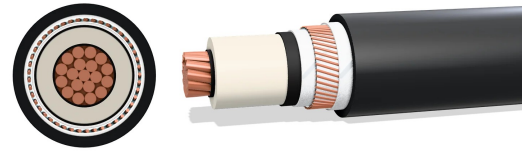


Application

N2XS(F)2Y is a single-core, cross-linked polyethylene (XLPE) insulated medium-voltage power cable for public and industrial distribution and utility networks. The compacted stranded copper conductor carries an extruded semi-conductive conductor screen, the XLPE insulation and an extruded semi-conductive insulation screen; a concentric copper wire screen (CWS) with a counter-helix copper tape forms the metallic screen and earth/short-circuit path. The (F) design is longitudinally watertight: swellable water-blocking tapes in the screen area stop water travelling along the cable if the sheath is damaged, and a polyethylene (2Y) outer sheath completes the cable. It is suitable for direct burial, installation in ducts and in air, and is available for the 6/10, 8.7/15, 12/20, 18/30 and 20.8/36 kV voltage classes (dimensions per class in the tables below).



CONSTRUCTION

Conductor	Circular stranded, compacted plain copper, class 2 (RM) acc. to IEC 60228.
Conductor screen	Extruded semi-conductive compound, bonded to the insulation.
Insulation	Cross-linked polyethylene (XLPE), nominal thickness per voltage class (3.4 mm at 6/10 kV, 4.5 mm at 8.7/15 kV, 5.5 mm at 12/20 kV, 8.0 mm at 18/30 kV; not published for the 20.8/36 kV class).
Insulation screen	Extruded semi-conductive compound, bonded to the insulation.
Metallic screen	Concentric copper wire screen (CWS) with a counter-helix copper tape; nominal screen cross-section 16 to 50 mm ² according to conductor size.
Longitudinal water barrier	(F): semi-conductive swellable water-blocking tape under the copper wire screen; over the screen a further water-blocking tape or a separating tape, depending on manufacturer (longitudinally watertight). No metallic laminate: the radially watertight version with an Al/PE laminated sheath is designated (FL).
Outer sheath	Polyethylene (2Y / MDPE), black or red; halogen-free.

ELECTRICAL & THERMAL PROPERTIES

Voltage classes U₀/U (Um)	6/10 (12) kV, test 21 kV; 8.7/15 (17.5) kV, test 30.5 kV; 12/20 (24) kV, test 42 kV; 18/30 (36) kV, test 63 kV; 20.8/36 (42) kV (AC, 5 min).
Standard	HD 620 S3:2023 part 10-C / DIN VDE 0276-620 for 6/10, 12/20 and 18/30 kV; IEC 60502-2 for 8.7/15 kV; 20.8/36 kV constructed following DIN VDE 0276-620. Conductors acc. to IEC 60228.
Conductor	Plain copper, class 2 (RM) acc. to IEC 60228.
Metallic screen	Copper wire screen (CWS) with counter-helix.
Max. conductor temperature	+90 °C (normal operation).
Max. short-circuit temperature	+250 °C (max. 5 s).
Min. bending radius, single-core	15 × overall diameter.
Reaction to fire (CPR)	Fca (EN 50575), the class declared for this construction under AVCP system 4 on the manufacturer Declarations of Performance. The CPR makes no distinction by rated voltage, so MV cables fall within its scope; the class binding for a delivery is the one on its Declaration of Performance, which Q Cables can provide on request. Halogen-free flame-retardant MV versions up to B2ca-s1a,d1,a1 are available on request.

DIMENSIONS, WEIGHTS & RATINGS PER VOLTAGE CLASS
6/10 kV (Um 12 kV, test 21 kV, XLPE 3.4 mm)

Nominal c.s.a. (mm ²)	Cond. R @20°C (Ω/km)	Nominal O.D. (mm)	Weight (kg/km)
50	0.387	22	850
70	0.268	24	1100
95	0.193	26	1300
120	0.153	27	1600
150	0.124	29	2000
185	0.0991	30	2250
240	0.0754	33	3000
300	0.0601	36	3500
400	0.047	39	4500
500	0.0366	42	5500
630	0.0283	46	6750

8.7/15 kV (Um 17.5 kV, test 30.5 kV, XLPE 4.5 mm)

Nominal c.s.a. (mm ²)	Cond. R @20°C (Ω/km)	Nominal O.D. (mm)	Weight (kg/km)
50	0.387	25.8	939
70	0.268	27.8	1171
95	0.193	29.1	1429
120	0.153	30.7	1689
150	0.124	32.7	2072
185	0.0991	34.2	2415
240	0.0754	36.6	2993
300	0.0601	39.2	3575
400	0.047	42.2	4502
500	0.0366	45.8	5505
630	0.0283	50.7	6936

12/20 kV (Um 24 kV, test 42 kV, XLPE 5.5 mm)

Nominal c.s.a. (mm ²)	Cond. R @20°C (Ω/km)	Nominal O.D. (mm)	Weight (kg/km)
35	0.524	27.9	990
50	0.387	29.1	1140
70	0.268	30.5	1450
95	0.193	32.4	1830
120	0.153	33.8	2230
150	0.124	35.4	2520
185	0.0991	36.9	2890
240	0.0754	39.4	3460
300	0.0601	41.4	4060
400	0.047	44.4	4940
500	0.0366	48.1	6050
630	0.0283	52.5	7460

18/30 kV (Um 36 kV, test 63 kV, XLPE 8.0 mm)

Nominal c.s.a. (mm ²)	Cond. R @20°C (Ω/km)	Nominal O.D. (mm)	Weight (kg/km)
50	0.387	37	1700
70	0.268	38	1950
95	0.193	40	2300
120	0.153	42	2600
150	0.124	43	3000
185	0.0991	45	3350
240	0.0754	47	4100
300	0.0601	50	4800
400	0.047	53	5750
500	0.0366	56	6700
630	0.0283	59	7760

20.8/36 kV (Um 42 kV; insulation thickness and test voltage on request)

Nominal c.s.a. (mm ²)	Cond. R @20°C (Ω/km)	Nominal O.D. (mm)	Weight (kg/km)
35	0.524	37.5	1250
50	0.387	38.5	1450
70	0.268	40.5	1700
95	0.193	42	2000
120	0.153	44	2250
150	0.124	45.5	2700
185	0.0991	47.5	3050
240	0.0754	50	3650
300	0.0601	52.5	4300
400	0.047	55.5	5450
500	0.0366	59	6500
630	0.0283	62.5	7800

Outer diameters and weights are nominal manufacturer values for the single-core construction; conductor resistances are the IEC 60228 class-2 nominal values at 20 °C. All values are indicative and non-binding.