NA2XS(FL)2Y XLPE HDPE 8.7/15 (17.5) kV Cable

Eland Product Group: M9C

APPLICATION

Medium Voltage Aluminium HDPE power distribution cable with particular application in wind energy installations. Longitudinally and radially sealed cables for aid protection against water ingress.

CHARACTERISTICS

Voltage Rating Uo/U
8.7/15 (17.5) kV

CONSTRUCTION

Conductor
Class 2 stranded Aluminium

Conductor Screen
Semi-conductive extruded XLPE (Cross-linked Polyethylene)

Insulation
XLPE (Cross-linked Polyethylene)

Insulation Screen
Semi-conductive extruded XLPE (Cross-linked Polyethylene)

Longitudinal Waterblock
Semi-conductive water swelling tape

Metallic Screen
Copper Wires and Tape

Longitudinal Waterblock
Non-conductive water swelling tape

Radial Waterblock
Al/PET (Aluminium/Polyester) Tape tightly bonded to sheath

Sheath
HDPE (High Density Polyethylene)

Sheath Colour
● Black

STANDARDS

IEC 60502-2, EN 60228

UV Resistant: ISO 4892-3
Abrasion and Tear Resistant: EN 60229-4.1
Impact rated to: AG2 EN 60364-5.51

THE CABLE LAB®

AN ISO/IEC 17025 AND IECEE CBTL ACCREDITED FACILITY

Our world-class testing facility assures the quality and compliance of this cable through a continuous and rigorous testing regime.

SUSTAINABILITY COMMITMENT

We are on a journey to Net Zero.

We've committed to near-term emissions reductions and a net-zero target with the Science Based Targets initiative and we're a signatory to the United Nations Global Compact Sustainable Development Goals.

Learn more about embodied carbon and our carbon emissions reduction actions, our comprehensive recycling services, and wider ESG activities for sustainable operations at: www.elandcables.com/company/about-us/esg-sustainability

REGULATORY COMPLIANCE

This cable meets the requirements of the RoHS Directive 2015/65/EU and Reach Directive EC 1907/2006. RoHS compliance has been tested and confirmed by The Cable Lab®.

DIMENSIONS

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	NOMINAL DIAMETER OF CONDUCTOR mm	INSULATION mm		METALLIC SCREEN		NOMINAL OUTER DIAMETER OF CABLE mm	NOMINAL WEIGHT kg/km	MAXIMUM PULLING FORCE kN	MINIMUM BENDING RADIUS m
				Nominal thickness	Nominal diameter over	Nominal cross section mm²	Nominal diameter over mm				
M9C15KV01050	1	50	8.25	4.5	18.5	16	22.5	28.6	780	1.5	0.60
M9C15KV01070	1	70	9.5	4.5	19.7	25	23.8	29.8	950	2.1	0.63
M9C15KV01095	1	95	11.3	4.5	21.5	35	25.6	31.6	1160	2.85	0.68
M9C15KV01120	1	120	12.5	4.5	22.7	50	26.8	32.8	1400	3.6	0.71
M9C15KV01150	1	150	14.2	4.5	24.4	50	28.5	34.5	1520	4.5	0.75
M9C15KV01185	1	185	15.8	4.5	26.0	50	30.1	36.1	1660	5.55	0.79
M9C15KV01240	1	240	17.9	4.5	28.1	50	32.2	38.2	1860	7.2	0.84
M9C15KV01300	1	300	20.0	4.5	30.2	50	34.3	40.3	2080	9	0.89
M9C15KV01400	1	400	22.9	4.5	33.1	50	37.2	43.2	2380	12	0.97
M9C15KV01500	1	500	25.7	4.5	36.4	50	40.7	46.7	2800	15	1.05
M9C15KV01630	1	630	29.3	4.5	40.3	50	44.5	50.8	3290	18.9	1.15
M9C15KV01800	1	800	33.0	4.5	44.4	50	48.6	55.3	3910	24	1.25
M9C15KV011000	1	1000	38.0	4.5	49.4	50	53.6	60.5	4630	30	1.38

