

Application

Medium voltage cables for distribution networks; also for connection to generation units and plant and process connection. To be laid directly in ground, outdoors, indoors and in cable ducts.

Construction

- Conductor: Aluminum, class 2, circular compacted conductors
- Conductor screen: Non-metallic, semi-conducting compound
- Insulation: Cross-Linked polyethylene XLPE
- Insulation screen: Non-metallic, semi-conducting compound
- Metallic Screen: Copper wire
- Outer sheath: Polyvinyl chloride PVC

Chaircteritics

Good electrical and mechanical properties. Minimal dielectric loss, high insulation resistance. The PVC outer sheath allows adequate resistance to grease, oil and abrasion.

Specification

IEC 60228 Conductors of Insulate Cables

IEC 60502-2 Power cables with Extruded Insulation and Their Accessories for Rated Voltages from 1kV(U_m=1.2kV) up to 30kV(U_m=36kV) - Part 2: Cables for Rated Voltages of 6kV(U_m=7.2kV) and 30kV(U_m=36kV)

Medium/Middle Voltage Power Cables IEC 60502-2 Types:

- 2XSY 6/10 kV – 8,7/15 kV – 12/20 kV – 18/30 kV
 2XS(F)Y 6/10 kV – 8,7/15 kV – 12/20 kV – 18/30 kV
 2XS(YR(AL)Y 6/10 kV – 8,7/15 kV – 12/20 kV – 18/30 kV
 2XS(YB(AL)Y 6/10 kV – 8,7/15 kV – 12/20 kV – 18/30 kV
 2XSEY 6/10 kV – 8,7/15 kV – 12/20 kV – 18/30 kV
 2XSE(YR)Y 6/10 kV – 8,7/15 kV – 12/20 kV – 18/30 kV
 2XSE(YB)Y 6/10 kV – 8,7/15 kV – 12/20 kV – 18/30 kV
 A2XSY 6/10 kV – 8,7/15 kV – 12/20 kV – 18/30 kV
 A2XS(F)Y 6/10 kV – 8,7/15 kV – 12/20 kV – 18/30 kV
 A2XS(YR(AL)Y 6/10 kV – 12/20 kV – 18/30 kV
 A2XS(YB(AL)Y 6/10 kV – 8,7/15 kV – 12/20 kV
 A2XSEY 6/10 kV – 8,7/15 kV – 12/20 kV – 18/30 kV
 A2XSE(YR)Y 6/10 kV – 8,7/15 kV – 12/20 kV – 18/30 kV
 A2XSE(YB)Y 6/10 kV – 8,7/15 kV – 12/20 kV – 18/30 kV

Parameter

2XSY 6/10 kV – 8,7/15 kV – 12/20 kV – 18/30 kV Data

Number of cores and size	Nominal Insulation thickness	Diameter over insulation	Nominal Sheath thickness	Outer diameter	Weight of cable
mm ²	mm	mm	mm	approx. mm	approx. kg/km
6/10 kV (U _{max} = 12 kV)					
1 x 25 RM/16	3,4	13,5	1,8	21,5	720
1 x 35 RM/16	3,4	14,5	1,8	22,5	830
1 x 50 RM/16	3,4	16,0	1,8	23,5	970
1 x 70 RM/16	3,4	17,5	1,8	25,5	1200
1 x 95 RM/16	3,4	19,0	1,8	27,0	1470
1 x 120 RM/16	3,4	20,5	1,8	28,5	1720
1 x 150 RM/25	3,4	22,0	1,9	30,5	2110
1 x 185 RM/25	3,4	24,0	1,9	32,5	2490
1 x 240 RM/25	3,4	26,0	2,0	35,0	3070
1 x 300 RM/25	3,4	28,5	2,1	37,5	3705

