km**	**mH/km**	**A**	**A**
630RM	0.0283	0.0388	0.124	0.153	12.2 / 4.25	90.8	29.5	0.126	0.645	915	1135
									0.460	855	1045
800RM	0.0221	0.0316	0.124	0.153	11.9 / 4.57	115.3	29.5	0.139	0.622	1030	1305
									0.437	955	1190
1000RM	0.0176	0.0266	0.124	0.153	11.76 / 4.88	144.0	29.5	0.151	0.604	1140	1465
									0.419	1050	1330
1200 RMS	0.0151	0.0220	0.124	0.153	12.01 / 5.42	172.7	29.5	0.167	0.585	1255	1635
									0.400	1160	1485
1400RMS	0.0129	0.0196	0.124	0.153	12.03 / 5.77	201.4	29.5	0.182	0.570	1345	1785
									0.386	1235	1610
1600RMS	0.0113	0.0179	0.124	0.153	11.82 / 5.85	230.1	29.5	0.190	0.562	1425	1915
									0.378	1300	1720
1800RMS	0.0101	0.0166	0.124	0.153	11.63 / 5.93	258.8	29.5	0.198	0.555	1490	2035
									0.370	1350	1815
2000RMS	0.0090	0.0155	0.124	0.153	11.51 / 5.98	287.4	29.5	0.204	0.550	1550	2125
									0.365	1400	1890
2500RMS	0.0072	0.0137	0.124	0.153	11.17 / 6.12	359.1	29.5	0.222	0.539	1675	2340
									0.354	1495	2065
3000RMS	0.0060	0.0126	0.124	0.153	10.87 / 6.26	430.8	29.5	0.242	0.526	1800	2575
									0.341	1590	2245

HIGH-VOLTAGE XLPE POWER CABLES 220/380÷400(420) kV

XRUHAKXS according to IEC 62067
A2XS(FL)2Y according to IEC 62067

Description: ALUMINIUM CONDUCTOR



Parameters

Conductor		Insulation		Metallic screen		D_e			
Cross section	Diameter	Nominal thickness	Diameter over insulation	Cross section	Diameter over screen	Outer diameter of cable	Cable weight	Maximum cable pulling force	Minimal bending radius
mm²	**mm**	**mm**	**mm**	**mm²**	**mm²**	**mm**	**kg/km**	**kN**	**m**
630RM	29.3 $^{+0.5}$	32.0	97.3	150	104.5	115.7	12020	18.9	2.90
800RM	33.0 $^{+0.4}$	31.0	99.2	150	106.4	117.8	12650	24.0	2.95
1000RM	38.0 $^{+0.5}$	30.0	102.2	150	109.4	121.0	13510	30.0	3.03
1200RM	42.5 $^{+0.6}$	28.0	102.7	150	109.9	121.5	13930	36.0	3.04
1200RMS	43.0 $^{+0.8}$	28.0	103.0	150	110.2	121.8	14040	36.0	3.05
1400RMS	45.1 $^{+0.8}$	27.0	103.1	150	110.3	121.9	14360	42.0	3.05
1600RMS	48.5 $^{+1.2}$	27.0	106.5	150	113.7	125.5	15330	48.0	3.14
1800RMS	52.7 $^{+1.0}$	27.0	110.7	150	117.9	129.7	16440	54.0	3.25
2000RMS	54.5 $^{+1.0}$	27.0	112.5	150	119.7	131.5	17120	60.0	3.29
2500RMS	59.0 $^{+1.0}$	27.0	118.0	150	125.2	137.0	18830	75.0	3.43
3000RMS	67.0 $^{+1.0}$	27.0	126.0	150	133.2	145.0	21610	90.0	3.63

Electrical Data

RM (RMC) — Round Multiwire Conductor IC (C - compacted), Class 2
RM (Milliken type) — Round Multiwire Segmented Conductor
SPB — Single Point Bonded
CB — Cross Bonded
De — Cable diameter
1 — Cables in flat formation, the distance between cables 2 x D_e
2 — Cables in trefoil formation, the distance between cables D_e

