

**THREE CORES CABLE COPPER OR ALUMINIUM
CONDUCTOR, XLPE INSULATED, COPPER WIRES SCREENED,
AND PVC SHEATHED**



Feature

XLPE insulated three cores cables are applied for installation indoors, outdoors, underground and cable rack

CONSTRUCTION

Conductor

Stranded compacted circular aluminium conductors. All internal interstices of the conductor filled with water blocking compound which is specified to prevent ingress of water through conductor during storage, handling, installation and operating of the cable.

Conductor Screen

Extruded Semi-conducting compound. Minimum thickness 0.5 mm and the maximum volume resistivity of 5000 ohm-cm at 20°C and 25000 ohm-cm at 90°C.

Insulation

Extruded XLPE with high degree of cross-linking, free from contaminants, air voids and heat resistant by dry cured process. The nominal thickness as shown in table 1.

Table 1. Insulation Thickness

Nominal Cross Section (mm ²)	Insulation thickness at nominal voltage				
	3.6/6 kV (mm)	6/10 kV (mm)	8.7/15 kV (mm)	12/20 kV (mm)	18/30 kV (mm)
35	2.5	3.4	4.5	-	-
50	2.5	3.4	4.5	5.5	-
70	2.5	3.4	4.5	5.5	8.0
95	2.5	3.4	4.5	5.5	8.0
120	2.5	3.4	4.5	5.5	8.0
150	2.5	3.4	4.5	5.5	8.0
185	2.5	3.4	4.5	5.5	8.0
240	2.6	3.4	4.5	5.5	8.0
300	2.8	3.4	4.5	5.5	8.0
400	3.0	3.4	4.5	5.5	8.0

Type : N2XSEY
NA2XSEY

Nominal Voltage : 3.6/6 (7.2) kV
6/10 (12) kV
8.7/15 (17.5) kV
12/20 (24) kV
18/30 (36) kV

Specification : SPLN 43-5
(Other specifications are available upon request)

Table 2. Minimum Total Cross Section of Metallic Screen.

Nominal Cross Section of Cable (mm ²)	Minimum Cross Section of Metallic Screen (mm ²)
Up to 120	16
120 - 300	25
400 - 500	35

Insulation Screen

Extruded Semi-conducting compound. Minimum thickness 0.5 mm and the maximum volume resistivity of 5000 ohm-cm at 20°C and 25000 ohm-cm at 90°C. The screen is tightly fitted to the insulation to exclude all air voids and can be easily hand stripped on site.

Conducting Water Blocking Layer

Semi-conductive water blocking tape provided over the insulation screen which will swell up under the influence of moisture or water.

Metallic Screen

Copper wires applied over the conducting water blocking layer. Minimum total cross section of metallic screen layer as shown in table 2. Copper tape minimum thickness 0.1mm and maximum 0.3mm applied over copper wires.

**THREE CORES CABLE COPPER OR ALUMINIUM
CONDUCTOR, XLPE INSULATED, COPPER WIRES SCREENED,
AND PVC SHEATHED**



Water Blocking Layer

Non-conductive water blocking tape provided over the metallic screen which will swell up under the influence of moisture or water

Inner Sheath

Extruded black PVC, capable for operating continuously maximum temperature of the cable. Thickness of inner sheath as shown in table 3.

Table 3. Inner Sheath Thickness.

Cores Diameter (mm)		Approx. Thickness of Inner Sheath (mm)
>	<	
35	45	1.4
45	60	1.6
60	80	1.8
80	-	2.0

Outer Sheath

Extruded red PVC, suitable for exposure to sun-light or other local atmospheric environments and for the operating temperature of the cable.

GENERAL ELECTRICAL CHARACTERISTIC

Nominal Cross Section Area (mm ²)		35	50	70	90	120	150	185	240	300	400
Max. D.C. Conductor Resistance at 20°C (ohm/km)	Cu	0.521	0.387	0.268	0.193	0.153	0.124	0.099	0.075	0.060	0.047
	Al	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.078
Short Circuit Current at 1 sec. (kA)	Cu	5.0	7.2	10.1	13.6	17.2	21.5	26.5	34.3	42.9	57.2
	Al	3.3	4.7	6.6	8.9	11.3	14.1	17.4	22.6	28.2	37.6

**THREE CORES CABLE COPPER OR ALUMINIUM
CONDUCTOR, XLPE INSULATED, COPPER WIRES SCREENED,
AND PVC SHEATHED**




**TYPE OF CABLE
NOMINAL VOLTAGE
SPECIFICATION**

**: N2XSEY AND NA2XSEY
: 12/20 kV
: SPLN 43-5**

PHYSICAL PROPERTIES

No. of Cores		3									
Nominal Cross Sectional Area	mm ²	35	50	70	95	120	150	185	240	300	400
Approx. Conductor Diameter	mm	7.0	8.3	10.0	11.7	13.2	14.5	16.2	18.6	20.6	23.5
Outer Sheath Thickness	mm	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.7	3.9	4.1
Approx. Overall Diameter	mm	59	62	66	69	73	76	80	85	90	98
Approx. Cable Weight (kg/km)	Cu	4,576	5,270	6,100	7,275	8,387	9,869	11,092	13,471	15,700	20,502
	Al	3,930	4,378	4,870	5,512	6,069	7,247	7,651	8,867	10,017	12,331
Bending Radius	cm	85	90	95	100	105	110	115	125	130	140
Standard Packing	Length m	500	500	500	500	300	300	300	250	250	250
	Packing	Wooden Drum									

ELECTRICAL PROPERTIES

No. of Cores		3											
Nominal Cross Sectional Area		mm ²	35	50	70	95	120	150	185	240	300	400	
Current Carrying A	In Ground 30°C	Cu	164	194	236	293	322	362	409	474	533	579	
		Al	121	148	184	220	250	281	319	370	420	466	
Capacity	In Air 30°C	Cu	173	206	257	313	360	410	469	553	629	670	
		Al	130	161	199	242	280	318	365	425	481	551	
Capacitance		μF/km	0.16	0.18	0.20	0.22	0.24	0.26	0.28	0.31	0.34	0.38	
Inductance		mH/km		0.406	0.389	0.365	0.347	0.335	0.324	0.314	0.305	0.295	0.283