1 x 400 RM/35	3,4	31,0	2,2	40,5	4700
1 x 500 RM/35	3,4	34,5	2,3	44,5	5650
8,7/15 kV (U max = 17,5 kV)					
1 x 25 RM/16	4,5	15,5	1,8	23,5	780
1 x 35 RM/16	4,5	16,5	1,8	24,5	900
1 x 50 RM/16	4,5	17,5	1,8	25,5	1040
1 x 70 RM/16	4,5	19,5	1,8	27,5	1270
1 x 95 RM/16	4,5	21,0	1,8	29,0	1550
1 x 120 RM/16	4,5	22,5	1,9	31,0	1820
1 x 150 RM/25	4,5	24,0	1,9	32,5	2200
1 x 185 RM/25	4,5	26,0	2,0	34,5	2600
1 x 240 RM/25	4,5	28,0	2,1	37,0	3190
1 x 300 RM/25	4,5	30,5	2,1	39,5	3820
1 x 400 RM/35	4,5	33,0	2,3	43,0	4840
1 x 500 RM/35	4,5	36,5	2,4	46,5	5800
12/20 kV (U max = 24 kV)					
1 x 35 RM/16	5,5	18,5	1,8	26,5	970
1 x 50 RM/16	5,5	19,5	1,8	27,5	1100
1 x 70 RM/16	5,5	21,0	1,9	29,5	1360
1 x 95 RM/16	5,5	23,0	1,9	31,0	1650
1 x 120 RM/16	5,5	24,5	2,0	33,0	1920
1 x 150 RM/25	5,5	26,0	2,0	34,5	2300
1 x 185 RM/25	5,5	27,5	2,1	36,5	2710
1 x 240 RM/25	5,5	30,0	2,1	39,0	3290
1 x 300 RM/25	5,5	32,0	2,2	41,5	3950
1 x 400 RM/35	5,5	35,0	2,3	45,0	4950
1 x 500 RM/35	5,5	38,5	2,4	48,5	5950
18/30 kV (U max = 36 kV)					
1 x 50 RM/16	8,0	24,0	2,0	32,5	1350
1 x 70 RM/16	8,0	25,5	2,0	34,0	1600
1 x 95 RM/16	8,0	27,5	2,1	36,0	1900
1 x 120 RM/16	8,0	29,0	2,1	37,5	2150
1 x 150 RM/25	8,0	30,5	2,2	39,5	2600
1 x 185 RM/25	8,0	32,0	2,2	41,5	3000
1 x 240 RM/25	8,0	34,5	2,3	44,0	3600
1 x 300 RM/25	8,0	36,5	2,4	46,5	4250
1 x 400 RM/35	8,0	39,5	2,5	49,5	5300
1 x 500 RM/35	8,0	43,0	2,6	53,5	6300

2XSY/N2XSY A2XSY/NA2XSY
U₀/U - 6/10 kV, 12/20 kV, 18/30kV EC 60502-2 / DIN VDE 0276-620
Application

The single-core cables with insulation of cross-linked polyethylene (XLPE) are designed for transfer and distribution of electrical power with nominal voltage U₀/U 6/10; 12/20; 18/30 kV and frequency 50 Hz in urban and district electrical networks and for electrical supply of transformer's substations, small and medium industrial plants.

They are suitable for use in distribution installations, electric power stations and industrial systems.

The cables are for fixed assembly in lines with unlimited difference levels, indoor installations, in cable ducts, conduits and shafts, over shelves and grills directly underground in ditch and outdoor shelter.

Cable construction		Technical data	
Construction	According to IEC 60502 and DIN VDE 0276-620	Conductor resistance at 20°C	According to BDS904 (IEC60228) class 2
Conductor	Cu and Al stranded compacted, according to IEC 60228 class 2 and VDE 0295 class 2	Operating temperature	90°C continuous operation

Inner semi-conductive layer	semi-conductive XLPE compound	Overload temperature	130°C /100h per year max./
		Short circuit temperature	250°C /5 s max./
Insulation	XLPE compound	Nominal voltage U ₀ /U:	6/10;12/20 kV
Outer semi-conductive layer	semi-conductive XLPE compound and semi-conductive tape or extruded semi-conductive XLPE compound	Highest system voltage	6/10; 12/20 kV
Metal screen	Cu wires concentrically laid and one contact of Cu tape with thickness of 0.1mm.	U ₀ /U, no more than	12kV; 24kV kV
Separating layer	Layer of plastic tape	Test voltage U ₀ /U	6/10; 12/20 kV
Sheath	PVC compound	AC (≈) - 5 min	15kV; 30kV kV
	type ST2 according to IEC 60502	DC (≈) - 15 min	48kV; 96kV kV
	type DMV 6 according to VDE	Level of partial discharge at	max. 5 pC
	276	2*U ₀	15x D cable
Color	red		

