NYY-J PVC PVC 0.6/1kV 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.

CONSTRUCTION

Conductor
RE: Class 1 solid copper conductor according to BS EN 60228 (previously BS 6360)
RM: Class 2 stranded copper conductor according to BS EN 60228 (previously BS 6360)

Insulation
PVC (Polyvinyl Chloride)

Filler
PVC (Polyvinyl Chloride)

Sheath
FR-PVC (Flame Retardant - Polyvinyl Chloride)

CABLE STANDARDS

IEC 60502-1, BS EN/IEC 60332-1-2

The electrical and dimensional properties of this product are measured by the Technical and Quality Assurance department at the Eland Cables laboratory. Cable performance in respect of conductor resistance, construction quality (workmanship), dimensional consistency, and other parameters are verified to published standards and approved product drawings. Conformance to RoHS (Restriction of the use of Hazardous Substances) is determined and confirmed.

CHARACTERISTICS

Voltage Rating (Uo/U)
600/1000V

Temperature Rating
Fixed: -15°C to +70°C
Flexed: -5°C to +50°C

Minimum Bending Radius
Fixed: 12 x overall diameter

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

Sheath Colour
● Black

ISSUE NO 01-03 -2014

DIMENSIONS

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	CONDUCTOR TYPE	NOMINAL THICKNESS OF INSULATION mm	NOMINAL THICKNESS OF SHEATH mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
A9N1025	1	2.5	RE	0.8	1.4	6.15	62
A9N1040	1	4	RE	1	1.4	7.5	85
A9N1060	1	6	RE	1	1.4	7.5	108
A9N110	1	10	RM	1	1.4	8.6	155
A9N116	1	16	RM	1	1.4	9.6	218
A9N125	1	25	RM	1.2	1.4	11.1	318
A9N135	1	35	RM	1.2	1.4	12.1	414
A9N150	1	50	RM	1.4	1.4	13.7	552
A9N170	1	70	RM	1.4	1.4	15.5	750
A9N195	1	95	RM	1.6	1.5	17.6	1020
A9N1120	1	120	RM	1.6	1.6	19.3	1259
A9N1150	1	150	RM	1.8	1.6	21	1546
A9N1185	1	185	RM	2	1.7	23.2	1913
A9N1240	1	240	RM	2.2	1.8	26.2	2471
A9N1300	1	300	RM	2.4	2	29.2	3097
A9N2015	2	1.5	RE	0.8	1.8	10	147
A9N2025	2	2.5	RE	0.8	1.8	10.7	179
A9N2040	2	4	RM	1	1.8	13	268
A9N2060	2	6	RM	1	1.8	14.2	337
A9N210	2	10	RM	1	1.8	16.2	472
A9N216	2	16	RM	1	1.8	18.2	644
A9N3015	3	1.5	RE	0.8	1.8	10.4	166
A9N3025	3	2.5	RE	0.8	1.8	11.3	212
A9N3040	3	4	RE	1	1.8	13.1	299
A9N3040	3	4	RM	1	1.8	13.8	318
A9N3060	3	6	RE	1	1.8	14.2	380
A9N3060	3	6	RM	1	1.8	15	402
A9N310	3	10	RM	1	1.8	17.1	570
A9N316	3	16	RM	1	1.8	19.2	789
A9N325	3	25	RM	1.2	1.8	22.1	1141
A9N335	3	35	RM	1.2	1.8	24.1	1462
A9N350	3	50	RM	1.4	1.8	27.6	1964
A9N370	3	70	RM	1.6	2.1	36.3	3635
A9N395	3	95	RM	1.6	2.2	40	4488
A9N4015	4	1.5	RE	0.8	1.8	11.6	198
A9N4025	4	2.5	RE	0.8	1.8	12.1	252
A9N4040	4	4	RE	1	1.8	14	355
A9N4040	4	4	RM	1	1.8	15.1	391
A9N4060	4	6	RE	1	1.8	15.4	465
A9N4060	4	6	RM	1	1.8	16.5	501
A9N410	4	10	RM	1	1.8	18.6	702
A9N416	4	16	RM	1	1.8	21.1	992
A9N425	4	25	RM	1.2	1.8	24.2	1431
A9N435	4	35	RM	1.2	1.8	26.6	1861
A9N450	4	50	RM	1.4	1.9	30.9	2535

ISSUE NO 01-03 -2014

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ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	CONDUCTOR TYPE	NOMINAL THICKNESS OF INSULATION mm	NOMINAL THICKNESS OF SHEATH mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
A9N470	4	70	RM	1.4	2.1	35.1	3441
A9N495	4	95	RM	1.6	2.2	40.4	4691
A9N4120	4	120	RM	1.6	2.4	44.2	5757
A9N4150	4	150	RM	1.8	2.5	48.5	7095
A9N4185	4	185	RM	2	2.7	53.9	8810
A9N4240	4	240	RM	2.2	2.9	61.1	11400
A9N5015	5	1.5	RE	0.8	1.8	12	232
A9N5025	5	2.5	RE	0.8	1.8	13.1	302
A9N5040	5	4	RE	1	1.8	15.2	428
A9N5040	5	4	RM	1	1.8	16.6	477
A9N5060	5	6	RE	1	1.8	16.5	551
A9N5060	5	6	RM	1	1.8	18.2	618
A9N510	5	10	RM	1	1.8	20.3	853
A9N516	5	16	RM	1	1.8	23.1	1212
A9N525	5	25	RM	1.2	1.8	26.6	1759
A9N7015	7	1.5	RE	0.8	1.8	12.9	280
A9N7025	7	2.5	RE	0.8	1.8	14.1	368
A9N12015	12	1.5	RE	0.8	1.8	16.6	475
A9N12025	12	2.5	RE	0.8	1.8	18.2	628
A9N14015	14	1.5	RE	0.8	1.8	17.1	515
A9N19015	19	1.5	RE	0.8	1.8	18.9	648
A9N19025	19	2.5	RE	0.8	1.8	20.3	843
A9N27015	27	1.5	RE	0.8	1.8	22.6	895

