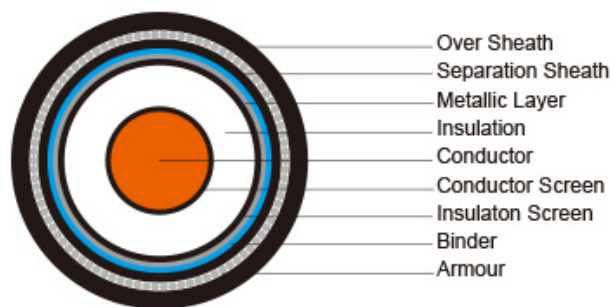


Single Core Cables to BS 6622



Application:

The single core cables are designed for distribution of electrical power with nominal voltage U_0/U ranging from 3.8/6.6KV to 19/33KV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

Standards:

BS 6622 BS 7835 (LSZH)

Conductor:

Plain annealed copper or aluminium complying with IEC 60228/BS 6360. Copper conductors shall be stranded (class 2) and aluminium conductors shall be either solid or stranded (class 2).

Conductor Screen:

Extruded layer of semi-conducting cross-linkable compound is applied over the conductor and shall cover the surface completely. The minimum thickness is 0.3mm and the maximum resistivity shall not exceed 500 Ohm-m at 90°C.

Insulation:

Insulation is of cross-linked polyethylene compound XLPE (GP8) conforming to BS 7655-1.3 or EPR (GP7), conforming to BS 7655-1.2.

Table 1. Insulation Thickness

Nom. Cross Section Area	Insulation Thickness at Nominal Voltage				
	3.8/6.6KV ($U_m=7.2KV$)	6.35/11KV ($U_m=12KV$)	8.7/15KV($U_m=17.5KV$)	12.7/22KV($U_m=24KV$)	19/33KV($U_m=36KV$)
mm ²	mm	mm	mm	mm	mm
70 - 185	2.5	3.4	4.5	5.5	8.0
240	2.6	3.4	4.5	5.5	8.0
300	2.8	3.4	4.5	5.5	8.0
400	3.0	3.4	4.5	5.5	8.0
Above 500	3.2	3.4	4.5	5.5	8.0

Insulation Screen

Extruded layer of semi-conducting cross-linkable compound is applied over the insulation. The extruded semi-conducting layer shall consist of bonded or cold strippable semi-conducting compound capable of removal for jointing or terminating. As an option, a semi- conducting tape may be applied over the extruded semi-conducting layer as a bedding for the metallic layer. The minimum thickness is 0.3 mm and the maximum resistivity is 500 Ohm-m at 90°C. The screen is tightly fitted to the insulation to exclude all air voids and can be easily hand stripped on site.

Metallic Layer

The metallic layer shall consist of either copper tapes or a concentric layer of copper wires or a combination of tapes and wires. The metallic layer provides an earth fault current path, capable of withstanding fault current to earth of 1000A for one second at maximum temperature 160°C. Copper wires are applied over the conducting water blocking layer with a minimum diameter of 0.5mm. And over the copper wires, copper tape with minimum thickness of 0.1mm can be applied helically with overlap. Total cross section of copper wire screen layer is shown in table 2.

Table 2. Minimum Total Cross Section of Copper Wire Screen & DC Resistance of the screen

Nominal Cross-Section of Cables	Minimum Cross-Section of Copper Wire Screen	DC Resistance of the Copper Wire Screen at 20°C
mm ²	mm ²	Ω
up to 120	16	1.06
150-300	25	0.72
400-630	35	0.51

Separation Sheath (for armoured cable)

The separation sheath comprises a layer of extruded PVC, PE or LSZH. The nominal thickness is calculated by $0.02D_u + 0.6\text{mm}$ where D_u is the fictitious diameter under the sheath in mm. The nominal separation sheath thickness shall not be less than 1.2mm.

Armour (for armoured cable)

The armour consists of round aluminium wire with diameter specified as in Table 3.

Table 3. Armour Wire Diameter

Fictitious Diameter Under the Armour		Armour Wire Diameter
mm		mm
>	<	
	25	1.6
25	35	2
35	60	2.5
60	-	3.15

Over Sheath

Overall sheath comprises a layer of extruded either PVC type 9 conforming to BS 7665-4.2 or MDPE type TS2 conforming to BS 7655-10.1. LSZH can be offered as an option. The oversheath is normally black in colour. When a DC voltage test is to be performed on the oversheath, a semi-conducting layer such as graphite coating shall be applied over the surface of the extruded oversheath. The nominal oversheath thickness is calculated by $0.035+D$ where D is the diameter immediately under the oversheath in mm. For cables with the oversheath not applied over the armour, the nominal oversheath thickness shall not be less than 1.4mm. And for cables with oversheath applied over the armour, the nominal oversheath thickness shall not be less than 1.8mm.

