

# MEDIUM VOLTAGE CABLES TYPE N2XS(FL)2Y

## 18/30(36) kV

DIN VDE 0276-620 / HD 620 S2: PART 10 C

XLPE insulated single core cables with stranded copper conductors

## CONSTRUCTION

Conductor	Circular, stranded copper, comply with EN 60228 class 2
Conductor Screen	Extruded layer of semi-conducting crosslinkable compound applied under simultaneous triple extrusion process over conductor
Conductor Cross-sectional Area	35–1000 mm <sup>2</sup>
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
Metallic Foil (Transversal Water Tightness)	Al tape with PE copolymer applied longitudinally with overlap over water swellable tape, bonded to the sheath
Oversheath	Extruded layer of HDPE applied over the core



## CHARACTERISTIC

Operating conductor temperature	
maximum permissible temperature	+90 °C
Short circuit conductor temperature	
initial	+90 °C
final	+250 °C

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Short circuit metallic screen temperature	
initial	+80 °C
final	+350 °C
Lowest temperature of cable installation	-20°C
Impuls voltage	170 kV
Test voltage	63 kV

## Dimensional Data

Nominal cross-sectional area	Conductor diameter	Insulation		Metallic screen Cu		Diameter over complete cable	Weight of complete cable	Maksimum cable pulling force	Minimum bending radius
		Nominal thickness	Diameter over insulation	Cross section	Diameter over metallic screen				
mm <sup>2</sup>	mm	mm		mm <sup>2</sup>	mm	mm	kg/km	kN	m
1x35RM	7.0 <sup>+0.15</sup>	8.0	24.2	16	28.3	34.3	1210	1.75	0.74
1x50RM	8.25 <sup>+0.20</sup>	8.0	25.5	16	29.5	35.6	1370	2.5	0.77
1x70RM	9.6 <sup>+0.20</sup>	8.0	26.8	16	30.9	36.9	1600	3.5	0.81
1x95RM	11.5 <sup>+0.20</sup>	8.0	28.7	16	32.3	38.4	1890	4.75	0.84
1x120RM	12.9 <sup>+0.25</sup>	8.0	30.1	16	33.7	39.8	2160	6	0.88
1x150RM	14.5 <sup>+0.30</sup>	8.0	31.7	16	35.3	41.4	2470	7.5	0.92
1x185RM	16.0 <sup>+0.30</sup>	8.0	33.2	16	36.8	42.9	2840	9.25	0.96
1x240RM	18.5 <sup>+0.30</sup>	8.0	35.7	16	39.3	45.4	3430	12	1.02
1x150RM	14.5 <sup>+0.30</sup>	8.0	31.7	25	35.8	41.8	2550	7.5	0.93
1x185RM	16.0 <sup>+0.30</sup>	8.0	33.2	25	37.3	43.3	2930	9.25	0.97
1x240RM	18.5 <sup>+0.30</sup>	8.0	35.7	25	39.8	45.8	3510	12	1.03
1x300RM	20.5 <sup>+0.30</sup>	8.0	37.7	25	41.8	47.8	4120	15	1.08
1x400RM	23.5 <sup>+0.30</sup>	8.0	40.7	35	44.8	51.0	5140	20	1.16
1x500RM	26.5 <sup>+0.40</sup>	8.0	44.2	35	48.5	54.9	6300	25	1.25
1x630RM	30.3 <sup>+0.40</sup>	8.0	48.2	35	52.5	59.4	7700	31.5	1.35

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		Nominal thickness	Diameter over insulation	Cross section	Diameter over metallic screen				
mm <sup>2</sup>	mm	mm		mm <sup>2</sup>	mm	mm	kg/km	kN	m
1x800RM	34.6 <sup>+0.50</sup>	8.0	52.9	35	57.2	64.5	9470	40	1.47
1x1000RM	38.2 <sup>+0.40</sup>	8.0	56.5	35	60.8	68.3	11410	50	1.56

## Current Carrying Capacity <sup>(1)</sup>

Cross-sectional area	mm <sup>2</sup>	35	50	70	95	120	150	185	240	300	400	500	630	800	1000
GROUND	FLAT	214	251	304	362	409	449	502	574	640	695	773	830	880	940
	TREFOIL	191	225	274	327	371	414	466	539	606	680	765	840	920	1010
AIR	FLAT	235	282	350	425	488	548	624	728	828	922	1045	1170	1300	1410
	TREFOIL	203	241	299	363	418	472	539	635	725	831	953	1090	1230	1350

<sup>(1)</sup> STANDARD SERVICE CONDITIONS: BE (BOTH-ENDS BONDING)

### GROUND

Temperature at laying depth = 20°C

Laying depth = 0.7 m

Thermal resistivity of soil = 1.0 K·m / W

Load factor = 0.7

### AIR

Temperature = 30°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-sectional area	Conductor resistance		Metallic screen resistance		Short circuit ratings Conductor / metallic screen
	DC 20°C	AC 90°C	DC 20°C	AC 80°C	
mm <sup>2</sup>	Ω/km				kA/s
1x35RM/16	0.524	0.668	1.12	1.38	5.0 / 3.7
1x50RM/16	0.387	0.494	1.12	1.38	7.2 / 3.7
1x70RM/16	0.268	0.342	1.12	1.38	10.0 / 3.7
1x95RM/16	0.193	0.247	1.12	1.38	13.6 / 3.7
1x120RM/16	0.153	0.196	1.12	1.38	17.2 / 3.7
1x150RM/16	0.124	0.159	1.12	1.38	21.5 / 3.7
1x185RM/16	0.0991	0.128	1.12	1.38	26.5 / 3.7
1x240RM/16	0.0754	0.0979	1.12	1.38	34.3 / 3.7
1x150RM/25	0.124	0.159	0.72	0.88	21.5 / 5.3
1x185RM/25	0.0991	0.128	0.72	0.88	26.5 / 5.3
1x240RM/25	0.0754	0.0979	0.72	0.88	34.3 / 5.3
1x300RM/25	0.0601	0.0790	0.72	0.88	42.9 / 5.3
1x400RM/35	0.0470	0.0631	0.51	0.63	57.2 / 7.1
1x500RM/35	0.0366	0.0507	0.51	0.63	71.5 / 7.1
1x630RM/35	0.0283	0.0412	0.51	0.63	90.1 / 7.1
1x800RM/35	0.0221	0.0345	0.51	0.63	114.4 / 7.1
1x1000RM/35	0.0176	0.0298	0.51	0.63	143.0 / 7.1

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