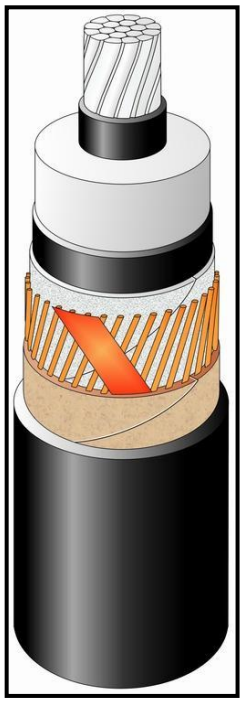
MEDIUM VOLTAGE CABLES TYPE NA2XS(F)2Y



CABLE DESIGN: XLPE insulated single core cables with stranded aluminium conductors

RATED VOLTAGE:	12/20/24 kV
STANDARD:	DIN VDE 0276-620 / HD 620 S2: PART 10 C
CONDUCTOR CROSS-SECTIONAL:	50 – 1000sqmm

OPERATING CONDUCTOR TEMPERATURE	
maximum permissible temperature:	+90 °C
SHORT CIRCUIT CONDUCTOR TEMPERATURE	
initial :	+90 °C
final:	+250 °C
SHORT CIRCUIT METALLIC SCREEN TEMPERATURE	
initial :	+80 °C
final:	+350 °C
LOWEST TEMPERATURE OF CABLE INSTALLATION:	-20 °C
IMPULS VOLTAGE:	125 kV
TEST VOLTAGE:	42 kV

CONDUCTOR

Stranded, circular and compacted aluminium comply with EN 60228 class 2.

CONDUCTOR SCREEN

Extruded layer of semi-conducting crosslinkable compound applied under simultaneous triple extrusion process over conductor.

INSULATION

Extruded layer of XLPE applied over conductor screen under triple extrusion process.

INSULATION SCREEN

Extruded layer of semi-conducting crosslinkable compound applied by triple extrusion process over the insulation.

WATERTIGHTNESS

Semi-conducting swellable tape applied helically with overlap over insulation screen.

METALLIC SCREEN

Copper wires with copper binder tape.

OVERSHEATH

Extruded layer of HDPE applied over the core.

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DIMENSIONAL DATA

Nominal cross section	Conductor diameter	Insulation		Metallic screen Cu		Diameter over complete cable	Weight of complete cable	Maksimum cable pulling force	Minimum bending radius
		Thickness	Diameter over insulation	Cross section	Diameter over metallic screen				
mm^2	mm	mm		mm^2	mm	mm	kg / km	kN	m
1x50RM	8.25 $^{+0.10}$	5.5	20.5	16	24.5	30.1	790	1.5	0.45
1x70RM	9.5 $^{+0.20}$	5.5	21.9	16	26.0	31.5	890	2.1	0.47
1x95RM	11.3 $^{+0.20}$	5.5	23.5	16	27.6	33.1	1000	2.85	0.50
1x120RM	12.5 $^{+0.20}$	5.5	24.7	16	28.8	34.3	1100	3.6	0.51
1x150RM	14.2 $^{+0.20}$	5.5	26.4	16	30.5	36.0	1220	4.5	0.54
1x185RM	15.8 $^{+0.20}$	5.5	28.0	16	31.6	37.1	1360	5.55	0.56
1x240RM	17.9 $^{+0.10}$	5.5	30.1	16	33.7	39.2	1570	7.2	0.59
1x150RM	14.2 $^{+0.20}$	5.5	26.4	25	30.5	36.0	1300	4.5	0.54
1x185RM	15.8 $^{+0.20}$	5.5	28.0	25	32.1	37.6	1440	5.55	0.56
1x240RM	17.9 $^{+0.10}$	5.5	30.1	25	34.2	39.7	1650	7.2	0.60
1x300RM	20.0 $^{+0.30}$	5.5	32.2	25	36.3	41.8	1860	9	0.63
1x400RM	22.9 $^{+0.30}$	5.5	35.1	35	39.2	44.7	2260	12	0.67
1x500RM	25.7 $^{+0.40}$	5.5	38.4	35	42.7	48.2	2700	15	0.72
1x630RM	29.3 $^{+0.50}$	5.5	42.2	35	46.5	52.5	3210	18.9	0.79
1x800RM	33.0 $^{+0.50}$	5.5	46.3	35	50.6	56.8	3810	24	0.85
1x1000RM	38.0 $^{+0.50}$	5.5	51.3	35	55.6	62.2	4560	30	0.93

CURRENT CARRYING CAPACITY /1

Cross section		mm^2	50	70	95	120	150	185	240	300	400	500	630	800	1000
GROUND	FLAT	A	195	237	282	319	352	396	455	510	564	634	685	745	820
	TREFOIL		172	210	251	285	319	361	417	471	535	609	675	750	830
AIR	FLAT		219	273	332	384	432	494	581	663	753	866	975	1090	1220
	TREFOIL		185	231	280	323	366	420	496	569	660	766	890	1015	1130

/1 – **STANDARD SERVICE CONDITIONS:**

BE (BOTH-ENDS BONDING)

GROUND Temperature at laying depth = 20 ^{O}C Laying depth = 0.7 m Thermal resistivity of soil = 1.0 K · m / W Load factor = 0.7

