NYY-J Power Cable

Eland Product Group **A9N**

Application

Power and control cable for fixed installation. Can be used indoors, outdoors, underground, in concrete and in water.

Standards

IEC60502-1, Generally to VDE0276 and VDE0271.

Technical Data

Conductor
re conductor: Class 1 solid plain copper to IEC60502-1
rm conductor: Class 2 stranded copper

Insulation
PVC (Polyvinyl Chloride) Type YI4 to VDE0276

Filler
PVC (Polyvinyl Chloride)

Sheath
FR/PVC (Flame Retardant / Polyvinyl Chloride) to IEC60502-1

Sheath Colour
Black

Voltage Rating
600/1000V

Temperature Rating
Fixed: -40°C to +70°C
Flexing: -5°C to +50°C

Minimum Bending Radius
Single Core: 15 x overall diameter
Multi-Core: 12 x overall diameter

Core Identification
Up to and including 5 cores:
colour coded or number coded
7 cores and above: number coded

Dimensions

Eland Part Numbers	No. of Cores x Nominal Cross Sectional Area # x mm²	Conductor Type	Nominal Thickness of Insulation mm	Nominal Thickness of Sheath mm	Nominal Overall Diameter mm	Nominal Weight kg/Km
A9N1025	1 x 2.5	re	0.8	1.4	6.15	62.0
A9N1040	1 x 4.0	re	1.0	1.4	7.00	85.0
A9N1060	1 x 6.0	re	1.0	1.4	7.50	108.0
A9N110	1 x 10.0	rm	1.0	1.4	8.60	155.4
A9N116	1 x 16.0	rm	1.0	1.4	9.60	218.0
A9N125	1 x 25.0	rm	1.2	1.4	11.10	318.0
A9N135	1 x 35.0	rm	1.2	1.4	12.10	414.0
A9N150	1 x 50.0	rm	1.4	1.4	13.70	552.0
A9N170	1 x 70.0	rm	1.4	1.4	15.50	750.0
A9N195	1 x 95.0	rm	1.6	1.5	17.60	1020.0
A9N1120	1 x 120.0	rm	1.6	1.5	19.30	1259.0
A9N1150	1 x 150.0	rm	1.8	1.6	21.00	1546.0
A9N1185	1 x 185.0	rm	2.0	1.7	23.20	1913.0
A9N1240	1 x 240.0	rm	2.2	1.8	26.20	2471.0
A9N1300	1 x 300.0	rm	2.4	1.9	29.20	3097.0
A9N2015	2 x 1.5	re	0.8	1.8	10.00	147.0
A9N2025	2 x 2.5	re	0.8	1.8	10.70	179.0
A9N2040	2 x 4.0	rm	1.0	1.8	13.00	268.0
A9N2060	2 x 6.0	rm	1.0	1.8	14.20	337.0
A9N210	2 x 10.0	rm	1.0	1.8	16.20	472.0
A9N216	2 x 16.0	rm	1.0	1.8	17.80	644.0
A9N3015	3 x 1.5	re	0.8	1.8	10.40	166.0