Physical Properties

Operating Temperature: up to 90°C

Temperature Range: -5°C (PVC sheath); -20°C (PE sheath)

Short Circuit Temperature: 250°C (short circuit duration up to 5 seconds)

Bending Radius: 12 x OD

Table 4. Nominal /Operating /Test Voltages

Rated Voltage Uo/U	Operating Voltage (Um)	Testing Voltage (rms)
3.8/6.6KV	7.2KV	15KV
6.35/11KV	12KV	25.5KV
8.7/15KV	17.5KV	35KV
12.7/22KV	24KV	51KV
19/33KV	36KV	76KV

Single Core 3.8/6.6KV (Um=7.2KV) Dimensional Data

Nom. Cross-Section Area		Unarmoured Cables					Aluminium Wire Armoured Cables						
	Nom. Insulation Thickness	Copper Wire Screen Area	Nom. Sheath Thickness	Approx. Overall Diameter	Approx. Weight		Copper Tape Screen Area	Nom. Bedding Thickness	Nom. Armour Wire Diameter	Nom. Sheath Thickness	Approx. Overall Diameter	Approx. Weight	
					Cu	AL						Cu	AL
mm2	mm	mm2	mm	mm	kg/km		mm2	mm	mm	mm	mm	kg/km	
25	2.5	16	1.5	20.3	750	580	3.4	1.2	1.6	1.8	26.3	1150	1000
35	2.5	16	1.6	21.3	870	650	3.6	1.2	1.6	1.8	27.3	1250	1050
50	2.5	16	1.6	22.4	1090	770	3.9	1.2	1.6	1.8	28.4	1500	1190
70	2.5	16	1.7	24.2	1310	870	4.3	1.2	1.6	1.8	30.0	1740	1300
95	2.5	16	1.7	25.8	1560	960	4.7	1.2	1.6	1.9	31.8	2030	1430
120	2.5	16	1.8	27.4	1830	1070	5.0	1.2	1.6	1.9	33.2	2310	1550
150	2.5	25	1.8	29.1	2130	1190	5.3	1.2	1.6	2.0	35.1	2660	1720
185	2.5	25	1.9	30.8	2490	1320	5.8	1.2	2.0	2.0	37.4	3120	1950

240	2.6	25	1.9	33.5	30 40	15 20	6.3	1.2	2.0	2.1	40.3	37 40	22 00
300	2.8	25	2.0	36.1	36 50	17 70	7.0	1.2	2.0	2.2	42.9	44 00	25 20
400	3.0	35	2.2	40.6	46 80	21 70	7.7	1.2	2.0	2.3	47.2	54 90	29 60
500	3.2	35	2.3	43.6	56 70	25 70	8.5	1.3	2.5	2.5	51.6	67 60	36 60
630	3.2	35	2.4	48.8	69 80	29 90	9.5	1.4	2.5	2.6	57.0	82 00	41 60

Electrical Data

No m. Cro ss- Sect ion Are a						Unarm oured Cables	Alumi nium Wire Armo ured Cable s										
	D C Resist ance CU / AL	A C Resist ance CU / AL	Short Circui t Ratin g of Cond uctor CU / AL 1 sec	Cap aci- tanc e	Char ging Curr ent			Short Circuit Rating of Copper Wire Screen 1 sec	Short Circuit Rating of Coppe r Tape Scree n 1 sec	Reactance		Inductance		Impedance			
										Tref oil	Flat paced	Tref oil	Flat Spa ced	Trefoil		Flat Spaced	
														C u	AL	C u	AL
mm 2	μΩ/m	μΩ/m	kA	pF/ m	mA/ m	kA	kA	μΩ/ m	μΩ/m	nH/ m	nH/ m	μΩ/ m	μΩ/m	μΩ/m	μΩ/m		
25	727/1 200	927/1 538	3.6/2. 3	263	0.32	2.6	0.4	136	194	400	590	9 3 6	15 44	9 5 2	15 54		
35	524/8 68	668/1 113	5.0/3. 2	291	0.35	2.6	0.5	127	185	390	580	6 7 9	11 21	6 9 5	11 31		
50	387/6 41	494/8 22	6.8/4. 4	321	0.39	2.6	0.5	121	179	380	570	5 1 1	83 4	5 2 7	84 4		

