



Eland Product Group: P9X

## APPLICATION

Medium voltage power cables for distribution networks and generation units, suitable for external installation including direct buried and in buried cable ducts. UV Resistant.

## CHARACTERISTICS

### Voltage Rating U<sub>o</sub>/U (Um)

6/10 (12)kV  
8.7/15 (17.5)kV  
12/20 (24)kV  
18/30 (36)kV

### Test Voltage

10kV: 21 kV AC 50Hz (15 mins)  
20kV: 42kV AC 50Hz (5 mins)  
30kV: 63kV AC 50Hz (5 mins)

### Temperature Rating

-20°C to +60°C  
Permissible Conductor Operating Temperature: +90°C  
Permissible Short Circuit Temperature up to 5 sec: 250°C

### Minimum Bending Radius

15 x overall diameter

## CONSTRUCTION

### Conductor

Class 2 Stranded Copper

### Conductor Screen

Semi-conductive material

### Insulation

XLPE (Cross-Linked Polyethylene)

### Insulation Screen

Semi-conductive material (bonded)

### Longitudinal Waterblocking

Semi-conductive swellable tape

### Screen

Copper wires and copper tape

### Longitudinal Waterblocking

Swellable Tapes

### Outer Sheath

MDPE (Medium Density Polyethylene)

### Sheath Colour

● Red ● Black

## STANDARDS

IEC 60502-2, Generally to PN HD 620 10R

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 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](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 6/10 (12)kV

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA		NOMINAL CONDUCTOR DIAMETER	NUMBER WIRES CONDUCTOR	NOM. THICKNESS SEMI-CON. LAYER		NOMINAL INSULATION THICKNESS	MINIMUM INSULATION THICKNESS	NOMINAL DIAMETER OVER INSULATION
		mm <sup>2</sup>				INNER	OUTER			
		Conductor	Screen							
P9XF10KV1050**	1	50	16	8.10	10 x 2.62	0.50	0.40	3.40	2.96	16.3
P9XF10KV1070**	1	70	16	9.70	14 x 2.62	0.50	0.40	3.40	2.96	17.9
P9XF10KV1095**	1	95	16	11.4	19 x 2.62	0.50	0.40	3.40	2.96	19.6
P9XF10KV1120**	1	120	16	12.7	19 x 2.97	0.50	0.40	3.40	2.96	20.9
P9XF10KV1150**	1	150	25	14.5	19 x 3.20	0.50	0.40	3.40	2.96	22.7
P9XF10KV1185**	1	185	25	15.9	27 x 2.62	0.50	0.40	3.40	2.96	24.1
P9XF10KV1240**	1	240	25	18.6	48 x 2.62	0.50	0.40	3.40	2.96	26.8
P9XF10KV1300**	1	300	25	20.7	61 x 2.62	0.50	0.40	3.40	2.96	28.9
P9XF10KV1400**	1	400	35	23.5	61 x 2.97	0.50	0.40	3.40	2.96	31.7
P9XF10KV1500**	1	500	35	26.5	61 x 3.29	0.50	0.40	3.40	2.96	34.7
P9XF10KV1630**	1	630	35	30.2	61 x 3.80	0.50	0.40	3.40	2.96	38.9

\*\* replace with sheath colour - RD = Red BK = Black

NOMINAL CROSS SECTIONAL AREA	NUMBER WIRES SCREEN	DIAMETER TAPE SCREEN	NOMINAL SHEATH THICKNESS	MINIMUM SHEATH THICKNESS	NOMINAL OVERALL DIAMETER	NOMINAL WEIGHT	MAXIMUM SIDEWALL PRESSURE	MAXIMUM PULLING TENSION
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	N/cm <sup>2</sup>	N
50	44 x 0.66	1x0.1x10	1.80	1.24	22	850	554	2500
70	44 x 0.66	1x0.1x10	1.80	1.24	24	1100	692	3500
95	44 x 0.66	1x0.1x10	1.80	1.24	26	1300	847	4750
120	44 x 0.66	1x0.1x10	1.80	1.24	27	1600	1008	6000
150	71 x 0.66	1x0.1x10	1.90	1.32	29	2000	1149	7500
185	71 x 0.66	1x0.1x10	1.90	1.32	30	2250	1344	9250
240	71 x 0.66	1x0.1x10	2.00	1.40	33	3000	1550	12000
300	71 x 0.66	1x0.1x10	2.10	1.48	36	3500	1795	15000
400	60 x 0.85	1x0.1x15	2.20	1.56	39	4500	2168	20000
500	60 x 0.85	1x0.1x15	2.30	1.64	42	5500	2443	25000
630	60 x 0.85	1x0.1x15	2.40	1.72	46	6750	2756	31500