Cross section of conductor	Resistance of conductor		Resistance of metallic screen		Electric field stress at the conductor screen / insulation	Short-circuit current		Capacitance	Inductance	Current-carrying capacity	
	DC 20°C	AC 90°C	DC 20°C	DC 80°C		Conductor	Metallic screen			In ground	In air
									ooo[1]	SPB,CB	SPB,CB
									o^{O}o[2]	SPB,CB	SPB,CB
mm²	**Ω/km**	**Ω/km**	**Ω/km**	**Ω/km**	**kV/mm**	**kA/s**	**kA/s**	**μF/km**	**mH/km**	**A**	**A**
630RM	0.0469	0.0617	0.124	0.153	12.32 / 4.22	60.2	29.5	0.124	0.648	720	890
									0.463	675	820
800RM	0.0367	0.0491	0.124	0.153	12.06 / 4.52	76.4	29.5	0.136	0.628	820	1030
									0.443	765	945
1000RM	0.0291	0.0399	0.124	0.153	11.79 / 4.87	95.3	29.5	0.151	0.605	925	1185
									0.420	855	1080
1200RM	0.0247	0.0348	0.124	0.153	11.96 / 5.44	114.3	29.5	0.169	0.584	1005	1310
									0.399	925	1190
1200RMS	0.0247	0.0319	0.124	0.153	11.93 / 5.44	114.3	29.5	0.170	0.582	1045	1365
									0.397	970	1245
1400RMS	0.0212	0.0274	0.124	0.153	12.08 / 5.75	133.3	29.5	0.180	0.572	1135	1495
									0.387	1050	1360
1600RMS	0.0186	0.0241	0.124	0.153	11.85 / 5.84	152.3	29.5	0.189	0.564	1215	1630
									0.379	1120	1475
1800RMS	0.0165	0.0215	0.124	0.153	11.6 / 5.94	171.2	29.5	0.199	0.554	1300	1770
									0.369	1195	1600
2000RMS	0.0149	0.0194	0.124	0.153	11.5 / 5.98	190.2	29.5	0.204	0.550	1370	1875
									0.365	1255	1690
2500RMS	0.0127	0.0167	0.124	0.153	11.24 / 6.09	237.5	29.5	0.218	0.542	1490	2075
									0.357	1355	1860
3000RMS	0.0100	0.0133	0.124	0.153	10.92 / 6.24	284.9	29.5	0.238	0.528	1720	2450
									0.343	1550	2175

Rubber Cables for Wind Farms

3

Table of Contents

H07ZZ-F WIND 450/750 V

Standards: PN-EN 50525-3-21

Description: Flexible cables, cross-linked halogen-free compound insulated and sheathed, with low smoke and corrosive gases emission

Construction

Conductors	Annealed flexible special stranded bare copper conductor class 5 to EN 60228
Separator	A suitable tape separator between the conductor and insulation
Insulation	Cross-linked halogen free thermosetting compound type EI8 in acc. to EN 50363-5
Circuit identification	Colour coding of power conductors comply to HD 308, DIN VDE 0293-308
Colour of insulation	White
Outer jacket	Cross-linked halogen free thermosetting compound type EM8 in acc. to EN 50363-6
Colour of outer jacket	Black or colours can be provided
Flame propagation	IEC 60332-1-2:2004 ,EN 60332-1-2:2004
Torsion resistance	92 °/m

Characteristic

Low smoke, halogen free, flame retardant jacket	
UV, sunlight, ozone and oil resistant	
Ink jet printed for easy identification	
Application	For use in wind turbines. Also, for indoor and temporary outdoors usage, particularly in the case of fire/burning when low emission of smoke and corrosive gases is required
Temperature range	Maximum conductor operating temperature: +90°C Maximum conductor temperature during short circuit: +250°C Maximum cable surface: +80°C Minimal installation and handling: -5°C
Standard length cable packing	1000 m on drums. Other forms of packing and delivery are available on request

Parameters

Number and cross-sectional area of conductor	Maximum diameter of wires	Nominal thickness of insulation	Nominal thickness of sheath	Approximate overall diameter	Approximate net weight	Maximum conductor resistance at temperature 20°C
n x mm²	**mm**	**mm**	**mm**	**mm**	**kg/km**	**Ω/km**
1x1.5	0.26	0.8	1.4	5.9	49	13.7
1x2.5	0.26	0.9	1.4	6.6	65	8.21
1x4	0.31	1.0	1.5	7.5	88	5.09

Parameters

Number and cross-sectional area of conductor	Maximum diameter of wires	Nominal thickness of insulation	Nominal thickness of sheath	Approximate overall diameter	Approximate net weight	Maximum conductor resistance at temperature 20°C
n x mm²	**mm**	**mm**	**mm**	**mm**	**kg/km**	**Ω/km**
1x6	0.31	1.0	1.6	8.2	114	3.39
1x10	0.41	1.2	1.8	10.1	178	1.95
1x16	0.41	1.2	1.9	11.4	247	1.24
1x25	0.41	1.4	2.0	13.2	353	0.795
1x35	0.41	1.4	2.2	14.4	462	0.565
1x50	0.41	1.6	2.4	17.1	648	0.393
1x70	0.51	1.6	2.6	19.3	870	0.277
1x95	0.51	1.8	2.8	22.2	1135	0.210
1x120	0.51	1.8	3.0	23.7	1426	0.164
1x150	0.51	2.0	3.2	26.3	1726	0.132
1x185	0.51	2.2	3.4	29.4	2098	0.108
1x240	0.51	2.4	3.5	31.5	2652	0.0817
1x300	0.51	2.6	3.6	35.7	3290	0.0654
1x400	0.51	2.8	3.8	38.4	4199	0.0495
1x500	0.61	3.0	4.0	43.8	5353	0.0391
1x630	0.61	3.0	4.1	48.4	6829	0.0391