70	268/4 43	343/5 68	9.8/6. 3	371	0.45	2.6	0.6	115	173	370	550	3 6 4	58 3	3 8 6	59 7
95	193/3 20	248/4 10	13.3/ 8.5	417	0.50	2.6	0.6	110	168	350	540	2 7 2	42 7	3 0 0	44 6
120	153/2 53	196/3 25	17.2/ 11.0	459	0.55	2.6	0.7	107	165	340	520	2 2 5	34 5	2 5 7	36 7
150	124/2 06	159/2 65	21.2/ 13.5	494	0.59	4.3	0.7	103	161	330	510	1 9 3	28 7	2 2 9	31 3
185	99.1/1 64	128/2 11	26.6/ 17.0	543	0.65	4.3	0.8	100	158	320	500	1 6 5	23 7	2 0 6	26 7
240	75.4/1 25	98/16 1	34.9/ 22.3	583	0.70	4.3	0.9	97	155	310	490	1 4 0	19 1	1 8 5	22 6
300	60.1/1 00	80/13 0	43.8/ 28.0	602	0.72	4.3	1.0	95	153	300	490	1 2 6	16 3	1 7 4	20 3
400	47.0/7 7.8	64/10 2	57.3/ 36.6	627	0.75	5.8	1.1	92	150	290	480	1 1 3	14 1	1 6 4	18 4
500	36.6/6 0.5	51/81	72.3/ 46.2	654	0.79	5.8	1.2	90	149	290	470	1 0 5	12 4	1 5 8	17 1
630	28.3/4 6.9	42/64	91.2/ 58.3	726	0.87	5.8	1.3	87	145	280	460	9 7	11 0	1 5 1	16 0

Single Core 6.35/11KV (Um=12KV) Dimensional Data

Nom. Cros s- Secti on Area		Unarmoured Cables					Aluminium Wire Armoured Cables						
	Nom. Insulati on Thickne ss	Copp er Wire Scre en Area	Nom. Sheath Thickne ss	Approx Overall Diamet er	Approx. Weight		Copp er Tape Scre en Area	Nom. Beddin g Thickne ss	Nom. Armou r Wire Diamet er	Nom. Sheath Thickne ss	Approx Overall Diamet er	Approx. Weight	
					Cu	AL						Cu	AL
					mm2	mm						mm2	mm
25	3.4	16	1.5	22.1	960	740	3.8	1.2	1.6	1.8	28.1	1300	780

35	3.4	16	1.6	23.3	1060	790	4.1	1.2	1.6	1.8	29.1	1400	1180
50	3.4	16	1.7	24.4	1160	840	4.4	1.2	1.6	1.8	30.2	1600	1280
70	3.4	16	1.7	26.0	1370	930	4.7	1.2	1.6	1.9	32.0	1840	1400
95	3.4	16	1.8	27.8	1640	1040	5.2	1.2	1.6	1.9	33.6	2130	1530
120	3.4	16	1.8	29.2	1900	1140	5.5	1.2	1.6	2.0	35.2	2430	1670
150	3.4	25	1.9	31.1	2220	1280	5.8	1.2	1.6	2.1	37.9	2870	1930
185	3.4	25	1.9	32.6	2570	1410	6.2	1.2	2.0	2.1	39.4	3240	2080
240	3.4	25	2.0	35.3	3130	1610	6.8	1.2	2.0	2.2	42.1	3490	2330
300	3.4	25	2.1	37.5	3730	1850	7.3	1.2	2.0	2.2	44.1	4490	2560
400	3.4	35	2.2	41.4	4730	2200	8.0	1.2	2.0	2.4	48.2	5589	3040
500	3.4	35	2.3	44.0	5700	2600	8.6	1.3	2.5	2.5	52.0	6780	3680
630	3.4	35	2.4	49.2	7010	3020	9.5	1.4	2.5	2.6	57.4	8230	4200

Electrical Data

No m. Cro ss- Sect ion Are a						Unarm oured Cables	Aluminiu m Wire Ar moured Cables										
								Short Circuit Rating of Copper Wire Screen 1 sec	Short Circuit Rating of Copper Tape Screen 1 sec	Reactance		Inductanc e		Impedance			
	D C Resist ance CU / AL	A C Resist ance CU / AL	Short Circui t Ratin g of Conduc tor CU / AL 1 sec	Cap aci- tanc e	Char ging Curr ent					Tre foil	Flat Spa ced	Tre foil	Flat Spa ced	Trefoil		Flat Spaced	
														C u	AL	C u	AL