ELECTRICAL CHARACTERISTICS

NOMINAL CROSS SECTIONAL AREA CONDUCTOR/ METALLIC SCREEN mm²	MAXIMUM CONDUCTOR DC RESISTANCE AT 20°C Ω/km	MAXIMUM CONDUCTOR AC RESISTANCE AT 90°C Ω/km	MAXIMUM METALLIC SCREEN DC RESISTANCE AT 20°C Ω/km	MAXIMUM METALLIC SCREEN AC RESISTANCE AT 80°C Ω/km	ELECTRICAL FIELD STRESS kV/mm		RESISTANCE Ω/km	CAPACITANCE µF/km	CAPACITANCE REACTANCE Ω/km	CHARGING CURRENT A/km	REACTANCE Ω/km
					Conductor screen	Insulation					
	0.641	0.822	1.12	1.38	2.72	1.37	1.63	0.19	17.2	0.51	0.078
	0.443	0.568	0.72	0.89	2.63	1.40	1.17	0.20	15.7	0.56	0.073
	0.320	0.411	0.51	0.63	2.53	1.45	0.88	0.23	13.9	0.63	0.066
	0.253	0.325	0.36	0.44	2.48	1.47	0.67	0.25	12.9	0.67	0.063
	0.206	0.265	0.36	0.44	2.42	1.51	0.61	0.27	11.8	0.74	0.059
	0.164	0.211	0.36	0.44	2.37	1.53	0.55	0.29	10.9	0.80	0.055
	0.125	0.161	0.36	0.44	2.32	1.56	0.50	0.32	9.9	0.88	0.052
	0.100	0.130	0.36	0.44	2.28	1.59	0.46	0.35	9.1	0.96	0.049
	0.0778	0.102	0.36	0.44	2.24	1.61	0.43	0.39	8.1	1.07	0.046
	0.0605	0.0800	0.36	0.44	2.18	1.62	0.40	0.43	7.3	1.18	0.044
	0.0283	0.0410	0.36	0.44	2.14	1.65	0.38	0.38	6.5	1.33	0.042
	0.0221	0.0343	0.36	0.44	2.11	1.67	0.36	0.36	5.9	1.49	0.040
	0.0176	0.0296	0.36	0.44	2.08	1.69	0.34	0.34	5.2	1.67	0.037

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NOMINAL CROSS SECTIONAL AREA CONDUCTOR/ METALLIC SCREEN mm²	INDUCTANCE L mH/km			INDUCTANCE REACTANCE XL Ω/km			IMPEDANCE Ω/km		
	o o o²	ooo³	ooo⁴	o o o²	ooo³	ooo⁴	o o o²	ooo³	ooo⁴
	0.44	0.73	0.62	0.137	0.230	0.195	0.833	0.853	0.845
	0.42	0.71	0.60	0.131	0.222	0.189	0.583	0.610	0.599
	0.39	0.67	0.58	0.124	0.212	0.182	0.429	0.462	0.449
	0.38	0.66	0.57	0.120	0.206	0.178	0.346	0.385	0.370
	0.37	0.63	0.55	0.115	0.199	0.173	0.289	0.331	0.316
	0.35	0.62	0.54	0.111	0.193	0.169	0.238	0.286	0.270
	0.34	0.59	0.53	0.107	0.187	0.165	0.193	0.247	0.231
	0.33	0.58	0.51	0.103	0.181	0.161	0.166	0.223	0.207
	0.32	0.55	0.50	0.099	0.174	0.157	0.142	0.202	0.187
	0.31	0.54	0.49	0.097	0.169	0.155	0.126	0.187	0.174
	0.30	0.52	0.48	0.094	0.163	0.152	0.113	0.175	0.165
	0.29	0.50	0.48	0.092	0.158	0.150	0.105	0.166	0.158
	0.28	0.48	0.47	0.088	0.151	0.147	0.098	0.157	0.153

2 - Cables in trefoil formation, the distance between cables De
3 - Cables in flat formation (in the ground), the distance between cables De + 70 mm
4 - Cables in flat formation (in the air), the distance between cables 2 × De

CURRENT RATING FOR SINGLE-CORE CABLES – AMPERES

NOMINAL CROSS SECTIONAL AREA mm²	MAXIMUM SHORT CIRCUIT CAPACITY CONDUCTOR kA/sec	MAXIMUM SHORT CIRCUIT CAPACITY METALLIC SCREEN kA/sec	FLAT FORMATION		TREFOIL FORMATION		FLAT FORMATION		TREFOIL FORMATION	
			CONFIGURATIONS							
			SPP; CB	BOTH-ENDS	SPP; CB	BOTH-ENDS	SPP; CB	BOTH-ENDS	SPP; CB	BOTH-ENDS
			CABLES IN EARTH				CABLES IN AIR			
50RMC/16	4.7	3.7	228	226	214	213	236	234	200	200
70RMC/25	6.6	5.3	279	274	262	261	292	288	247	247
95RMC/35	9.0	7.1	336	326	315	313	357	348	302	300
120RMC/50	11.3	9.8	383	365	359	355	411	394	347	343
150RMC/50	14.2	9.8	432	407	405	400	470	445	395	391
185RMC/50	17.5	9.8	491	455	460	453	541	506	454	447
240RMC/50	22.7	9.8	572	516	535	525	639	586	536	526
300RMC/50	28.4	9.8	649	571	606	592	736	660	615	601
400RMC/50	37.8	9.8	749	638	699	677	864	755	720	699
500RMC/50	47.3	9.8	859	705	798	768	1007	852	838	808
630RMC/50	59.5	9.8	987	778	913	871	1181	960	977	935
800RMC/50	75.6	9.8	1123	846	1034	975	1368	1064	1125	1065
1000RMC/50	94.5	9.8	1271	915	1157	1078	1584	1175	1287	1206

SPB – Single Point Bonding; CB – Cross-bonding Both-ends; BE – Both-ends bonding

Laying conditions at trefoil formation are as below:

-Soil thermal resistivity: 1/2.5 k m/W

-Burial depth: 0.7m

-Ground temperature: 20°C | Ambient temperature: 30°C