Current ratings for cables for ambient temperature 30°C

Installations	In open air *	Multicore cable for the application for household equipment		Multicore cable (for application other than household equipment)
Number of loaded cores	1	2	3	2 or 3
mm²	**A**			
1	19	10	10	15
1.5	24	16	16	18
2.5	32	25	20	26
4	42	32	25	34
6	54	40	-	44
10	73	63	-	61
16	98	-	-	82
25	129	-	-	108
35	158	-	-	135
50	198	-	-	168
70	245	-	-	207
95	292	-	-	250
120	344	-	-	292
150	391	-	-	335
185	448	-	-	382

Installations	In open air *	Multicore cable for the application for household equipment		Multicore cable (for application other than household equipment)
Number of loaded cores	1	2	3	2 or 3
mm²	**A**			
240	528	-	-	453
300	608	-	-	523
400	726	-	-	-
500	830	-	-	-

** Current rating acc. to HD 516 S2 and DIN VDE 0298-4. Ambient temperature: 30°C. Permissible operating temperature at conductor: 70°C*

Conversion factors for ambient temperature over 30°C

Ambient temperature, °C	30	35	40	45	50	55	60	65
Conversion factors	1.00	0.94	0.87	0.79	0.71	0.61	0.50	0.35

DLO TORSIONFLEX RHH/RHW-2 2000 V RW90/RW90-TC 1000 V

Standards: UL 44, UL 1685, IEEE-1202, CSA c22.2 No. 38 CSA C22.2 No. 230 ASTM B-3, Based on GE Specification 104W7006

Description: Portable Power Cables 90 oC UL C(UL) Industrial Grade

Construction

Nominal voltage	RHH/RHW-2 600 and 2000V, RW90 CSA 1kV
Conductors	Annealed flexible stranded bare copper ASTM B-3
Separator	White polyester tape applied longitudinally between conductor and insulation
Insulation	Ethylene-propylene rubber (HEPR), UL, CSA, ICEA, 90°C.; min. 1000psi
Color of insulation	Black
Jacket	Heavy duty CPE thermosetting compound with improved mechanical properties, ICEA S-95-658 NEMA WC-70; min. 1400psi
Color of jacket	Black
Bending radius	Minimal 8xD
Torsion resistant	92°/m

Characteristic

UL listed RHH/RHW-2 600V and 2000V for black jacket
RW90 1kV
90°C (dry), 90°C (wet)
Ozone, sunlight, oil, grease, weather, chemical and abrasion resistant
Rated RW90-TC (Tray Cable) for sizes 1/0 and larger
MSHA, VW-1, SUN RES, FOR CT USE for sizes 1/0AWG and larger and for black jacket
Limited Smoke (LS) ST1 in accordance with (UL) 1685
CSA listed RW90, RW90-TC (for black jacket) 1 kV

Application	For wind turbine as power, control Tray cables. Designed for uses requiring a flexible power cables. For portable or fixed installations. Leads for motors generators, batteries, jumper cables. Deep well Submersible Pump Cable. Other industrial applications
Standard length cable packing	1000 m on drums. Other forms of packing and delivery are available on request

APPROVALS

UL : E193954(CPE jacket) RHW-2 90°C wet and dry, VW-1 Sun Res, for 1/0 and larger ST1, FT4 IEEE 120, for CT use
C(UL) E193954 Type RW90 EP, 1kV FT1
CSA 1101269, LL 103932:205591, RW90 0C FT1, FT4, -40°C, for 1/0AWG and larger, Oil Res, Tray Cable, Sun Res

Power Conductor Size	Power Conductor Stranding		Conductor Diameter		Nominal insulation thickness		Nominal jacket thickness		Overall diameter min/nom/max		Weight		Ampac. at 30°C in air
AWG or MCM	**N x mm**	**N x inches**	**Inch**	**mm**	**Inch**	**mm**	**Inch**	**mm**	**Inches**	**mm**	**LBS/ 1000ft**	**kg/ km**	**A**
14	19x0.373	19x0.0147	0.07	1.83	0.045	1.14	0.015	0.38	0.182/ 0.194/ 0.206	4.63/ 4.93/ 5.23	28	41	35
10	19x0.594	19x0.0234	0.11	2.9	0.045	1.14	0.030	0.76	0.257/ 0.269/ 0.281	6.53/ 6.83/ 7.13	60	90	55
6	65x0.511	65x0.0201	0.19	4.72	0.060	1.52	0.030	0.76	0.351/ 0.37/ 0.389	8.91/ 9.39/ 9.87	126	188	105
4	105x0.511	105x0.0201	0.240	6.1	0.060	1.52	0.030	0.76	0.420/ 0.435/ 0.465	10.67/ 11.05/ 11.81	192	286	140
1	224x0.511	224x0.0201	0.366	9.3	0.080	2.03	0.045	1.14	0.653/ 0.668/ 0.684	16.58/ 16.97/ 17.38	421	628	220
1/0	273x0.511	273x0.0201	0.417	10.6	0.080	2.03	0.045	1.14	0.656/ 0.671/ 0.725	16.65/ 17.05/ 18.41	466	693	260
4/0	532x0.511	224x0.0201	0.590	14.9	0.080	2.03	0.065	1.65	0.827/ 0.870/ 0.914	21.0/ 22.10/ 23.21	872	1299	405
262	646x0.511	646x0.0201	0.638	16.2	0.090	2.28	0.065	1.65	0.950/ 0.966/ 0.982	24.14/ 24.53/ 24.95	1056	1574	471
373	925x0.511	925x0.0201	0.772	19.6	0.090	2.28	0.065	1.65	1.086/ 1.103/ 1.120	27.59/ 28.01/ 28.45	1451	2162	590
444	1110x0.511	1110x0.0201	0.835	21.2	0.090	2.28	0.065	1.65	1.149/ 1.170/ 1.194	29.19/ 29.71/ 30.32	1697	2528	656
535	1332x0.511	1332x0.0201	0.929	23.6	0.090	2.28	0.065	1.65	1.244/ 1.272/ 1.30	31.59/ 32.31/ 33.02	2023	3015	731
646	1591x0.511	1591x0.0201	1.020	25.9	0.090	2.28	0.065	1.65	1.280/ 1.350/ 1.390	32.51/ 34.29/ 35.31	2340	3488	815