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Eland Part Numbers	No. of Cores x Nominal Cross Sectional Area # x mm²	Conductor Type	Nominal Thickness of Insulation mm	Nominal Thickness of Sheath mm	Nominal Overall Diameter mm	Nominal Weight kg/Km
A9N3025	3 x 2.5	re	0.8	1.8	11.30	212.0
A9N3040	3 x 4.0	re	1.0	1.8	13.10	299.0
A9N3040	3 x 4.0	rm	1.0	1.8	13.80	318.0
A9N3060	3 x 6.0	re	1.0	1.8	14.20	380.0
A9N3060	3 x 6.0	rm	1.0	1.8	15.00	402.0
A9N310	3 x 10.0	rm	1.0	1.8	17.10	570.0
A9N316	3 x 16.0	rm	1.0	1.8	18.80	789.0
A9N325	3 x 25.0	rm	1.2	1.8	22.10	1141.0
A9N335	3 x 35.0	rm	1.2	1.8	24.10	1462.0
A9N350	3 x 50.0	rm	1.4	1.8	27.60	1964.0
A9N395	3 x 95.0	rm	1.6	2.1	36.30	3635.0
A9N3120	3 x 120.0	rm	1.6	2.2	40.00	4488.0
A9N4015	4 x 1.5	re	0.8	1.8	11.60	198.0
A9N4025	4 x 2.5	re	0.8	1.8	12.10	252.0
A9N4040	4 x 4.0	re	1.0	1.8	14.00	355.0
A9N4040	4 x 4.0	rm	1.0	1.8	15.10	391.0
A9N4060	4 x 6.0	re	1.0	1.8	15.40	465.0
A9N4060	4 x 6.0	rm	1.0	1.8	16.50	501.0
A9N410	4 x 10.0	rm	1.0	1.8	18.60	702.0
A9N416	4 x 16.0	rm	1.0	1.8	20.60	992.0
A9N425	4 x 25.0	rm	1.2	1.8	24.20	1431.0
A9N435	4 x 35.0	rm	1.2	1.8	26.60	1861.0
A9N450	4 x 50.0	rm	1.4	1.9	30.90	2535.0
A9N470	4 x 70.0	rm	1.4	2.1	34.80	3441.0
A9N495	4 x 95.0	rm	1.6	2.2	40.40	4691.0
A9N4120	4 x 120.0	rm	1.6	2.4	44.20	5757.0
A9N4150	4 x 150.0	rm	1.8	2.5	48.50	7095.0
A9N4185	4 x 185.0	rm	2.0	2.7	53.90	8810.0
A9N4240	4 x 240.0	rm	2.2	2.9	61.10	11400.0
A9N5015	5 x 1.5	re	0.8	1.8	12.00	232.0
A9N5025	5 x 2.5	re	0.8	1.8	13.10	302.0
A9N5040	5 x 4.0	re	1.0	1.8	15.20	428.0
A9N5040	5 x 4.0	rm	1.0	1.8	16.60	477.0
A9N5060	5 x 6.0	re	1.0	1.8	16.50	551.0
A9N5060	5 x 6.0	rm	1.0	1.8	17.50	618.0
A9N510	5 x 10.0	rm	1.0	1.8	20.30	853.0
A9N516	5 x 16.0	rm	1.0	1.8	23.10	1212.0
A9N525	5 x 25.0	rm	1.2	1.8	26.60	1759.0
A9N7015	7 x 1.5	re	0.8	1.8	12.90	280.0
A9N7025	7 x 2.5	re	0.8	1.8	14.10	368.0
A9N12015	12 x 1.5	re	0.8	1.8	16.60	475.0
A9N12025	12 x 2.5	re	0.8	1.8	18.20	628.0
A9N14015	14 x 1.5	re	0.8	1.8	17.10	515.0
A9N19015	19 x 1.5	re	0.8	1.8	18.90	648.0
A9N19025	19 x 2.5	re	0.8	1.8	20.30	843.0
A9N27015	27 x 1.5	re	0.8	1.8	22.60	895.0

re = round conductor, rm = stranded conductor, sm = sectional conductor

Conductors

Class 1 solid conductors for Single Core and Multi-Core cables

1	2
Nominal Cross Sectional Area mm²	**Maximum Resistance of Conductor at 20°C**
	Circular, Annealed Copper Conductors
	Plain ohms/Km
1.50	12.1000
2.50	7.4100
4.00	4.6100
6.00	3.0800
10.00	1.8300
16.00	1.1500
25.00	0.7270[b]
35.00	0.5240[b]
50.00	0.3870[b]
70.00	0.2680[b]
95.00	0.1930[b]
120.00	0.1530[b]
150.00	0.1240[b]
185.00	0.1010[b]
240.00	0.0775[b]
300.00	0.0620[b]

Table in accordance with BS EN 60228:2005 (previously BS6360)

Electrical Characteristics

Current Carrying Capacity (amperes)

Conductor Cross Sectional Area mm²	Conductor Type	Current Carrying Capacity in Duct A	Current Carrying Capacity in Air A
1 x 2.5	re	-	26.0
1 x 4.0	re	-	57.0
1 x 6.0	re	-	57.0
1 x 10.0	rm	-	78.0
1 x 16.0	rm	127.0	103.0
1 x 25.0	rm	163.0	137.0
1 x 35.0	rm	195.0	169.0
1 x 50.0	rm	230.0	206.0
1 x 70.0	rm	282.0	261.0
1 x 95.0	rm	336.0	321.0
1 x 120.0	rm	382.0	374.0
1 x 150.0	rm	428.0	428.0
1 x 185.0	rm	483.0	414.0
1 x 240.0	rm	561.0	590.0
1 x 300.0	rm	632.0	678.0
2 x 1.5	re	32.0	20.0
2 x 2.5	re	42.0	27.0
2 x 4.0	rm	54.0	37.0
2 x 6.0	rm	68.0	48.0
2 x 10.0	rm	90.0	66.0
2 x 16.0	rm	116.0	89.0
3 x 1.5	re	26.0	18.0
3 x 2.5	re	34.0	25.0
3 x 4.0	re	44.0	34.0
3 x 4.0	rm	44.0	34.0
3 x 6.0	re	56.0	43.0
3 x 6.0	rm	56.0	43.0
3 x 10.0	rm	75.0	60.0
3 x 16.0	rm	98.0	80.0
3 x 25.0	rm	128.0	106.0
3 x 35.0	rm	157.0	131.0
3 x 50.0	rm	185.0	159.0
3 x 95.0	rm	275.0	244.0
3 x 120.0	rm	313.0	282.0