## ELECTRICAL CHARACTERISTICS 6/10 (12)kV

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	CONDUCTOR DC RESISTANCE AT 20°C ohms/km	CONDUCTOR DC RESISTANCE AT 75°C ohms/km	CONDUCTOR AC RESISTANCE BY MAX TEMP ohms/km	CURRENT CARRYING CAPACITY (A)		REACTANCE ohms/km	CHARGING ADMITTANCE A/km	CAPACITANCE uF/km	S.C.C CONDUCTOR 1SEC kA	S.C.C SCREEN 1SEC kA	CONDUCTOR LOSSES IN THE GROUND kW/km
				In Ground 20°C	In Air 30°C						
50	0.387	0.801	0.497	249	277	0.18	0.35	0.21	7.15	3.2	30.8
70	0.268	0.555	0.344	303	345	0.17	0.33	0.24	10.1	3.2	31.6
95	0.193	0.399	0.248	358	418	0.17	0.32	0.27	13.59	3.2	31.8
120	0.153	0.316	0.196	404	481	0.16	0.31	0.30	17.16	3.2	32.0
150	0.124	0.160	0.256	441	537	0.16	0.30	0.33	21.45	5.0	31.1
185	0.0991	0.205	0.128	493	612	0.16	0.29	0.35	26.46	5.0	31.1
240	0.0754	0.156	0.0980	563	716	0.15	0.28	0.40	34.32	5.0	31.1
300	0.0601	0.124	0.0800	626	811	0.15	0.27	0.44	42.90	5.0	31.4
400	0.0470	0.0974	0.0640	676	901	0.15	0.26	0.49	57.20	7.1	29.2
500	0.0366	0.0758	0.0510	743	1006	0.15	0.28	0.54	71.50	7.1	28.2
630	0.0283	0.0420	0.0586	850	1030	0.14	0.25	0.62	90.09	7.1	30.3

Derating factor (ground): 1 (Soil thermal resistivity: 1km/W, Depth 0.8m, Flat formation - touching)

Derating factor (air): 1 (Flat formation - touching)



## DIMENSIONS 8.7/15 (17.5)kV

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	NOMINAL SCREEN CROSS SECTIONAL AREA mm <sup>2</sup>	NOMINAL INSULATION THICKNESS mm	NOMINAL SHEATH THICKNESS mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
P9XF15KV1050	1	50	16	4.5	1.7	25.8	939
P9XF15KV1070	1	70	16	4.5	1.8	27.8	1171
P9XF15KV1095	1	95	16	4.5	1.8	29.1	1429
P9XF15KV1120	1	120	16	4.5	1.9	30.7	1689
P9XF15KV1150	1	150	25	4.5	2	32.7	2072
P9XF15KV1185	1	185	25	4.5	2	34.2	2415
P9XF15KV1240	1	240	25	4.5	2.1	36.6	2993
P9XF15KV1300	1	300	25	4.5	2.2	39.2	3575
P9XF15KV1400	1	400	35	4.5	2.3	42.2	4502
P9XF15KV1500	1	500	35	4.5	2.4	45.8	5505
P9XF15KV1630	1	630	35	4.5	2.5	50.7	6936
P9XY15KV1800	1	800	35	4.5	2.6	55	8728

