XLPE Insulated, PVC Sheathed Three-core Cables
for Fixed Installations 3.6/6 kV; 6/10 kV; 12/20kV; 18/30 kV

Application

For indoor or outdoor installation in open air in tray, trough and conduit or for direct burial in free draining soil or inside duct where no mechanical damage is to be expected. Power cable for utilities medium voltage underground distribution systems and in commercial buildings, industrial plants, power stations and substations. For rated voltages U0/U(Um): 3.6/6(7.2) kV; 6/10(12) kV; 12/20kV or 18/30 kV at maximum conductor temperatures of 90 °C for continuous normal operation and 250 °C for short circuit.

Standards

Conforms to IEC 60502-2 Standard: ”Power cables with extruded insulation and their accessories for rated voltages from 1 kV
(Um = 1,2 kV) up to 30 kV (Um = 36 kV) –Part 2: Cables for rated voltages of 6 kV
(Um = 7,2 kV) up to 30 kV (Um = 36 kV)”.
Conformance to various European standards, available upon request.

Construction

A copper or aluminium compacted circular conductor has a triple single head extruded smooth conductor screen, XLPE (cross-linked polyethylene) insulation and bonded insulation screen, all dry nitrogen cured. Each insulated core is lapped with a semi-conducting tape and metal screened with copper tape or with solid bare copper wires uniformly spaced around the cable and a counter helix copper tape. The cores are assembled and covered with an extruded inner covering; a surface printed red PVC over sheath is extruded over all.

The following alternatives are available upon request:
- 8.7/15 kV cables
- tree-retardant XLPE insulation
- EPR insulation
- easy strippable insulation screen
- double tape, round wire or flat wire galvanized steel armour
- other PVC over sheath colours
- ST7 black PE over sheath.

Consult us on fire retardant and /or halogen free constructions.

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Cross Section Conductor & Screen No.x mm²/mm²	Min. No. wires	Nominal Insulation mm	Nominal Sheath mm	Nominal O/D mm	min Bending Radius mm	Approx Weight kg/km	Max resistance Conductor DC at 20°C Ω/km	Short circuit Rating Conductor (1sec) kA	Current rating (2) In Air A	Current rating (2) In Ground A	Charging current A/km	Reactance 50Hz(5) Ω/km	Capacitance µF/km
N2XSEY 3.6/6(7.2) kV Copper													
3x35/16	6	2.5	2.2	36	540	2000	0.524	5	176	179	0.32	0.11	0.28
3x50/16	6	2.5	2.3	44	660	3500	0.387	7.2	211	211	0.36	0.104	0.32
3x70/16	12	2.5	2.4	48	720	4300	0.268	10.0	262	258	0.41	0.098	0.36
3x95/16	15	2.5	2.6	51	765	5300	0.193	13.6	319	309	0.47	0.094	0.41
3x120/16	18	2.5	2.7	55	825	6500	0.153	17.2	366	351	0.51	0.091	0.45
3x150/25	18	2.5	2.8	59	885	7900	0.124	21.5	416	395	0.55	0.089	0.49
3x185/25	30	2.5	2.9	63	945	9300	0.0991	26.5	476	446	0.61	0.086	0.54
3x240/25	34	2.5	3.1	68	1020	11600	0.0754	34.3	560	518	0.65	0.084	0.58
NA2XSEY 3.6/6(7.2) kV Aluminium													
3x35/16	6	2.5	2.2	36	540	1550	0.868	3.3	137	139	0.32	0.11	0.28
3x50/16	6	2.5	2.3	44	660	2600	0.641	4.7	163	163	0.36	0.104	0.32
3x70/16	12	2.5	2.4	48	720	3050	0.443	6.6	204	201	0.41	0.098	0.36
3x95/16	15	2.5	2.6	51	765	3600	0.320	8.9	247	240	0.47	0.094	0.41
3x120/16	15	2.5	2.7	55	825	4350	0.253	11.3	285	273	0.51	0.091	0.45
3x150/25	15	2.5	2.8	59	885	5200	0.206	14.1	323	306	0.55	0.089	0.49
3x185/25	30	2.5	2.9	63	945	5900	0.164	17.4	371	347	0.61	0.086	0.54
3x240/25	30	2.5	3.1	68	1020	7150	0.125	22.6	438	404	0.65	0.084	0.58
N2SEY 6/10(12)Kv Copper													
3x35/16	6	3.4	2.4	44	660	3000	0.524	5	178	181	0.42	0.117	0.230
3x50/16	6	3.4	2.5	49	735	3750	0.387	7.2	213	213	0.47	0.110	0.250
3x70/16	12	3.4	2.6	53	795	4500	0.268	10	265	261	0.53	0.104	0.280
3x95/16	15	3.4	2.7	57	855	5850	0.193	13.6	322	312	0.6	0.099	0.320
3x120/16	18	3.4	2.8	61	915	6950	0.153	17.2	370	355	0.66	0.096	0.350
3x150/25	18	3.4	2.9	66	990	8250	0.124	21.5	420	399	0.71	0.093	0.370
3x185/25	30	3.4	3.0	70	1050	9800	0.0991	26.5	481	451	0.77	0.090	0.41
3x240/25	34	3.4	3.2	74	1140	10800	0.0754	34.3	566	523	0.86	0.087	0.46
NA2XSEY 6/10(12) kV Aluminium													
3x35/16	6	3.4	2.4	44	660	2400	0.688	3.29	138	140	0.42	0.117	0.230
3x50/16	6	3.4	2.5	49	735	2850	0.641	4.7	165	165	0.47	0.110	0.250
3x70/16	12	3.4	2.6	53	795	3200	0.443	6.6	206	203	0.53	0.104	0.280
3x95/16	15	3.4	2.7	57	855	3600	0.320	8.9	249	242	0.6	0.099	0.320
3x120/16	15	3.4	2.8	61	915	4600	0.253	11.3	288	275	0.66	0.096	0.350
3x150/25	15	3.4	2.9	66	990	5350	0.206	14.1	326	309	0.71	0.093	0.370
3x185/25	30	3.4	3.0	70	1050	6150	0.164	17.4	375	351	0.77	0.090	0.41
3x240/25	30	3.4	3.2	74	1140	6400	0.125	22.6	442	408	0.86	0.087	0.46
N2XSEY 12/20(24) kV Copper													
3x35/16	6	5.5	2.7	54	810	3850	0.524	5.0	180	184	0.42	0.117	0.230
3x50/16	6	5.5	2.8	57	855	4450	0.387	7.2	215	215	0.47	0.110	0.250
3x70/16	12	5.5	2.9	61	915	5350	0.268	10.0	268	264	0.53	0.104	0.280
3x95/16	15	5.5	30.0	65	975	6400	0.193	13.6	325	315	0.6	0.099	0.320
3x120/16	18	5.5	3.1	69	1035	7450	0.153	17.2	374	359	0.66	0.096	0.350
3x150/25	18	5.5	3.2	72	1080	8600	0.124	21.5	424	403	0.71	0.093	0.370
3x185/25	30	5.5	3.4	76	1140	10000	0.0991	26.5	486	456	0.77	0.090	0.41
3x240/25	34	5.5	3.5	81	1215	12300	0.0754	34.3	572	528	0.86	0.087	0.46
NA2XSEY 12/20(24) kV Copper													
3x35/16	6	5.5	2.7	54	810	3200	3.29	3.29	140	142	0.42	0.117	0.230
3x50/16	6	5.5	2.8	57	855	3550	4.7	4.7	167	167	0.47	0.110	0.250
3x70/16	12	5.5	2.9	61	915	4050	6.6	6.6	208	205	0.53	0.104	0.280
3x95/16	15	5.5	3.0	65	975	4650	8.9	8.9	251	244	0.6	0.099	0.320
3x120/16	15	5.5	3.1	69	1035	5250	11.3	11.3	291	279	0.66	0.096	0.350
3x150/25	15	5.5	3.2	72	1080	5850	14.1	14.1	329	312	0.71	0.093	0.370
3x185/25	30	5.5	3.4	76	1140	6600	17.4	17.4	379	365	0.77	0.090	0.41
3x240/25	30	5.5	3.5	81	1215	7800	22.6	22.6	446	412	0.86	0.087	0.46