mm 2	μΩ/m	μΩ/m	kA	pF/ m	mA/ m	kA	kA	μΩ/ m	μΩ/ m	nH/ m	nH/ m	μΩ/m		μΩ/m	
25	727/1 200	927/1 538	3.6/2. 3	208	0.42	2.6	0.5	146	206	440	640	9 3 6	15 44	9 5 2	15 54
35	524/8 68	668/1 113	5.0/3. 2	229	0.46	2.6	0.6	138	201	440	640	6 7 9	11 21	6 9 5	11 31
50	387/6 41	494/8 22	6.8/4. 4	252	0.5	2.6	0.6	132	195	420	620	5 1 1	83 4	5 2 7	84 4
70	268/4 43	343/5 68	9.8/6. 3	288	0.58	2.6	0.7	122	188	390	600	3 6 4	58 3	3 8 6	59 7
95	193/3 20	248/4 10	13.3/8 .5	323	0.65	2.6	0.7	122	182	390	580	2 7 2	42 7	3 0 0	44 6
120	153/2 53	196//3 25	17.2/1 1.0	353	0.71	2.6	0.8	116	172	370	550	2 2 5	34 5	2 5 7	36 7
150	124/2 06	159/2 65	21.2/1 3.5	380	0.76	4.3	0.8	110	166	350	530	1 9 3	28 7	2 2 9	31 3
185	99.1/1 64	128/2 11	26.6/1 7.0	416	0.83	4.3	0.9	107	166	340	530	1 6 5	23 7	2 0 6	26 7
240	75.4/1 25	98/16 1	34.9/2 2.3	460	0.92	4.3	0.9	104	163	330	520	1 4 0	19 1	1 8 5	22 6
300	60.1/1 00	80/13 0	43.8/2 8.0	506	1.01	4.3	1	100	157	320	500	1 2 6	16 3	1 7 4	20 3
400	47/77. 8	64/10 2	57.3/3 6.6	561	1.12	5.8	1.1	94	154	300	490	1 1 3	14 1	1 6 4	18 4
500	36.6/6 0.5	51/81	72.3/4 6.2	619	1.24	5.8	1.2	91	151	290	480	1 0 5	12 4	1 5 8	17 1
630	28.3/4 6.9	42/64	91.2/5 8.3	698	1.37	5.8	1.3	91	148	290	470	9 7	11 0	1 5 1	16 0

Single Core 8.7/15KV (Um=17.5kV) Dimensional Data

Nom. Cross-Section Area	Nom. Insulation Thickness	Unarmoured Cables					Aluminium Wire Armoured Cables						
		Copper Wire Screen Area	Nom. Sheath Thickness	Approx. Overall Diameter	Approx. Weight		Copper Tape Screen Area	Nom. Bedding Thickness	Nom. Armour Wire Diameter	Nom. Sheath Thickness	Approx. Overall Diameter	Approx. Weight	
					CU	AL						CU	AL
mm ²	mm	mm ²	mm	mm	kg/km		mm ²	mm	mm	mm	mm	kg/km	
25	4.5	16	1.6	23.7	940	820	4.4	1.2	1.6	1.8	30.3	1430	1210
35	4.5	16	1.7	24.9	1140	870	4.7	1.2	1.6	1.9	31.5	1630	1310
50	4.5	16	1.7	26.6	1240	920	4.9	1.2	1.6	1.9	32.6	1730	1410
70	4.5	16	1.8	28.4	1470	1030	5.3	1.2	1.6	1.9	34.2	1970	1520
95	4.5	16	1.9	30.2	1750	1160	5.7	1.2	2.0	2.0	36.8	2370	1770
120	4.5	16	1.9	31.6	2100	1250	6.1	1.2	2.0	2.1	38.4	2670	1910
150	4.5	25	2.0	33.5	2340	1400	6.4	1.2	2.0	2.1	40.1	3020	2080
185	4.5	25	2.0	35.0	2690	1520	6.8	1.2	2.0	2.2	41.8	3420	2240
240	4.5	25	2.1	36.8	3270	1740	7.4	1.2	2.0	2.3	44.5	4050	2500
300	4.5	25	2.2	39.9	3870	1990	7.9	1.2	2.0	2.3	46.5	4680	2780
400	4.5	35	2.3	43.8	4890	2370	8.5	1.3	2.5	2.5	51.8	5970	3430
500	4.5	35	2.4	46.4	5860	2760	9.2	1.3	2.5	2.6	54.4	7010	3910
630	4.5	35	2.5	51.6	7190	3190	10.0	1.4	2.5	2.7	59.8	8480	4420