NSHXAFÖ 0.6/1 to 3.6/6 kV

Standards: DIN VDE 0250 p. 606

Description: Single conductor halogen free flexible power cables

Construction

Conductors	Annealed flexible stranded tin coated or bare copper class 5 to IEC 60228, HD 383
Separator	If needed suitable tape separator between the conductor and insulation.
Insulation	Ethylene-propylene rubber (EPR) type 3GI3 to DIN VDE 0207 p. 20
Outer jacket	Halogen free thermosetting compound type HM3 to DIN VDE 0207 p. 24
Colour of outer jacket	Black or colours can be provided

Characteristic

- **Excellent flexibility**
- **Water resistant and flame retardant**
- **Temperature range -25°C to +90°C. For fixed installation lowest temperature is -40°C**
- **UV, sunlight, ozone and oil resistant**
- **Ink jet printed for easy identification**

Application	Heavy-duty flexible single core power cables for mobile and fixed applications
Standard length cable packing	1000 m on drums. Other forms of packing and delivery are available on request

Parameters

Number and cross-sectional area of conductor	Nominal thickness of insulation	Nominal thickness of sheath	Approximate overal diameter	Approximate net weigh of cables	Current-carrying capacity at 30°C in air
mm²	**mm**	**mm**	**mm**	**kg/km**	**A**
NSHXAFÖ 0.6/1 kV					
1x1.5	0.8	0.8	4.7	34	30
1x2.5	0.9	0.8	5.4	48	41
1x4	1.0	0.8	6.2	66	55
1x6	1.0	0.8	6.7	87	70

Number and cross-sectional area of conductor	Nominal thickness of insulation	Nominal thickness of sheath	Approximate overal diameter	Approximate net weigh of cables	Current-carrying capacity at 30°C in air
mm²	**mm**	**mm**	**mm**	**kg/km**	**A**
1x10	1.2	0.8	8.1	135	98
1x16	1.2	0.8	9.2	195	132
1x25	1.4	0.8	10.8	286	176
1x35	1.4	1.0	11.8	379	218
1x50	1.6	1.0	14.3	545	276
1x70	1.6	1.0	16.1	738	347
1x95	1.8	1.0	18.6	964	416
1x120	1.8	1.0	19.7	1194	488
1x150	2.0	1.0	22	1480	566
1x185	2.2	1.2	25	1819	644
1x240	2.4	1.2	26.9	2339	775
1x300	2.6	1.2	30.9	2914	898
1x400	2.8	1.2	33.3	3761	1060
1x500	3.0	1.4	38.3	4737	1250
NSHXAFÖ 1.8/3 kV					
1x1.5	1.3	0.8	5.7	48	30
1x2.5	1.3	0.8	6.2	60	41
1x4	1.3	0.8	6.8	78	55
1x6	1.3	0.8	7.3	100	70
1x10	1.5	0.8	8.7	150	98
1x16	1.5	0.8	10.1	216	132
1x25	1.8	0.8	12.3	328	176
1x35	1.8	1.0	13.3	425	218
1x50	1.8	1.0	15.0	573	276
1x70	1.8	1.0	16.8	770	347
1x95	2.2	1.0	19.7	1019	416
1x120	2.2	1.0	20.8	1251	488
1x150	2.2	1.0	23.0	1547	566
1x185	2.4	1.2	25.7	1872	644
1x240	2.6	1.2	27.6	2398	775
1x300	2.8	1.2	31.6	2982	898
1x400	3.1	1.4	34.5	3847	1060
1x500	3.4	1.4	39.7	4853	1250
NSHXAFÖ 3.6/6 kV					
1x1.5	2.6	0.8	8.3/10.5	88	13.7
1x2.5	2.6	0.8	8.8/11.5	103	8.21
1x4	2.6	0.8	9.7/12	130	5.09
1x6	2.6	0.8	10.2/13	155	3.39
1x10	2.6	0.8	11.6/14.5	215	1.95
1x16	2.6	1.0	12.7/15.5	283	1.24