## ELECTRICAL CHARACTERISTICS 8.7/15 (17.5)kV

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	MAXIMUM CONDUCTOR DC RESISTANCE AT 20 °C Ω/Km	MAXIMUM CONDUCTOR AC RESISTANCE AT OPERATING TEMP. AND 50HZ Ω/Km	CAPACITANCE μF/Km	CHARGING CURRENT A/Km	DIELECTRIC LOSSES W/Km	REACTANCE AT 50 HZ ohm/km	CONDUCTOR S.C.C FOR 1 SEC KA	COPPER SCREEN S.C.C FOR 1 SEC KA	CURRENT RATING A		
									Laid in ground	Laid in duct	Laid in free air
50	0.387	0.494	0.214	0.586	20.37	0.133	7.15	1.75	230	172	229
70	0.268	0.342	0.245	0.67	23.29	0.125	10.01	1.75	277	213	289
95	0.193	0.247	0.267	0.73	25.39	0.120	13.585	1.75	330	255	348
120	0.153	0.196	0.29	0.794	27.64	0.116	17.16	1.75	374	295	403
150	0.124	0.159	0.317	0.868	30.20	0.112	21.45	2.73	418	333	456
185	0.0991	0.128	0.343	0.937	32.59	0.109	26.455	2.73	472	387	525
240	0.0754	0.098	0.383	1.047	36.42	0.104	34.32	2.73	532	445	621
300	0.0601	0.078	0.423	1.156	40.23	0.101	42.9	2.73	596	509	716
400	0.047	0.062	0.466	1.275	44.35	0.097	57.2	3.82	668	580	824
500	0.0366	0.049	0.523	1.429	49.74	0.094	71.5	3.82	752	661	948
630	0.0283	0.039	0.601	1.643	57.17	0.092	90.09	3.82	834	750	1076
800	0.0221	0.032	0.669	1.829	63.65	0.089	114.4	3.82	910	840	1209

Laying conditions at trefoil formation are as below:

- Soil thermal resistivity 100 °C.Cm/Watt
- Burial depth 0.8 m
- Ground temperature 20 °C
- Air temperature 30 °C
- Frequency 50 Hz



## DIMENSIONS 12/20 (24)kV

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA		NOMINAL CONDUCTOR DIAMETER	NUMBER WIRES CONDUCTOR	NOM. THICKNESS SEMI-CON. LAYER		NOMINAL INSULATION THICKNESS	MINIMUM INSULATION THICKNESS	NOMINAL DIAMETER OVER INSULATION
		mm <sup>2</sup>				INNER	OUTER			
		Conductor	Screen							
P9XF20KV1050**	1	50	16	8.10	10 x 2.62	0.50	0.40	5.50	4.85	20.3
P9XF20KV1070**	1	70	16	9.70	14 x 2.62	0.50	0.40	5.50	4.85	21.9
P9XF20KV1095**	1	95	16	11.4	19 x 2.62	0.50	0.40	5.50	4.85	23.6
P9XF20KV1120**	1	120	16	12.7	19 x 2.97	0.50	0.40	5.50	4.85	24.9
P9XF20KV1150**	1	150	25	14.5	19 x 3.20	0.50	0.40	5.50	4.85	26.7
P9XF20KV1185**	1	185	25	15.9	27 x 2.62	0.50	0.40	5.50	4.85	28.1
P9XF20KV1240**	1	240	25	18.6	48 x 2.62	0.50	0.40	5.50	4.85	30.8
P9XF20KV1300**	1	300	25	20.7	61 x 2.62	0.50	0.40	5.50	4.85	32.9
P9XF20KV1400**	1	400	35	23.5	61 x 2.97	0.50	0.40	5.50	4.85	35.7
P9XF20KV1500**	1	500	35	26.5	61 x 3.29	0.50	0.40	5.50	4.85	38.7
P9XF20KV1630**	1	630	35	30.2	61 x 3.80	0.50	0.40	5.50	4.85	42.9

