

N2XS(F)2Y XLPE HDPE 8.7/15 (17.5) kV Cable



Eland Product Group: M9E

APPLICATION

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

CHARACTERISTICS

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

CONSTRUCTION

Conductor

Class 2 stranded compacted copper

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

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 IECCE 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 mm ²	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 mm ²	Nominal diameter over mm				
M9E15KV01035	1	35	7.0	4.5	17.2	16	21.3	26.9	860	1.75	0.40
M9E15KV01050	1	50	8.25	4.5	18.5	16	22.6	28.1	1000	2.5	0.42
M9E15KV01070	1	70	9.6	4.5	19.8	25	23.9	29.5	1300	3.5	0.44
M9E15KV01095	1	95	11.5	4.5	21.7	35	25.8	31.4	1670	4.75	0.47
M9E15KV01120	1	120	12.9	4.5	23.1	50	27.2	32.8	2070	6	0.49
M9E15KV01150	1	150	14.5	4.5	24.7	50	28.8	34.4	2350	7.5	0.52
M9E15KV01185	1	185	16.0	4.5	26.2	50	30.3	35.9	2710	9.25	0.54
M9E15KV01240	1	240	18.5	4.5	28.7	50	32.8	38.4	3260	12	0.58
M9E15KV01300	1	300	20.5	4.5	30.7	50	34.8	40.4	3850	15	0.61
M9E15KV01400	1	400	23.5	4.5	33.7	50	37.8	43.4	4720	20	0.65
M9E15KV01500	1	500	26.5	4.5	37.2	50	41.5	47.1	5810	25	0.71
M9E15KV01630	1	630	30.3	4.5	41.3	50	45.6	51.3	7160	31.5	0.77
M9E15KV01800	1	800	34.6	4.5	46.0	50	50.3	56.4	8860	40	0.85
M9E15KV011000	1	1000	38.2	4.5	49.6	50	53.9	60.2	10760	50	0.90

ELECTRICAL CHARACTERISTICS

NOMINAL CROSS SECTIONAL AREA CONDUCTOR / METALLIC SCREEN mm ²	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					
35/16	0.524	0.668	1.12	1.38	2.84	1.32	2.05	0.17	19.1	0.46	0.082
50/16	0.387	0.494	1.12	1.38	2.72	1.37	1.88	0.19	17.2	0.51	0.076
70/25	0.268	0.342	0.72	0.89	2.63	1.41	1.23	0.20	15.6	0.56	0.070
95/35	0.193	0.247	0.51	0.63	2.52	1.45	0.88	0.23	13.7	0.63	0.064
120/50	0.153	0.196	0.36	0.44	2.46	1.48	0.64	0.25	12.7	0.69	0.060
150/50	0.124	0.159	0.36	0.44	2.41	1.51	0.60	0.27	11.6	0.75	0.056
185/50	0.0991	0.128	0.36	0.44	2.37	1.54	0.57	0.30	10.8	0.81	0.054
240/50	0.0754	0.0978	0.36	0.44	2.31	1.57	0.54	0.33	9.6	0.90	0.050
300/50	0.0601	0.0789	0.36	0.44	2.27	1.59	0.52	0.36	8.9	0.98	0.047
400/50	0.0470	0.0629	0.36	0.44	2.23	1.62	0.51	0.40	7.9	1.10	0.044
500/50	0.0366	0.0505	0.36	0.44	2.17	1.63	0.49	0.44	7.2	1.21	0.042
630/50	0.0283	0.0410	0.36	0.44	2.13	1.65	0.48	0.50	6.4	1.37	0.040
800/50	0.0221	0.0343	0.36	0.44	2.1	1.67	0.48	0.57	5.6	1.55	0.038
1000/50	0.0176	0.0296	0.36	0.44	2.08	1.69	0.47	0.62	5.2	1.68	0.036



NOMINAL CROSS SECTIONAL AREA CONDUCTOR/ METALLIC SCREEN mm ²	INDUCTANCE L mH/km			INDUCTANCE REACTANCE XL Ω/km			IMPEDANCE Ω/km		
	0 ⁰ 0 ²	000 ³	000 ⁴	0 ⁰ 0 ²	000 ³	000 ⁴	0 ⁰ 0 ²	000 ³	000 ⁴
35/16	0.46	0.76	0.64	0.144	0.239	0.202	0.684	0.710	0.698
50/16	0.43	0.73	0.62	0.136	0.229	0.194	0.512	0.544	0.531
70/25	0.41	0.70	0.60	0.130	0.221	0.188	0.366	0.407	0.390
95/35	0.39	0.67	0.57	0.122	0.211	0.180	0.275	0.324	0.306
120/50	0.38	0.65	0.56	0.118	0.204	0.176	0.229	0.283	0.263
150/50	0.36	0.63	0.55	0.114	0.198	0.172	0.195	0.254	0.234
185/50	0.35	0.61	0.54	0.110	0.193	0.168	0.168	0.231	0.211
240/50	0.33	0.59	0.52	0.105	0.185	0.163	0.144	0.209	0.190
300/50	0.32	0.57	0.51	0.102	0.180	0.180	0.129	0.196	0.178
400/50	0.31	0.55	0.50	0.098	0.173	0.156	0.116	0.184	0.168
500/50	0.30	0.53	0.49	0.095	0.167	0.153	0.108	0.175	0.162
630/50	0.29	0.51	0.48	0.092	0.161	0.150	0.101	0.166	0.156
800/50	0.29	0.155	0.148	0.090	0.155	0.148	0.096	0.159	0.152
1000/50	0.088	0.151	0.146	0.088	0.151	0.146	0.093	0.154	0.149

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			
35/16	5.0	3.7	248	246	233	232	252	251	213	213
50/16	7.2	3.7	295	292	277	276	303	301	256	255
70/25	10.0	5.3	361	353	338	337	376	370	317	316
95/35	13.6	7.1	436	418	408	405	462	446	388	385
120/50	17.2	9.8	497	462	465	459	533	502	446	441
150/50	21.5	9.8	561	512	524	516	609	566	509	501
185/50	26.5	9.8	636	568	593	581	698	638	582	571
240/50	34.3	9.8	742	643	692	675	830	740	690	674
300/50	42.9	9.8	840	707	782	758	953	829	790	767
400/50	57.2	9.8	964	783	891	858	114	940	918	886
500/50	71.5	9.8	1100	861	1011	966	1294	1056	1061	1016
630/50	90.1	9.8	1256	947	1144	1083	1508	1184	1224	1164
800/50	114.4	9.8	1417	1027	1277	1196	1738	1309	1395	1314
1000/50	143.0	9.8	1570	1095	1395	1295	1957	1417	1549	1446

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