Number and cross-sectional area of conductor	Nominal thickness of insulation	Nominal thickness of sheath	Approximate overal diameter	Approximate net weigh of cables	Current-carrying capacity at 30°C in air
mm²	**mm**	**mm**	**mm**	**kg/km**	**A**
1x25	2.9	1.0	14.5/17.5	393	0.795
1x35	2.9	1.0	15.2/19	489	0.565
1x50	2.9	1.0	17.2/21	651	0.393
1x70	2.9	1.0	19.0/23	856	0.277
1x95	3.2	1.0	21.7/26.5	1109	0.210
1x120	3.2	1.0	23.2/28.5	1369	0.164
1x150	3.2	1.2	25.0/30.5	1652	0.132
1x185	3.2	1.2	27.3/33	1965	0.108
1x240	3.2	1.2	29.6/34	2526	0.0817

Opto– –Telecommunication Cables for Wind Farms

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Table of Contents

Z-XOTKtsdDb (glass yarn reinforcement)

Analog acc. to VDE: A-DQ(ZN)B2Y

ZN-TF-11:2001; ZN-EK-103

— Outdoor fibre optic cable with multiple optical fibres in a loose tube, duct, reinforced

Description: Z-XOTKtsdDb – outdoor (Z), with a polyethylene sheath (X), optical fibre cable (OTK), loose tube with dry core sealing (ts), fully dielectric (d), reinforced with glass yarns (Db)

Construction

Central strength member	dielectric FRP rod with or without PE jacket
Optical fibres	singlemode (J) singlemode with non-zero dispersion (Jn) gradient multimode (G/50) gradient multimode (G/62.5)
Tube	loose tube filled with a thixotropic jelly
Filler	polyethylene
Cable core	6, 8 or 12 tubes or tubes and fillers stranded around central strength member
Sealing	dry
Reinforcement	glass yarns
Ripcord	2
Sheath	polyethylene, black

Characteristic

Performance parameters	Fully dielectric (except for cables with al moisture barrier) Resistant to electromagnetic interferences Protected from moisture and longitudinal water penetration Through the use of central dielectric strength member and glass yarns reinforcement On the core with hot melt adhesive, cables are resistant to longitudinal and transverse stresses The outer sheath is resistant to abrasion, uv and stress corrosion cracking The marking and the metric overprint are printed on the outer sheath The marking can also be tailored to meet customer's requirements The layer of glass yarns is the basic protection against rodents attack
Application	In telecommunication local, metropolitan and wide area networks in any spatial configuration For laying in primary and secondary cable ducts. Can be laid near high voltage cable lines
Temperature ranges	Transport and storage: -40°C – +70°C Installation: -15°C – +60°C Operation: -40°C – +70°C

Parameters

Fibre count in cable	Number of elements	Tube diameter	Cable diameter	Cable weight	Max. pulling force		Min. bending radius	
					Dynamic	Static	Dynamic	Static
n	**n**	**mm**	**mm**	**kg/km**	**N**		**mm**	
4-72	6	1.8	9.5	75	2700	1350	140	190
28-96	8	1.8	10.7	100	3000	1500	160	210
36-144	12	1.8	12.9	140	4000	2000	190	260
4-72	6	2.4	11.2	110	4000	2000	170	230
28-96	8	2.4	12.8	130	5000	2500	190	260
36-144	12	2.4	15.8	200	6000	3000	240	320

Packing length: to be agreed, standard – 4 km
Packing: wooden drums

A-DQ(ZN)B2Y (glass yarn reinforced)

DIN VDE 0888-3

— Outdoor fibre optic cable with multiple optical fibres in a central tube

Description: A-DQ(ZN)B2Y – outdoor (A), central tube filled with thixotropic gel (D), dry cable sealing (Q), dielectric reinforcement (ZN), layer made of glass yarns (B) with a polyethylene sheath (2Y)

Construction

Optical fibres	singlemode E9/125 (G.652D) or singlemode with non zero dispersion shifted (G.655) gradient multimode 50/125 (G50) or 62.5/125 (G62.5)
Tube	central loose tube filled with a thixotropic jelly
Cable sealing	dry
Reinforcement	glass yarn
Sheath	polyethylene, black

Characteristic

Performance parameters	Fully dielectric Resistant to electromagnetic interferences Easy to install The outer sheath is resistant to abrasion, uv and stress corrosion cracking The marking and the metric overprint are printed on the outer sheath. The marking can also be tailored to meet customer's requirements The layer of glass yarns is the basic protection against rodents attack
Application	For quick connection between optoelectronic devices inside and outside buildings Suitable for use in cable ducts For laying in primary and secondary cable ducts
Temperature ranges	Transport and storage: -25°C – +70°C Installation: -5°C – +50°C Operation: -25°C – +70°C

Parameters

Fibre count in cable	Cable diameter	Cable weight	Max. pulling force		Min. bending radius	
			Dynamic	Static	Dynamic	Static
n	**mm**	**kg/km**	**N**		**mm**	
2 - 24	7.3	50	1000	500	120	160
2 - 24	7.8	55	1500	800	120	160
2 - 24	8.3	65	2000	1000	125	170
2 - 24	8.5	70	2500	1250	130	170
2 - 24	8.9	75	3000	1500	130	180