Electrical Data

No m. Cro ss- Sec tion Are a						Unarmoured Cables	Alumi nium Wire Armo ured Cable s								
	D C Resist ance CU / AL	A C Resist ance CU / AL	Short Circuit Rating of Conduc tor CU / AL 1 sec	Cap ac- itan ce	Char ging Curr ent	Short Circu it Rating of Copper Wire Screen 1 sec	Short Circuit Rating of Copper Tape Scree n 1 sec	Reactance		Inductance		Impedance			
Tre foil	Flat Spa ced	Tre foil	Flat Spa ced	Trefoil		Flat Space d									
				C U	AL	C U	AL								
mm 2	μΩ/m	μΩ/m	kA	pF/ m	mA/ m	kA	kA	μΩ/ m	μΩ/ m	nH/ m	nH/ m	μΩ/m		μΩ/m	
25	727/1 200	927/1 538	3.6/2.3	171	0.47	2.6	0.6	154	217	480	680	936	1544	952	1554
35	524/8 68	668/1 113	5.0/3.2	187	0.51	2.6	0.6	145	208	460	660	679	1121	695	1131
50	387/6 41	494/8 22	6.8/4.4	204	0.56	2.6	0.7	138	201	440	640	511	834	527	844
70	268/4 43	343/5 68	9.8/6.3	232	0.63	2.6	0.7	132	188	420	600	364	583	386	597
95	193/3 20	248/4 10	13.3/8. 5	258	0.70	2.6	0.8	126	182	400	580	272	427	300	446
120	153/2 53	196/3 25	17.2/11 .0	281	0.77	2.6	0.8	119	179	380	570	225	345	257	367
150	124/2 06	159/2 65	21.2/13 .5	301	0.82	4.3	0.9	113	176	360	560	193	287	229	313
185	99.1/1 64	128/2 11	26.6/17 .0	329	0.90	4.3	0.9	110	170	350	540	165	237	206	267

240	75.4/1 25	98/16 1	34.9/22 .3	363	0.99	4.3	1.0	107	166	340	530	1 4 0	19 1	1 8 5	22 6
300	60.1/1 00	80/13 0	43.8/28 .0	398	1.09	4.3	1.1	104	160	330	510	1 2 6	16 3	1 7 4	20 3
400	47/77. 8	64/10 2	57.3/36 .6	439	1.20	5.8	1.2	97	157	310	500	1 1 3	14 1	1 6 4	18 4
500	36.6/6 0.5	51/81	72.3/46 .2	483	1.32	5.8	1.3	94	154	300	490	1 0 5	12 4	1 5 8	17 1
630	28.3/4 6.9	42/64	91.2/58 .3	534	1.46	5.8	1.4	91	151	290	480	9 7	11 0	1 5 1	16 0

Single Core 12.7/22KV (Um=24kV) Dimensional Data

Nom. Cros- Secti- on Area		Unarmoured Cables					Aluminium Wire Armoured Cables						
	Nom. Insulation Thickness	Copper Wire Screen Area	Nom.Sh eath Thicknes s	Approx. Overall Diamet er	Approx. Weight		Copp er Tape Scre en Area	Nom. Beddin g Thickn ess	Nom. Armou r Wire Diamet er	Nom. Sheath Thickn ess	Appro x. Overal I Diamet er	Approx. Weight	
					CU	AL						CU	AL
mm2	mm	mm2	mm	mm	kg/km		mm2	mm	mm	mm	mm	kg/km	
35	5.5	16	1.7	27.4	1100	800	5.2	1.2	1.6	1.9	31.4	1400	1200
50	5.5	16	1.8	28.8	1330	1010	5.4	1.2	1.6	2	34.8	1850	1540
70	5.5	16	1.9	30.6	1570	1130	5.9	1.2	2	2	37.2	2190	1750
95	5.5	16	1.9	32.2	1840	1240	6.2	1.2	2	2.1	39	2510	1900
120	5.5	16	2	33.8	2120	1360	6.6	1.2	2	2.1	40.4	2810	2040
150	5.5	25	2	35.5	2440	1500	6.9	1.2	2	2.2	42.3	3180	2240
185	5.5	25	2.1	37.2	2810	1640	7.4	1.2	2	2.2	43.8	3560	2380
240	5.5	25	2.2	39.9	3390	1860	7.8	1.2	2	2.3	46.5	4200	2640

300	5.5	25	2.2	41.9	39 90	21 10	8.4	1.3	2.5	2.4	49.9	50 30	31 30
400	5.5	35	2.3	45.8	51 00	24 90	9	1.3	2.5	2.5	53.8	61 40	36 00
500	5.5	35	2.4	48.4	60 00	29 00	9.7	1.4	2.5	2.6	56.6	72 10	41 00
630	5.5	35	2.5	53.6	73 40	33 40	10.4	1.4	2.5	2.8	62	87 00	46 50