4 x 1.5	re	26.0	18.0
4 x 2.5	re	34.0	25.0
4 x 4.0	re	44.0	34.0
4 x 4.0	rm	44.0	34.0
4 x 6.0	re	56.0	43.0
4 x 6.0	rm	56.0	43.0
4 x 10.0	rm	75.0	60.0
4 x 10.0	rm	75.0	60.0
4 x 16.0	rm	98.0	80.0
4 x 25.0	rm	128.0	106.0
4 x 35.0	rm	157.0	131.0
4 x 50.0	rm	185.0	159.0
4 x 70.0	rm	252.0	247.0
4 x 95.0	rm	303.0	305.0
4 x 120.0	rm	313.0	282.0
4 x 150.0	rm	390.0	407.0
4 x 185.0	rm	399.0	371.0
4 x 240.0	rm	464.0	436.0
5 x 1.5	re	24.0	18.0
5 x 2.5	re	34.0	25.0
5 x 4.0	re	44.0	34.0
5 x 4.0	rm	44.0	34.0
5 x 6.0	re	56.0	43.0
5 x 6.0	rm	56.0	43.0
5 x 10.0	rm	75.0	60.0
5 x 16.0	rm	98.0	80.0
5 x 25.0	rm	128.0	106.0
7 x 1.5	re	15.0	12.0
7 x 2.5	re	20.0	16.0
12 x 1.5	re	12.0	9.0
12 x 2.5	re	16.0	13.0
14 x 1.5	re	12.0	9.0
19 x 1.5	re	10.0	8.0
19 x 2.5	re	13.6	11.3
27 x 1.5	re	12.0	9.0

Ambient Temperature: 30°C Depth of Laying: 0.5m Ground Temperature: 15°C Thermal Resistivity of Soil: 12KM/W

Class 2 stranded conductors for Single Core and Multi-Core cables

1	2	3	4	5	6	7	8	9	10
Nominal Cross Sectional Area mm²	**Minimum Number of Wires in the Conductor**						**Maximum Resistance of Conductor at 20°C**		
	Circular		**Circular Compacted**		**Shaped**		**Annealed Copper Conductor**		**Aluminium or Aluminium Alloy Conductor**[c] ohms/Km
	Cu	**Al**	**Cu**	**Al**	**Cu**	**Al**	**Plain Wires** ohms/Km	**Metal-Coated Wires** ohms/Km	
1.50	7	-	6	-	-	-	12.1000	12.2000	-
2.50	7	-	6	-	-	-	7.4100	7.5600	-
4.00	7	-	6	-	-	-	4.6100	4.7000	-
6.00	7	-	6	-	-	-	3.0800	3.1100	-
10.00	7	7	6	6	-	-	1.8300	1.8400	3.0800
16.00	7	7	6	6	-	-	1.1500	1.1600	1.9100
25.00	7	7	6	6	6	6	0.7270	0.7540	1.2000
35.00	7	7	6	6	6	6	0.5240	0.5290	0.8680
50.00	19	19	6	6	6	6	0.3870	0.3910	0.6410
70.00	19	19	12	12	12	12	0.2680	0.2700	0.4430
95.00	19	19	15	15	15	15	0.1930	0.1950	0.3200
120.00	37	37	18	15	18	15	0.1530	0.1540	0.2530
150.00	37	37	18	15	18	15	0.1240	0.1260	0.2060
185.00	37	37	30	30	30	30	0.0991	0.1000	0.1640
240.00	37	37	34	30	34	30	0.0754	0.0762	0.1250
300.00	61	61	34	30	34	30	0.0601	0.0607	0.1000

Table in accordance with BS EN 60228:2005 (previously BS6360)