Packing length: to be agreed, standard – 2 km
Packing: wooden drums

Z-(XV)OTKtsdD (PE/nylon jacket, aramid reinforcement)

Analog acc. to **VDE: A-DQ(ZN)4Y2Y**

ZN-EK-103

— Outdoor fibre optic cable with multiple optical fibres in a loose tube, duct, anti-rodent

Description:

Z-(XV)OTKtsdD – outdoor (Z), with a two-layer sheath: polyethylene (outer) -polyamide (inner) (XV), optical fibre cable (OTK), loose tube with dry core sealing (ts), fully dielectric (d), reinforced with aramide yarns (D)

OPTIONS:
Z-(VX)OTKtsdD – with a two-layer sheath: polyamide (outer)-polyethylene (inner) (VX)

Construction

Central strength member	dielectric FRP rod with or without PE jacket
Optical fibres	singlemode (J) singlemode with non-zero dispersion (Jn) gradient multimode (G/50) gradient multimode (G/62.5)
Tube	loose tube filled with a thixotropic jelly
Filler	polyethylene
Cable core	6, 8, 12, 18 or 24 tubes or tubes and fillers stranded around central strength member
Sealing	dry
Reinforcement	Aramid yarns
Ripcord	2
Sheath	black two layers polyethylene (outer)-polyamide (inner) sheath or orange two layers polyamide (outer)-polyethylene (inner) sheath)

Characteristic

Performance parameters	Fully dielectric Resistant to electromagnetic interferences Protected from moisture and longitudinal water penetration Use of polyamide sheath protects cables from rodents Polyethylene sheath is resistant to abrasion, uv and stress corrosion cracking The marking and the metric overprint are printed on the outer sheath The marking can also be tailored to meet customer's requirements
Application	In telecommunication local, metropolitan and wide area networks in any spatial configuration For laying in primary and secondary cable ducts For installation on telegraph poles, low and medium voltage power lines or railway traction Can be laid near high voltage cable lines
Temperature ranges	Transport and storage: -40°C – +70°C Installation: -15°C – +60°C Operation: -40°C – +70°C

Parameters

Fibre count in cable	Number of elements	Tube diameter	Cable diameter	Cable weight	Max. pulling force		Min. bending radius	
					Dynamic	Static	Dynamic	Static
n	**n**	**mm**	**mm**	**kg/km**	**N**		**mm**	
4 – 72	6	1.8	10.2	85	2700	1350	150	200
28 – 96	8	1.8	11.4	105	3000	1500	170	230
36 – 144	12	1.8	13.7	150	4000	2000	210	270
52 – 216	18	1.8	14.1	150	4000	2000	210	280
76 – 288	24	1.8	15.8	190	4000	2000	240	320
4 – 72	6	2.4	12.2	115	4000	2000	180	240
28 – 96	8	2.4	13.8	145	5000	2500	210	280
36 – 144	12	2.4	16.8	215	6000	3000	250	340
52 – 216	18	2.4	17.3	225	6000	3000	260	340
76 – 288	24	2.4	19.5	290	6000	3000	290	390

Packing length: to be agreed, standard – 4 km
Packing: wooden drums

ZKS-XXOTKtsFf (double PE jacket, corrugated steel tape armour)

Analog acc. to **VDE: A-DQ2Y(SR)2Y**
ZN-TF-13:2001

— Outdoor fibre optic cable with multiple optical fibres in a loose tube, armoured with corrugated steel tape, for sewage ducts

Description:

ZKS-XXOTKtsFf – outdoor cable for sewage systems (ZKS), with polyethylene outer sheath (X) and polyethylene inner sheath (X), fibre optic cable (OTK), loose tube with dry core sealing (ts), armoured with corrugated steel tape (Ff)

OPTIONS:
ZKS-XXOTKtsDFf – reinforced with aramid yarn (D) (or with glass yarns (Db))

Construction

Central strength member	dielectric FRP rod with or without PE jacket
Optical fibres	singlemode (J) singlemode with non-zero dispersion (Jn) gradient multimode (G/50) gradient multimode (G/62.5)
Tube	loose tube filled with a thixotropic jelly
Filler	polyethylene
Cable core	6, 8, 12, 18 or 24 tubes or tubes and fillers stranded around central strength member
Sealing	dry
Inner sheath	polyethylene
Armouring	corrugated steel tape
Ripcord	2
Outer sheath	polyethylene, black

Characteristic

Performance parameters	Fully dielectric core Resistant to electromagnetic interferences Protected from moisture and longitudinal water penetration Through the use of corrugated steel tapes, armoured cables are resistant to transverse and longitudinal stresses and rodent attack The outer sheath is resistant to abrasion, uv and stress corrosion cracking The marking and the metric overprint are printed on the outer sheath. The marking can also be tailored to meet customer's requirements
Application	In telecommunication local, metropolitan and wide area networks in any spatial configuration For laying in sewage ducts For burying directly in the ground in areas with higher risk of mechanical damage For installation in primary cable ducts
Temperature ranges	Transport and storage: -40°C – +70°C Installation: -15°C – +60°C Operation: -40°C – +70°C