Electrical Data

No m. Cro ss- Sect ion Are a						Unarmoured Cables	Alumi nium Wire Armo ured Cable s										
	D C Resist ance CU / AL	A C Resist ance CU / AL	Short Circuit Rating of Conduc tor CU / AL 1 sec	Cap aci- tanc e	Char ging Curr ent			Short Circu it Rating of Copper Wire Screen 1 sec	Short Circuit Rating of Coppe r Tape Scree n 1 sec	Reactanc e		Inductanc e		Impedance			
										Tre foil	Flat Spa ced	Tre foil	Flat Spa ced	Trefoil		Flat Space d	
												C U	AL	C U	AL		
mm 2	μΩ/m	μΩ/m	kA	pF/ m	mA/ m	kA	kA	μΩ/ m	μΩ/ m	nH/ m	nH/ m	μΩ/m	μΩ/m				
35	524/868	668/1113	5.0/3.2	162	0.7	2.6	0.7	147	207	470	620	679	1121	695	1131		
50	387/641	494/822	6.8/4.4	177	0.8	2.6	0.8	141	201	450	640	511	834	527	844		
70	268/443	343/568	9.8/6.3	200	0.8	2.6	0.8	135	195	430	620	364	583	386	597		
95	193/320	248/410	13.3/8.5	222	0.9	2.6	0.9	129	188	410	600	272	427	300	446		

120	153/2 53	196/3 25	17.2/11 .0	241	0.9	2.6	0.9	12 2	182	39 0	580	2 2 5	34 5	2 5 7	36 7
150	124/2 06	159/2 65	21.2/13 .5	257	1.0	4.3	1.0	11 6	176	37 0	560	1 9 3	28 7	2 2 9	31 3
185	99.1/1 64	128/2 11	26.6/17 .0	280	1.0	4.3	1.0	11 6	173	37 0	550	1 6 5	23 7	2 0 6	26 7
240	75.4/1 25	98/16 1	34.9/22 .3	307	1.1	4.3	1.1	11 0	170	35 0	540	1 4 0	19 1	1 8 5	22 6
300	60.1/1 00	80/13 0	43.8/28 .0	336	1.2	4.3	1.2	10 7	166	34 0	530	1 2 6	16 3	1 7 4	20 3
400	470/7 7.8	64/10 2	57.3/36 .6	370	1.3	5.8	1.3	10 0	160	32 0	510	1 1 3	14 1	1 6 4	18 4
500	36.6/6 0.5	51/81	72.3/46 .2	406	1.4	5.8	1.4	97	154	31 0	490	1 0 5	12 4	1 5 8	17 1
630	28.3/4 6.9	42/64	91.2/58 .3	449	1.5	5.8	1.5	94	151	30 0	480	9 7	11 0	1 5 1	16 0

Single Core 19/33KV (Um=36kV) Dimensional Data

Nom. Cros- Secti- on Area		Unarmoured Cables					Aluminium Wire Armoured Cables						
	Nom.Insul- ation Thickness	Cop- per Wire Scre- en Area	Nom.Sh- eath Thickne- ss	Appro- x. Overa- ll Diamete- r	Approx. Weight		Cop- per Tape Scre- en Area	Nom.Bed- ding Thicknes- s	Nom. Armo- ur Wire Diamete- r	Nom. Sheath Thickn- ess	Appro- x. Overa- ll Diamete- r	Approx. Weight	
					CU	AL						CU	AL
mm2	mm	mm2	mm	mm	kg/km		mm2	mm	mm	mm	mm	kg/km	
50	8	16	2.0	34.2	15 80	12 70	6.7	1.2	2.0	2.2	41.0	23 00	19 80
70	8	16	2.0	35.8	18 20	13 80	7.1	1.2	2.0	2.2	42.6	25 60	21 20
95	8	16	2.1	37.6	21 20	15 10	7.5	1.2	2.0	2.3	44.4	28 90	22 90
120	8	16	2.1	39.0	24 00	16 30	7.9	1.2	2.0	2.3	45.8	32 00	24 30

150	8	25	2.2	40.9	27 40	18 10	8.2	1.3	2.5	2.4	48.9	37 60	28 30
185	8	25	2.2	42.4	31 10	19 50	8.6	1.3	2.5	2.5	50.6	41 80	30 10
240	8	25	2.3	45.1	37 20	21 80	9.2	1.3	2.5	2.5	53.1	48 30	32 70
300	8	25	2.4	47.3	43 50	24 60	9.7	1.4	2.5	2.6	55.5	55 40	36 30
400	8	35	2.5	51.2	54 10	28 80	10.3	1.4	2.5	2.7	59.4	66 80	41 30
500	8	35	2.6	53.8	64 20	33 20	11.0	1.5	2.5	2.8	62.2	77 90	46 90
630	8	35	2.7	59.0	78 00	37 80	11.8	1.5	2.5	2.9	67.4	92 90	52 20