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N2XSEY 18/30(36) kV Copper													
3x50/16	12	8	3.2	69	1035	6000	0.387	7.2	217	217	0.77	0.136	0.13
3x70/16	15	8	3.3	73	1095	6900	0.268	10.0	270	266	0.85	0.128	0.15
3x95/16	18	8	3.4	77	1155	8100	0.193	13.6	328	318	0.94	0.121	0.16
3x120/16	18	8	3.5	80	1200	9300	0.153	17.2	377	362	1.02	0.117	0.18
3x150/25	30	8	3.6	83	1245	10500	0.124	21.5	428	407	1.08	0.114	0.19
3x185/25	34	8	3.7	87	1305	12000	0.0991	26.5	491	460	1.17	0.110	0.20
3x240/25	34	8	3.9	93	1395	14300	0.0754	34.3	577	534	1.28	0.105	0.22
NA2XSEY 18/30(36) kV Aluminium													
3x50/16	12	8	3.2	69	1035	5050	0.641	4.7	168	168	0.77	0.136	0.13
3x70/16	15	8	3.3	73	1095	5650	0.443	6.6	210	207	0.85	0.128	0.15
3x95/16	18	8	3.4	77	1155	6400	0.320	8.9	254	247	0.94	0.121	0.16
3x120/16	18	8	3.5	80	1200	7000	0.253	11.3	294	282	1.02	0.117	0.18
3x150/25	30	8	3.6	83	1245	7700	0.205	14.1	333	315	1.08	0.114	0.19
3x185/25	34	8	3.7	87	1305	8500	0.164	17.4	383	358	1.17	0.110	0.20
3x240/25	34	8	3.9	93	1395	9800	0.125	22.6	451	416	1.28	0.105	0.22

(1) Conductor short circuit based on an initial conductor temperature of 90°C and a final temperature of 250°C

(2) Current rating based on operation at 90 °C conductor , three phase AC, trefoil touching or flat formation with one cable diameter clearance. Bonded screens and earthed both ends. according to VDE 0276-620

(3) Cable laid in circulating air at 30 °C

(4) Buried at 0.7m deep in soil at 20 °C with 1 K.m/W thermal resisivity, load factor 0.7

(5) Calculated inductive resistance per core in trefoil, the screens are bonded and earthed at both ends.

Temperature Rating Factors

Ambient temp.	*20*	*25*	*30*	*35*	*40*	*45*	*50*	*55*	*60*	*65*
Correction Factor Air.	*1.08*	*1.04*	*1.00*	*0.96*	*0.91*	*0.87*	*0.82*	*0.76*	*0.71*	*0.65*
Correction factor ground.	*1.00*	*0.96*	*0.93*	*0.89*	*0.85*	*0.80*	*0.76*			

he information contained within this data sheet is for guidance only.
Cable and gland sizes are nominal and may vary according to different manufacturer's tolerances.
Every possible effort is made to ensure that the Information contained in this data sheet is correct.
However, we reserve the right to change the information or specification at any time in the light of technical developments or revisions.
References to or extracts from British Standards, current IEE regulations or other regulatory bodies should be verified with these organisations.

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