RE = round conductor, RM = stranded conductor, SM = sectional conductor

CONDUCTORS

Class 1 Solid Conductors for Single Core and Multi-Core Cables

NOMINAL CROSS SECTIONAL AREA mm²	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C
	Circular, Annealed Copper Conductor
	Plain Wires ohms/km
1.5	12.1
2.5	7.41
4	4.61
6	3.08
10	1.83
16	1.15
25	0.727
35	0.524
50	0.387
70	0.268
95	0.193
120	0.153
150	0.124
185	0.101
240	0.0775
300	0.062

ISSUE NO 01-03 -2014

Class 2 Stranded Conductors for Single Core and Multi-Core Cables

NOMINAL CROSS SECTIONAL AREA mm²	MINIMUM NO. OF WIRES IN CONDUCTOR						MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C
	Circular		Circular Compacted		Shaped		Annealed Copper Conductor
	Cu	Al	Cu	Al	Cu	Al	Plain wires ohms/km
1.5	7	-	6	-	-	-	12.1
2.5	7	-	6	-	-	-	7.41
4	7	-	6	-	-	-	4.61
6	7	-	6	-	-	-	3.08
10	7	7	6	6	-	-	1.83
16	7	7	6	6	-	-	1.15
25	7	7	6	6	6	6	0.727
35	7	7	6	6	6	6	0.524
50	19	19	6	6	6	6	0.387
70	19	19	12	12	12	12	0.268
95	19	19	15	15	15	15	0.193
120	37	37	18	15	18	15	0.153
150	37	37	18	15	18	15	0.124
185	37	37	30	30	30	30	0.0991
240	37	37	34	30	34	30	0.0754
300	61	61	34	30	34	30	0.0601

The above table is in accordance with BS EN 60228 (previously BS 6360)

ELECTRICAL CHARACTERISTICS

Current Carrying Capacity

NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	CONDUCTOR TYPE	CURRENT CARRYING CAPACITY	
			In Duct Amps	In Air Amps
1	2.5	RE	-	26
1	4	RE	-	57
1	6	RE	-	57
1	10	RM	-	78
1	16	RM	127	103
1	25	RM	163	137
1	35	RM	195	169
1	50	RM	230	206
1	70	RM	282	261
1	95	RM	336	321
1	120	RM	382	374
1	150	RM	428	428
1	185	RM	483	414
1	240	RM	561	590
1	300	RM	632	678
2	1.5	RE	32	20

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NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	CONDUCTOR TYPE	CURRENT CARRYING CAPACITY	
			In Duct Amps	In Air Amps
2	2.5	RE	42	27
2	4	RM	54	37
2	6	RM	68	48
2	10	RM	90	66
2	16	RM	116	89
3	1.5	RE	26	18
3	2.5	RE	34	25
3	4	RE	44	34
3	4	RM	44	34
3	6	RE	56	43
3	6	RM	56	43
3	10	RM	75	60
3	16	RM	98	80
3	25	RM	128	106
3	35	RM	157	131
3	50	RM	185	159
3	95	RM	275	244
3	120	RM	313	282
4	1.5	RE	26	18
4	2.5	RE	34	25
4	4	RE	44	34
4	4	RM	44	34
4	6	RE	56	43
4	6	RM	56	43
4	10	RM	75	60
4	16	RM	98	80
4	25	RM	128	106
4	35	RM	157	131
4	50	RM	185	159
4	70	RM	252	247
4	95	RM	303	305
4	120	RM	313	282
4	150	RM	390	407
4	185	RM	399	371
4	240	RM	464	436
5	1.5	RE	24	18
5	2.5	RE	34	25
5	4	RE	44	34
5	4	RM	44	34
5	6	RE	56	43
5	6	RM	56	43
5	10	RM	75	60
5	16	RM	98	80
5	25	RM	128	106

ISSUE NO 01-03 -2014

NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	CONDUCTOR TYPE	CURRENT CARRYING CAPACITY	
			In Duct Amps	In Air Amps
7	1.5	RE	15	12
7	2.5	RE	20	16
12	1.5	RE	12	9
12	2.5	RE	16	13
14	1.5	RE	12	9
19	1.5	RE	10	8
19	2.5	RE	13.6	11.3
27	1.5	RE	12	9

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

DE-RATING FACTORS

For Air Temperature other than 30°C

AIR TEMPERATURE	20°C	25°C	30°C	35°C	40°C	45°C	50°C
DE-RATING FACTOR	1.12	1.07	1.00	0.94	0.87	0.79	0.71

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