Electrical Data

No m. Cro ss- Sec tion Are a						Unarmoured Cables	Alumi nium Wire Armo ured Cable s										
	D C Resis tance CU / AL	A C Resis tance CU / AL	Short Circ uit Rating of Conductor CU / AL 1 sec	Cap aci- tance	Char ging Curr ent			Short Circu it Rating of Copper Wire Screen 1 sec	Short Circuit Ratin g of Copp er Tape Scre en 1 sec	Reactanc e		Inductanc e		Impedance			
										Tre foil	Flat Spa ced	Tre foil	Flat Spa ced	Flat Space d			
														C U	A L	C U	A L
mm 2	μΩ/m	μΩ/m	kA	pF/ m	mA/ m	kA	kA	μΩ /m	μΩ/ m	nH/ m	nH/ m	μΩ/m		μΩ/m			
50	387/6 41	494/8 22	6.8/4.4	138	0.83	2.6	1.0	15 1	214	480	680	5 1 1	8 3 4	5 2 7	8 4 4		
70	268/4 43	343/5 68	9.8/6.3	154	0.92	2.6	1.0	14 4	201	460	640	3 6 4	5 8 3	3 8 6	5 9 7		

95	193/3 20	248/4 10	13.3/8.5	169	1.01	2.6	1.1	13 8	195	440	620	2 7 2	4 2 7	3 0 0	4 4 6
120	153/2 53	196/3 25	17.2/11.0	183	1.10	2.6	1.1	13 2	188	420	600	2 2 5	3 4 5	2 5 7	3 6 7
150	124/2 06	159/2 65	21.2/13.5	194	1.16	4.3	1.2	12 6	182	400	580	1 9 3	2 8 7	2 2 9	3 1 3
185	99.1/ 164	128/2 11	26.6/17.0	210	1.26	4.3	1.2	12 2	182	390	580	1 6 5	2 3 7	2 0 6	2 6 7
240	75.4/ 125	98/16 1	34.9/22.3	229	1.37	4.3	1.3	11 9	176	380	560	1 4 0	1 9 1	1 8 5	2 2 6
300	60.1/ 100	80/13 0	43.8/28.0	249	1.49	4.3	1.4	11 3	173	360	550	1 2 6	1 6 3	1 7 4	2 0 3
400	47/77 .8	64/10 2	57.3/36.6	273	1.64	5.8	1.5	10 7	163	340	520	1 1 3	1 4 1	1 6 4	1 8 4
500	36.6/ 60.5	51/81	72.3/46.2	298	1.79	5.8	1.6	10 4	163	330	520	1 0 5	1 2 4	1 5 8	1 7 1
630	28.3/ 46.9	42/64	91.2/58.3	327	1.96	5.8	1.7	10 0	160	320	510	9 7	1 1 0	1 5 1	1 6 0

Current Rating for 3.8/6.6KV (Um=7.2KV), 6.35/11KV (Um=12KV) & 8.7/15KV (Um=17.5KV)

Nom. Cross - Secti on Area	Ground				Duct				Air			
	Trefoil Unarm'd/Arm'd		Flat Spaced Unarm'd/Arm'd		Trefoil Unarm'd/Arm'd		Flat Touching Unarm'd/Arm'd		Trefoil Unarm'd/Arm'd		Flat Spaced Unarm'd/Arm'd	
	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL
mm2	A		A		A		A		A		A	
25	160/1 60	120/1 20	170/1 70	125/1 25	165/1 65	125/1 25	165/1 65	125/1 25	170/170	130/1 30	230/235	180/180
35	180/1 80	150/1 50	190/1 90	155/1 5	185/1 85	155/1 55	185/1 85	155/1 55	200/200	160/1 60	260/265	210/210
50	220/2 20	170/1 70	230/2 30	175/1 75	225/2 20	175/1 70	220/2 20	170/1 70	235/250	180/1 95	295/300	230/230