Construction data 2XS_Y/N2XS_Y A2XS_Y/NA2XS_Y 6/10; 12/20; 18/30

Number of conductors and nominal cross section	Thickness of insulation	Thickness of sheath	Nominal cross-section of screen	Cable diameter approx. min	Cable diameter approx. min	2XS _Y Mass of Cu approx.	N2XS _Y Mass of cable approx.	A2XS _Y Mass of Al approx.	NA2XS _Y Mass of Cu approx.
Nxmm ²	mm	mm	mm ²	mm	mm	kg/km	kg/km	kg/km	kg/km
6/10 kV									
1x35rm/16	3,4	2,5	16	23	28	493	935	94	176
1x50rm/16	3,4	2,5	16	24	29	604	1076	127	176
1x70rm/16	3,4	2,5	16	26	31	793	1312	183	176
1x95rm/16	3,4	2,5	16	27	32	1033	1599	254	176
1x120rm/16	3,4	2,5	16	29	34	1255	1859	321	176
1x150rm/16	3,4	2,5	16*	30	35	1507	2155	394	176
1x185rm/16	3,4	2,5	16*	32	37	1842	2536	495	176
1x240rm/16	3,4	2,5	16*	34	39	2365	3126	649	176
1x150rm/25	3,4	2,5	25	30	35	1596	2239	394	265
1x185rm/25	3,4	2,5	25	32	37	1930	2620	495	265
1x240rm/25	3,4	2,5	25	34	39	2454	3210	649	265
1x300rm/25	3,4	2,5	25	36	41	2980	3800	812	265
1x400rm/35	3,4	2,5	35	40	45	3836	4736	1043	363
1x500rm/35	3,4	2,5	35	43	48	4807	5795	1374	363
12/20 kV									
1x35rm/16	5,5	2,5	16	27	32	493	1116	94	176
1x50rm/16	5,5	2,5	16	28	33	604	1264	127	176

1x70rm/16	5,5	2,5	16	30	35	793	1512	183	176
1x95rm/16	5,5	2,5	16	31	36	1033	1809	254	176
1x120rm/16	5,5	2,5	16	33	38	1255	1995	321	176
1x150rm/16	5,5	2,5	16*	34	39	1507	2385	394	176
1x185rm/16	5,5	2,5	16*	36	41	1842	2777	495	176
1x240rm/16	5,5	2,5	16*	39	44	2365	3466	649	176
1x150rm/25	5,5	2,5	25	34	39	1596	2469	394	265
1x185rm/25	5,5	2,5	25	36	41	1930	2861	495	265
1x240rm/25	5,5	2,5	25	39	44	2454	3466	649	265
1x300rm/25	5,5	2,5	25	41	46	2980	4071	812	265
1x400rm/35	5,5	2,5	35	44	49	3836	5025	1043	363
1x500rm/35	5,5	2,5	35	47	52	4807	6127	1374	363
18/30 kV									
1x50rm/16	8	2,5	16	33	38	604	1508	127	176
1x70rm/16	8	2,5	16	35	40	793	1768	183	176
1x95rm/16	8	2,5	16	36	41	1033	2078	254	176
1x120rm/16	8	2,5	16	38	43	1255	2358	321	176
1x150rm/25	8	2,5	25	39	44	1596	2758	394	265
1x185rm/25	8	2,5	25	41	46	1930	3163	495	265
1x240rm/25	8	2,5	25	43	48	2454	3786	649	265
1x300rm/25	8	2,5	25	46	51	2980	4428	812	265
1x400rm/35	8	2,5	35	49	54	3836	5425	1043	363
1x500rm/35	8	2,5	35	52	57	4807	6555	1374	363