\*\* replace with sheath colour - RD = Red BK = Black

NOMINAL CROSS SECTIONAL AREA	NUMBER WIRES SCREEN	DIAMETER TAPE SCREEN	NOMINAL SHEATH THICKNESS	MINIMUM SHEATH THICKNESS	NOMINAL OVERALL DIAMETER	NOMINAL WEIGHT	MAXIMUM SIDEWALL PRESSURE	MAXIMUM PULLING TENSION
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	N/cm <sup>2</sup>	N
50	44 x 0.66	1x0.1x10	1.80	1.24	26	1000	489	2500
70	44 x 0.66	1x0.1x10	1.90	1.32	28	1200	619	3500
95	44 x 0.66	1x0.1x10	1.90	1.32	30	1500	784	4750
120	44 x 0.66	1x0.1x10	2.00	1.40	31	1800	915	6000
150	71 x 0.66	1x0.1x10	2.00	1.40	33	2250	1053	7500
185	71 x 0.66	1x0.1x10	2.10	1.48	35	2500	1236	9250
240	71 x 0.66	1x0.1x10	2.10	1.48	38	3250	1439	12000
300	71 x 0.66	1x0.1x10	2.20	1.56	40	3750	1635	15000
400	60 x 0.85	1x0.1x15	2.30	1.64	43	4750	2005	20000
500	60 x 0.85	1x0.1x15	2.40	1.72	48	5750	2299	25000
630	60 x 0.85	1x0.1x15	2.50	1.80	51	7000	2618	31500



## ELECTRICAL CHARACTERISTICS 12/20 (24)kV

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	CONDUCTOR DC RESISTANCE AT 20°C ohms/km	CONDUCTOR DC RESISTANCE AT 75°C ohms/km	CONDUCTOR AC RESISTANCE BY MAX TEMP ohms/km	CURRENT CARRYING CAPACITY (A)		REACTANCE ohms/km	CHARGING ADMITTANCE A/km	CAPACITANCE uF/km	S.C.C CONDUCTOR 1SEC kA	S.C.C SCREEN 1SEC kA	CONDUCTOR LOSSES IN THE GROUND kW/km
				In Ground 20°C	In Air 30°C						
50	0.387	0.801	0.497	250	279	0.19	0.39	0.15	7.15	3.2	31.1
70	0.268	0.555	0.344	304	347	0.18	0.37	0.17	10.1	3.2	31.8
95	0.193	0.399	0.248	361	420	0.18	0.35	0.19	13.59	3.2	32.3
120	0.153	0.316	0.196	407	483	0.17	0.34	0.20	17.16	3.2	32.5
150	0.124	0.160	0.256	445	540	0.17	0.33	0.24	21.45	5.0	31.7
185	0.0991	0.205	0.128	498	614	0.16	0.32	0.24	26.46	5.0	31.7
240	0.0754	0.156	0.0980	569	718	0.16	0.30	0.27	34.32	5.0	31.7
300	0.0601	0.124	0.0800	633	813	0.16	0.29	0.29	42.90	5.0	32.1
400	0.0470	0.0974	0.0640	686	904	0.16	0.28	0.32	57.20	7.1	30.1
500	0.0366	0.0758	0.0510	756	1011	0.15	0.28	0.36	71.50	7.1	29.1
630	0.0283	0.0420	0.0586	850	1030	0.15	0.27	0.40	90.09	7.1	30.3

Derating factor (ground): 1 (Soil thermal resistivity: 1km/W, Depth 0.8m, Flat formation - touching)

Derating factor (air): 1 (Flat formation - touching)



## DIMENSIONS 18/30 (36)kV

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA		NOMINAL CONDUCTOR DIAMETER	NUMBER WIRES CONDUCTOR	NOM. THICKNESS SEMI-CON. LAYER		NOMINAL INSULATION THICKNESS	MINIMUM INSULATION THICKNESS	NOMINAL DIAMETER OVER INSULATION
		mm <sup>2</sup>				INNER	OUTER			
		Conductor	Screen							
P9XF30KV1050**	1	50	16	8.10	10 x 2.62	0.50	0.40	8.00	7.10	25.1
P9XF30KV1070**	1	70	16	9.70	14 x 2.62	0.50	0.40	8.00	7.10	26.7
P9XF30KV1095**	1	95	16	11.4	19 x 2.62	0.50	0.40	8.00	7.10	28.4
P9XF30KV1120**	1	120	16	12.7	19 x 2.97	0.50	0.40	8.00	7.10	29.7
P9XF30KV1150**	1	150	25	14.5	19 x 3.20	0.50	0.40	8.00	7.10	31.5
P9XF30KV1185**	1	185	25	15.9	27 x 2.62	0.50	0.40	8.00	7.10	32.9
P9XF30KV1240**	1	240	25	18.6	48 x 2.62	0.50	0.40	8.00	7.10	35.6
P9XF30KV1300**	1	300	25	20.7	61 x 2.62	0.50	0.40	8.00	7.10	37.7
P9XF30KV1400**	1	400	35	23.5	61 x 2.97	0.50	0.40	8.00	7.10	40.5
P9XF30KV1500**	1	500	35	26.5	61 x 3.29	0.50	0.40	8.00	7.10	43.5
P9XF30KV1630**	1	630	35	30.2	61 x 3.80	0.50	0.40	8.00	7.10	47.7

