



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



Eland Product Group: M9F

## APPLICATION

Medium Voltage 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**  $U_0/U$   
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

### 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<sup>®</sup>

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](http://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<sup>®</sup>.





## DIMENSIONS

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	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 <sup>2</sup>	Nominal diameter over mm				
M9F15KV01035	1	35	7.0	4.5	17.2	16	21.3	27.3	920	1.75	0.57
M9F15KV01050	1	50	8.25	4.5	18.5	16	22.5	28.6	1060	2.5	0.60
M9F15KV01070	1	70	9.6	4.5	19.8	25	23.9	29.9	1370	3.5	0.63
M9F15KV01095	1	95	11.5	4.5	21.7	35	25.8	31.8	1740	4.75	0.68
M9F15KV01120	1	120	12.9	4.5	23.1	50	27.2	33.2	2140	6	0.72
M9F15KV01150	1	150	14.5	4.5	24.7	50	28.8	34.8	2420	7.5	0.76
M9F15KV01185	1	185	16.0	4.5	26.2	50	30.3	36.3	2780	9.25	0.79
M9F15KV01240	1	240	18.5	4.5	28.7	50	32.8	38.8	3340	12	0.86
M9F15KV01300	1	300	20.5	4.5	30.7	50	34.8	40.8	3930	15	0.91
M9F15KV01400	1	400	23.5	4.5	33.7	50	37.8	43.8	4800	20	0.98
M9F15KV01500	1	500	26.5	4.5	37.2	50	41.5	47.5	5910	25	1.07
M9F15KV01630	1	630	30.3	4.5	41.3	50	45.5	51.8	7270	31.5	1.18
M9F15KV01800	1	800	34.6	4.5	46.0	50	50.2	56.9	8970	40	1.30
M9F15KV011000	1	1000	38.2	4.5	49.6	50	53.8	60.7	10880	50	1.38

## ELECTRICAL CHARACTERISTICS

NOMINAL CROSS SECTIONAL AREA CONDUCTOR/METALLIC SCREEN mm <sup>2</sup>	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					
	0.524	0.668	1.12	1.38	2.84	1.32	1.48	0.17	19.1	0.46	0.085
	0.387	0.494	1.12	1.38	2.72	1.37	1.30	0.19	17.2	0.51	0.078
	0.268	0.342	0.72	0.89	2.63	1.41	0.94	0.20	15.6	0.56	0.072
	0.193	0.247	0.51	0.63	2.52	1.45	0.71	0.23	13.7	0.63	0.066
	0.153	0.196	0.36	0.44	2.46	1.48	0.55	0.25	12.7	0.69	0.062
	0.124	0.159	0.36	0.44	2.41	1.51	0.51	0.27	11.6	0.75	0.058
	0.0991	0.128	0.36	0.44	2.37	1.54	0.47	0.30	10.8	0.81	0.055
	0.0754	0.0978	0.36	0.44	2.31	1.57	0.43	0.33	9.6	0.90	0.051
	0.0601	0.0789	0.36	0.44	2.27	1.59	0.41	0.36	8.9	0.98	0.048
	0.0470	0.0629	0.36	0.44	2.23	1.62	0.39	0.40	7.9	1.10	0.045
	0.0366	0.0505	0.36	0.44	2.17	1.63	0.37	0.44	7.2	1.21	0.043
	0.0283	0.0410	0.36	0.44	2.13	1.65	0.35	0.50	6.4	1.37	0.041
	0.0221	0.0342	0.36	0.44	2.1	1.67	0.34	0.57	5.6	1.55	0.039
	0.0176	0.0295	0.36	0.44	2.08	1.69	0.33	0.62	5.2	1.68	0.037



NOMINAL CROSS SECTIONAL AREA CONDUCTOR/ METALLIC SCREEN mm <sup>2</sup>	INDUCTANCE L mH/km			INDUCTANCE REACTANCE XL Ω/km			IMPEDANCE Ω/km		
	0 <sup>0</sup> 0 <sup>2</sup>	000 <sup>3</sup>	000 <sup>4</sup>	0 <sup>0</sup> 0 <sup>2</sup>	000 <sup>3</sup>	000 <sup>4</sup>	0 <sup>0</sup> 0 <sup>2</sup>	000 <sup>3</sup>	000 <sup>4</sup>
	0.46	0.76	0.65	0.145	0.239	0.203	0.684	0.710	0.698
0.44	0.73	0.62	0.137	0.230	0.195	0.512	0.544	0.531	
0.42	0.70	0.60	0.131	0.221	0.189	0.366	0.407	0.391	
0.39	0.67	0.58	0.123	0.211	0.181	0.276	0.324	0.306	
0.38	0.65	0.56	0.119	0.204	0.177	0.229	0.283	0.264	
0.36	0.63	0.55	0.114	0.198	0.172	0.196	0.254	0.234	
0.35	0.61	0.54	0.111	0.193	0.169	0.169	0.231	0.212	
0.34	0.59	0.52	0.106	0.185	0.164	0.144	0.209	0.191	
0.33	0.57	0.51	0.103	0.180	0.161	0.129	0.196	0.179	
0.31	0.55	0.50	0.098	0.173	0.156	0.117	0.184	0.169	
0.31	0.53	0.49	0.096	0.167	0.154	0.108	0.175	0.162	
0.30	0.51	0.48	0.093	0.161	0.151	0.102	0.166	0.156	
0.29	0.49	0.47	0.091	0.155	0.149	0.097	0.159	0.152	
0.28	0.48	0.47	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 mm <sup>2</sup>	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			
35RMC/16	5.0	3.7	247	244	233	232	253	251	215	215
50RMC/16	7.2	3.7	294	289	276	275	304	300	258	258
70RMC/25	10.0	5.3	360	350	338	336	377	368	319	318
95RMC/35	13.6	7.1	435	413	408	404	463	443	391	387
120RMC/50	17.2	9.8	496	455	465	457	534	498	449	443
150RMC/50	21.5	9.8	560	502	523	513	610	559	512	503
185RMC/50	26.5	9.8	634	555	592	577	698	627	585	572
240RMC/50	34.3	9.8	740	624	689	667	830	723	693	672
300RMC/50	42.9	9.8	838	682	779	749	952	805	793	764
400RMC/50	57.2	9.8	962	749	890	848	1113	905	921	880
500RMC/50	71.5	9.8	1097	816	1009	951	1291	1008	1062	1006
630RMC/50	90.1	9.8	1252	887	1140	1062	1504	1117	1225	1146
800RMC/50	114.4	9.8	1412	951	1269	1165	1731	1220	1393	1288
1000RMC/50	143.0	9.8	1562	1003	1387	1257	1946	1306	1545	1411

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