Parameters

Fibre count in cable	Number of elements	Tube diameter	Cable diameter	Cable weight	Max. pulling force		Min. bending radius	
					Dynamic	Static	Dynamic	Static
n	**n**	**mm**	**mm**	**kg/km**	**N**		**mm**	
4 – 72	6	1.8	12.3	140	1000	500	180	250
28 – 96	8	1.8	13.5	175	1500	750	200	270
36 – 144	12	1.8	15.8	230	2200	1100	240	320
52 – 216	18	1.8	16.2	230	1000	500	240	320
76 – 288	24	1.8	17.9	280	2500	1250	270	360
4 – 72	6	2.4	14.2	185	2700	1350	210	280
28 – 96	8	2.4	15.8	230	2700	1350	240	320
36 – 144	12	2.4	18.8	305	2700	1350	280	380
52 – 216	18	2.4	19.3	315	2700	1350	290	390
76 – 288	24	2.4	21.5	385	2700	1350	320	430

Packing length: to be agreed. standard – 4 km
Packing: wooden drums

ZW-(NV)OTKtsdD (HFFR/nylon jacket, aramid reinforcement)

Analog acc. to **VDE: A/I-DQ(ZN)4YH U-DQ(ZN)4YH**
ZN-TF-13:2001

— Fibre optic cable with multiple optical fibres in a loose tube, reinforced, anti-rodent

Description:

ZW-(NV)OTKtsdD – outdoor/indoor (ZW), with double layer sheath, outer, halogen free flame retardant, inner, polyamide, black (NV) optical fibre cable (OTK), loose tube with dry core sealing (ts), dielectric (d), reinforced with aramide yarn (D)

OPTIONS: ZW-(NV)OTKtsdDb – reinforced with glass yarn (Db)

Construction

Central strength member	dielectric FRP rod with or without PE jacket
Optical fibres	singlemode (J) singlemode with non-zero dispersion (Jn) gradient multimode (G/50) gradient multimode (G/62.5)
Tube	central tube filled with a thixotropic jelly
Filler	polyethylene
Cable core	6, 8, 12, 18 or 24 tubes or tubes and fillers stranded around central strength member
Sealing	dry
Reinforcement	aramid yarns (or glass yarns)
Ripcord	2
Sheath	two-layer sheath: halogen free flame retardant (outer layer) – polyamide (inner layer), black

Reaction to fire

Flame propagation	ICE 60332-1-2
CPR – class reaction to fire (acc EN 50575)	Eca

Characteristic

Performance parameters	Fully dielectric Resistant to electromagnetic interferences Protected from moisture and longitudinal water penetration Can be installed in the proximity to electric installation Through the use of central dielectric strength member and aramid yarns reinforcement on the core with hot melt adhesive, cables are resistant to longitudinal and transverse stresses Use of polyamide shell protects cables from rodents The marking and the metric overprint are printed on the outer sheath The marking can also be tailored to meet customer's requirements
Application	In telecommunication local, metropolitan and wide area networks in any spatial configuration For making connection between optoelectronic devices in closed spaces For laying on the outer walls of buildings For laying in roads, railway tunnels or mine shafts For horizontal and vertical suspension
Temperature ranges	Transport and storage: -40°C – +70°C Installation: -15°C – +60°C Operation: -40°C – +70°C

Parameters

Fibre count in cable	Number of elements	Tube diameter	Cable diameter	Cable weight	Max. pulling force		Min. bending radius	
					Dynamic	Static	Dynamic	Static
n	**n**	**mm**	**mm**	**kg/km**	**N**		**mm**	
4 – 72	6	1.8	10.2	100	2700	1350	150	200
28 – 96	8	1.8	11.4	125	3000	1500	170	230
36 – 144	12	1.8	13.7	175	4000	2000	210	270
52 – 216	18	1.8	14.1	180	4000	2000	210	280
76 – 288	24	1.8	15.8	220	4000	2000	240	320
4 – 72	6	2.4	12.2	140	4000	2000	180	240
28 – 96	8	2.4	13.8	175	5000	2500	210	280
36 – 144	12	2.4	16.8	250	6000	3000	250	340
52 – 216	18	2.4	17.3	260	6000	3000	260	340
76 – 288	24	2.4	19.5	325	6000	3000	290	390

Packing length: to be agreed, standard – 4 km
Packing: wooden drums

CABLE DRUMS

Sample data of wooden cable drums.

Approximate capacity wooden cable drums - amount of cable (in running metres) on sample cable drums.