\*\* replace with sheath colour - RD = Red BK = Black

NOMINAL CROSS SECTIONAL AREA	NUMBER WIRES SCREEN	DIAMETER TAPE SCREEN	NOMINAL SHEATH THICKNESS	MINIMUM SHEATH THICKNESS	NOMINAL OVERALL DIAMETER	NOMINAL WEIGHT	MAXIMUM SIDEWALL PRESSURE	MAXIMUM PULLING TENSION
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	N/cm <sup>2</sup>	N
50	44 x 0.66	1x0.1x10	2.00	1.40	32	1200	426	2500
70	44 x 0.66	1x0.1x10	2.00	1.40	33	1500	546	3500
95	44 x 0.66	1x0.1x10	2.10	1.48	35	1800	682	4750
120	44 x 0.66	1x0.1x10	2.10	1.48	36	2000	821	6000
150	71 x 0.66	1x0.1x10	2.20	1.56	38	2500	952	7500
185	71 x 0.66	1x0.1x10	2.20	1.56	40	2750	1103	9250
240	71 x 0.66	1x0.1x10	2.30	1.64	43	3500	1299	12000
300	71 x 0.66	1x0.1x10	2.40	1.72	45	4000	1522	15000
400	60 x 0.85	1x0.1x15	2.50	1.80	48	5000	1885	20000
500	60 x 0.85	1x0.1x15	2.60	1.88	51	6000	2151	25000
630	60 x 0.85	1x0.1x15	2.70	1.96	56	7500	2465	31500



## ELECTRICAL CHARACTERISTICS 18/30 (36)kV

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	CONDUCTOR DC RESISTANCE AT 20°C ohms/km	CONDUCTOR DC RESISTANCE AT 75°C ohms/km	CONDUCTOR AC RESISTANCE BY MAX TEMP ohms/km	CURRENT CARRYING CAPACITY (A)		REACTANCE ohms/km	CHARGING ADMITTANCE A/km	CAPACITANCE uF/km	S.C.C CONDUCTOR 1SEC kA	S.C.C SCREEN 1SEC kA	CONDUCTOR LOSSES IN THE GROUND kW/km
				In Ground 20°C	In Air 30°C						
50	0.387	0.801	0.497	251	279	0.20	0.43	0.12	7.15	3.2	31.3
70	0.268	0.555	0.344	306	348	0.19	0.41	0.13	10.1	3.2	32.2
95	0.193	0.399	0.248	363	421	0.19	0.39	0.14	13.59	3.2	32.7
120	0.153	0.316	0.196	410	483	0.18	0.37	0.15	17.16	3.2	32.9
150	0.124	0.160	0.256	449	540	0.18	0.36	0.17	21.45	5.0	32.3
185	0.0991	0.205	0.128	503	615	0.17	0.35	0.17	26.46	5.0	32.4
240	0.0754	0.156	0.0980	576	718	0.17	0.33	0.20	34.32	5.0	32.5
300	0.0601	0.124	0.0800	641	812	0.17	0.32	0.21	42.90	5.0	32.9
400	0.0470	0.0974	0.0640	697	904	0.16	0.31	0.24	57.20	7.1	31.1
500	0.0366	0.0758	0.0510	768	1011	0.16	0.30	0.26	71.50	7.1	30.1
630	0.0283	0.0420	0.0586	850	1030	0.15	0.29	0.29	90.09	7.1	30.3

Derating factor (ground): 1 (Soil thermal resistivity: 1km/W, Depth 0.8m, Flat formation - touching)

Derating factor (air): 1 (Flat formation - touching)

The information contained within this datasheet is for guidance only and is subject to change without notice or liability. All the information is provided in good faith and is believed to be correct at the time of publication. When selecting cable accessories, please note that actual cable dimensions may vary due to manufacturing tolerances.