AIR Temperature = 30 ^{O}C Load factor = 1.0

TREFOIL formation – spacing between centers of adjacent phases = diameter of cable

FLAT formation in ground – spacing between centers of adjacent phases = diameter of cable + 70 mm

FLAT formation in air – spacing between centers of adjacent phases = 2 * diameter of cable

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ELECTRICAL DATA

Conductor and metallic screen cross section	Conductor resistance		Metallic screen resistance		Short circuit currents	Electric field stress on: conductor screen / insulation	Zero resistance R_0	Zero reactance X_0	Capacity C	Capacitive reactance Xc	Charging current Ic	Inductance L	Inductive reactance Xl	Impedance
	DC 20 °C	AC 90 °C	DC 20 °C	AC 80 °C	Conductor / metallic screen							0°0 / 2 000 / 3 000 / 4	0°0 / 2 000 / 3 000 / 4	0°0 / 2 000 / 3 000 / 4
mm²	Ω/km				kA/sec.	kV/mm	Ω/km	Ω/km	µF/km	kΩ/km	A/km	mH/km	Ω/km	Ω/km
1x50RMC/16	0.641	0.822	1.12	1.38	4.7 / 3.7	3.27 / 1.48	2.20	0.086	0.16	19.8	0.61	0.45 0.73 0.63	0.141 0.231 0.199	0.834 0.854 0.846
1x70RMC/16	0.443	0.568	1.12	1.38	6.6 / 3.7	3.15 / 1.52	1.95	0.078	0.18	18.1	0.66	0.43 0.71 0.61	0.134 0.223 0.192	0.584 0.610 0.600
1x95RMC/16	0.320	0.411	1.12	1.38	9.0 / 3.7	3.01 / 1.58	1.79	0.071	0.20	16.1	0.74	0.40 0.68 0.59	0.127 0.213 0.185	0.430 0.462 0.450
1x120RMC/16	0.253	0.325	1.12	1.38	11.3 / 3.7	2.94 / 1.61	1.71	0.068	0.21	15.0	0.80	0.39 0.66 0.58	0.123 0.207 0.181	0.347 0.385 0.372
1x150RMC/16	0.206	0.265	1.12	1.38	14.2 / 3.7	2.86 / 1.65	1.65	0.063	0.23	13.8	0.87	0.37 0.64 0.56	0.118 0.200 0.176	0.290 0.332 0.318
1x185RMC/16	0.164	0.211	1.12	1.38	17.5 / 3.7	2.80 / 1.68	1.59	0.059	0.25	12.7	0.94	0.36 0.62 0.54	0.113 0.194 0.171	0.239 0.287 0.272
1x240RMC/16	0.125	0.161	1.12	1.38	22.7 / 3.7	2.73 / 1.71	1.54	0.055	0.27	11.6	1.04	0.35 0.60 0.53	0.109 0.187 0.167	0.194 0.247 0.232
1x150RMC/25	0.206	0.265	0.72	0.88	14.2 / 5.3	2.86 / 1.65	1.15	0.063	0.23	13.8	0.87	0.37 0.64 0.56	0.118 0.200 0.176	0.290 0.332 0.318
1x185RMC/25	0.164	0.211	0.72	0.88	17.5 / 5.3	2.80 / 1.68	1.10	0.059	0.25	12.7	0.94	0.36 0.62 0.55	0.114 0.194 0.172	0.240 0.287 0.272
1x240RMC/25	0.125	0.161	0.72	0.88	22.7 / 5.3	2.73 / 1.71	1.05	0.056	0.27	11.6	1.04	0.35 0.60 0.53	0.109 0.188 0.167	0.195 0.247 0.232
1x300RMC/25	0.100	0.129	0.72	0.88	28.4 / 5.3	2.67 / 1.74	1.01	0.052	0.30	10.6	1.13	0.34 0.58 0.52	0.106 0.182 0.164	0.167 0.223 0.209
1x400RMC/35	0.0778	0.101	0.51	0.63	37.8 / 7.1	2.61 / 1.78	0.73	0.048	0.33	9.6	1.25	0.32 0.56 0.51	0.101 0.175 0.159	0.143 0.202 0.189
1x500RMC/35	0.0605	0.0799	0.51	0.63	47.3 / 7.1	2.54 / 1.79	0.71	0.047	0.37	8.7	1.38	0.31 0.54 0.50	0.099 0.170 0.157	0.127 0.188 0.176
1x630RMC/35	0.0469	0.0632	0.51	0.63	59.5 / 7.1	2.49 / 1.83	0.70	0.044	0.41	7.7	1.55	0.31 0.52 0.49	0.096 0.164 0.154	0.115 0.175 0.166
1x800RMC/35	0.0367	0.0510	0.51	0.63	75.6 / 7.1	2.45 / 1.85	0.68	0.042	0.46	7.0	1.73	0.30 0.50 0.48	0.093 0.158 0.151	0.106 0.166 0.160
1x1000RMC/35	0.0291	0.0423	0.51	0.63	94.5 / 7.1	2.41 / 1.88	0.67	0.039	0.51	6.2	1.94	0.29 0.48 0.47	0.090 0.152 0.148	0.100 0.158 0.154