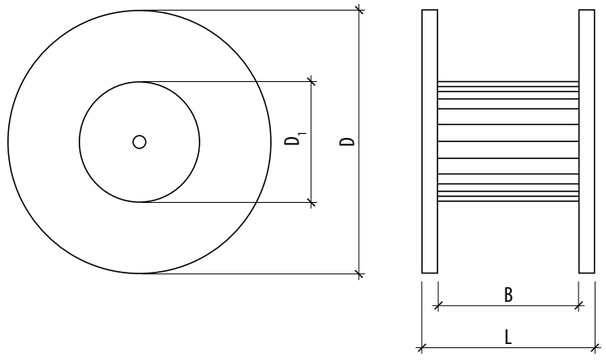
Cable diameter [mm]	Type of sample cable drum						
	28	**30**	**32**	**34**	**37**	**40**	**43**
57	1 060	1 420	2 600	2 220	2 890	4 080	4 930
58	1 060	1 420	2 520	2 150	2 820	3 970	4 800
59	1 020	1 380	2 270	2 150	2 820	3 590	4 800
60	1 020	1 380	2 270	2 150	2 750	3 490	4 700
61	970	1 330	2 210	2 090	2 750	3 490	4 300
62	970	1 330	2 210	1 820	2 330	3 400	4 180
63	970	1 330	2 150	1 760	2 330	3 400	4 180
64	970	1 290	1 900	1 760	2 270	2 950	4 080
65	780	1 080	1 840	1 700	2 270	2 950	4 080
66	780	1 030	1 840	1 700	2 200	2 870	3 590
67	780	1 030	1 840	1 700	2 200	2 870	3 590
68	740	1 030	1 790	1 650	2 140	2 790	3 500
69	740	1 000	1 790	1 410	1 830	2 790	3 500
70	740	1 000	1 790	1 410	1 830	2 790	3 500
71	740	1 000	1 520	1 360	1 780	2 390	3 060
72	710	960	1 520	1 360	1 780	2 390	3 060
73	710	960	1 520	1 360	1 720	2 320	2 960
74	710	960	1 470	1 310	1 720	2 320	2 960
75	710	960	1 470	1 310	1 720	2 320	2 960
76	540	740	1 470	1 310	1 660	2 250	2 880
77	540	740	1 420	1 260	1 660	2 250	2 880
78	540	740	1 220	1 260	1 660	1 960	2 570
79	540	740	1 220	1 050	1 340	1 880	2 480
80	540	710	1 220	1 050	1 340	1 880	2 480
81	520	710	1 180	1 010	1 340	1 880	2 480
82	520	710	1 180	1 010	1 290	1 820	2 390
83	520	710	1 180	1 010	1 290	1 820	2 390
84	520	680	1 180	1 010	1 290	1 820	2 390
85	520	680	1 130	970	1 290	1 820	2 390
86	490	680	1 130	970	1 250	1 760	2 030
87	490	680	1 130	970	1 250	1 760	2 030
88	490	650	960	970	1 250	1 500	2 030
89	490	650	920	920	1 250	1 500	2 030
90	490	650		920	1 200	1 440	1 960
91	380	500		920	1 200	1 440	1 960
92	350	500		750	970	1 440	1 960
93	350	470		750	970	1 440	1 960
94	350	470		710	930	1 380	1 890
95		470		710	930	1 380	1 630
96		470		710	930	1 380	1 630
97		470		710	930	1 380	1 630
98		470		710	930	1 380	1 630
99		450		670	890	1 330	1 570
100		450		670	890	1 330	1 570
101		450		670	890	1 110	1 570
102		450		670	890	1 110	1 570
103		450		670	890	1 110	1 570
104		450		670	850	1 060	1 500
105		450		670	850	1 060	1 500
106				640	850	1 060	1 500
107				640	850	1 060	1 280
108				640	850	1 060	1 280
109				640	810	1 010	1 220
110				640	810	1 010	1 220
111				490	630	1 010	1 220
112				490	630	1 010	1 220
113				460	630	1 010	1 220
114				460	630	1 010	1 220
115				460	630	1 010	1 220
116					590	960	1 160
117					590	770	1 160
118					590	770	1 160
119					590	770	1 160
120					590	770	1 160
121					590	780	1 160
122					590	780	970
123					560	730	910
124					560	730	910
125					560	730	910
126					560	730	910
127					560	730	910
128					560	730	910
129					560	730	910
130					560	730	910
131					530	690	860

CABLE DRUMS

Sample data of wooden cable drums.

Approximate capacity wooden cable drums - amount of cable (in running metres) on sample cable drums.

Type		28	30	32	34	37	40	43
Ø D	mm	2800	300	3200	3400	3700	4000	4300
Ø D1	mm	1800	2000	1700	2200	2500	2500	2500
B	mm	1400	1700	1800	1800	2100	2100	2100
L	mm	1675	1990	2095	2200	2500	2500	2500
Weight	kg	1370	1798	1814	2500	4250	4690	5170



Note: Figures used are indicative and may vary due to manufacturing tolerances, so should only be used as guidance.

Description of pictograms used in catalogue

CPR Eca — Construction Products Regulation class

UV — UV resistant jacket

CE — The cable meets the requirements of the EU directive

Humidity resistant

RoHS — Cable complies with requirements of RoHS directive

The cable meets the requirements of the EU directive

OUTSIDE — Outdoor cable

Self-supporting cable

INSIDE + OUTSIDE — Universal cable

For installation in the cable duct

Halogen-free materials, limited harmful gases emission and smoke density

MIN -5°C MAX +60°C — Temperature of installation

Positive result for vertical flame spread test acc. to IEC 60332-1-2

+60°C -20°C — Exploatation temperature

Clean Energy
Wind Energy Cables

EDITION II

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