CLEVELAND CABLE COMPANY

BS7870 Single Core Renewables Cable 33kV, XLPE, MDPE - 70mm to 1000mm

Single core high voltage cable for windfarms. Suitable for power networks, and for installation underground, outdoors and in cable ducting. Conforms to BS 7870-4.10.

Key Features

Installation Guidelines
Should not be installed at temperatures below 0°C

Voltage Rating
Uo/U 19Kv / 33Kv, Maximum Voltage: 36kV
Test Voltage: 75Kv, Partial Discharge: Level with Voltage 2Uo kV Max. 5Pc

Minimum Bending Radius
As Per Manufacturers Datasheet

Water Resistance
AD7

Temperature Limits
Maximum conductor temp: 90°C

Maximum operating temp: 130°C

Short Circuit temp: 250°C

Construction

- **Conductor**: Class 2 Stranded Aluminium Conductor
- **Insulation**: Cross Linked polyethylene (XLPE)
- **Metallic Screen**: Copper Wire Screen
- **Sheath**: Medium Density Polyethylene (MDPE)
- **Separator**: Copper Tape (O.H), Non-Conductive Water Blocking Tape
- **Tape**: Semi-Conductive Water Blocking Tape
- **Sheath Colour**: Black

Standards

- BS 7870-4.10

BS7870 Single Core Renewables Cable 33kV, XLPE, MDPE - 70mm to 1000mm - Dimensions

Reference	Conductor Size (mm2)	No Of Cores	Stranding(mm)	Overall Diameter(mm)	Weight(Kg/Km)
33KV1X70AL	70	1	19/2.1	36.7	1339
33KV1X95AL	95	1	19/2.47	38.4	1467
33KV1X120AL	120	1	35/2.04	39.8	1584
33KV1X150AL	150	1	35/2.27	41.3	1720
33KV1X185AL	185	1	35/2.54	43	1881
33KV1X240AL	240	1	35/2.91	45.5	2130
33KV1X300AL	300	1	35/3.25	47.8	2381
33KV1X400AL	400	1	56/2.91	50.8	2723
33KV1X500AL	500	1	56/3.3	54.3	3146
33KV1X630AL	630	1	56/3.75	58.9	3675
33KV1X800AL	800	1	56/4.21	66	4720
33KV1X1000AL	1000	1	0	0	0

33KV BS7870 SINGLE CORE ALUMINIUM MDPE ELECTRICAL CHARACTERISTICS

CONDUCTOR SIZE	MAX DC RESISTANCE AT 20°C	CONDUCTOR AC RESISTANCE AT MAX OPERATING TEMPERATURE AND 50hz	CAPACITANCE	CHARGING CURRENT	DIELECTRIC LOSSES	RESISTANCE AT 50HZ	CONDUCTOR S.C.C FOR 1 SEC	SCREEN S.C.C FOR 1 SEC	CURRENT RATING	
									LAID IN GROUND	LAID IN FREE AIR
MM^2	(Ω/km)	(Ω/km)	mf/km	(A/Km)	(W/Km)	(Ω/km)	(KA)	(KA)	AMPS	AMPS
70	0.443	0.569	0.157	0.935	71.04	0.145	6.559	4.1	232	239
95	0.32	0.411	0.17	1.017	77.31	0.139	8.9015	4.1	278	288
120	0.253	0.325	0.183	1.094	83.12	0.134	11.244	4.1	320	332
150	0.206	0.265	0.203	1.213	92.16	0.127	14.055	4.1	354	379
185	0.164	0.211	0.211	1.261	95.85	0.124	17.3345	4.1	405	433
240	0.125	0.161	0.233	1.39	105.61	0.119	22.488	4.1	468	513
300	0.1	0.129	0.253	1.512	114.92	0.115	28.11	4.1	526	590
400	0.0778	0.101	0.277	1.655	125.81	0.11	37.48	4.1	605	685
500	0.0605	0.079	0.306	1.829	139.05	0.106	46.85	4.1	684	803
630	0.0469	0.062	0.343	2.045	155.46	0.103	59.031	4.1	794	933
800	0.0367	0.049	0.385	2.297	174.6	0.099	74.96	4.1	899	1075

Electrical Data:

Maximum conductor operating temperature:	90°C
Maximum screen operating temperature:	80°C
Maximum conductor temperature during S.C:	250°C

Laying conditions at trefoil formation are as below:

Soil thermal resistivity:	120°C. Cm/Watt
Burial depth:	0.5m
Ground temperature:	15°C
Air temperature:	25°C
Frequency:	50Hz