70	270/2 70	210.2 1	280/2 80	215/2 15	270/2 60	215/2 10	270/2 70	210/2 10	285/310	225/2 40	370/370	290/290
95	320/3 20	250/2 50	335/3 35	260/2 60	320/3 05	255/2 45	325/3 25	250/2 50	360/375	280/2 95	455/460	350/355
120	360/3 60	280/2 80	380/3 80	295/2 95	360/3 40	285/2 75	370/3 70	285/2 85	415/430	320/3 55	520/530	410/410
150	410/4 10	320/3 15	430/4 30	330/3 30	400/3 75	315/3 00	415/4 10	320/3 20	470/490	365/3 80	600/600	465/465
185	460/4 55	360/3 55	485/4 85	375/3 75	440/4 10	350/3 35	465/4 60	360/3 60	540/550	425/4 35	690/690	530/530
240	530/5 20	415/4 05	560/5 60	440/4 40	505/4 60	405/3 80	540/5 40	420/4 20	640/650	500/5 10	820/820	640/630
300	600/5 80	475/4 55	640/6 40	495/4 95	560/5 00	455/4 20	610/6 10	475/4 70	740/740	580/5 80	940/940	730/730
400	680/6 50	540/5 10	730/7 30	570/5 70	610/5 30	510/4 55	690/6 90	540/5 40	840/840	670/6 70	1100/11 00	860/860
500	750/7 10	610/5 70	830/8 30	650/6 50	680/5 70	570/5 00	790/7 80	620/6 20	940/930	790/7 70	1280/12 80	1010/10 10
630	830/7 60	680/6 40	940/9 40	750/7 50	750/6 20	640/5 50	890/8 90	710/7 00	1110/10 40	910/8 80	1500/14 80	1190/11 80

Current Rating for 12.7/22KV (Um=24KV)

Nom. Cross - Secti on Area	Ground				Duct				Air			
	Trefoil		Flat Spaced		Trefoil		Flat Touching		Trefoil		Flat Spaced	
	Unarm'd/Arm'd		Unarm'd/Arm'd		Unarm'd/Arm'd		Unarm'd/Arm'd		Unarm'd/Arm'd		Unarm'd/Arm'd	
	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL
mm2	A		A		A		A		A		A	
35	180/1 80	130/1 30	200/2 00	135/1 35	180/1 70	130/1 25	180/1 75	130/1 25	190/175	145/1 35	225/230	175/175
50	220/2 20	170/1 70	230/2 30	175/1 75	225/2 10	175/1 70	225/2 20	175/1 70	245/260	190/2 00	295/300	230/230
70	270/2 70	210.2 1	280/2 80	215/2 15	270/2 60	210/2 05	270/2 70	210/2 10	300/320	235/2 45	365/370	285/285
95	320/3 20	250/2 45	335/3 35	260/2 60	320/3 00	250/2 45	320/3 25	250/2 50	360/380	280/2 95	450/450	345/350
120	360/3 60	280/2 80	380/3 80	295/2 95	360/3 40	280/2 75	365/3 65	285/2 85	425/440	330/3 40	520/520	400/400
150	410/4 10	320/3 10	430/4 30	330/3 30	405/3 70	320/3 00	410/4 10	320/3 15	485/490	375/3 85	590/590	455/455

185	460/4 50	360/3 50	485/4 85	375/3 75	445/4 00	350/3 35	460/4 60	360/3 60	550/560	430/4 40	670/670	520/520
240	530/5 10	415/4 05	560/5 60	440/4 40	520/4 50	415/3 80	530/5 30	415/4 15	650/650	510/5 10	800/800	620/620
300	600/5 70	475/4 50	640/6 40	495/4 95	570/4 90	460/4 15	600/6 00	470/4 70	740/730	580/5 80	920/910	710/710
400	690/6 40	550/5 10	730/7 30	570/5 70	630/5 30	520/4 60	690/6 80	540/5 30	850/830	680/6 70	1070/10 60	840/830
500	760/7 00	610/5 70	830/8 30	650/6 50	700/5 70	570/5 10	780/7 70	610/6 10	980/940	790/7 70	1250/12 30	980/970
630	850/7 60	690/6 40	950/9 40	750/7 50	780/6 10	650/5 60	890/8 80	700/7 00	1130/10 50	920/8 80	1450/14 30	1060/11 40

Current Rating for 19/33KV (Um=36KV)

Nom. Cross - Secti on Area	Ground				Duct				Air			
	Trefoil Unarm'd/Arm'd		Flat Spaced Unarm'd/Arm'd		Trefoil Unarm'd/Arm'd		Flat Touching Unarm'd/Arm'd		Trefoil Unarm'd/Arm'd		Flat Spaced Unarm'd/Arm'd	
	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL
mm2	A		A		A		A		A		A	
50	220/2 20	170/1 70	230/2 30	175/1 75	225/2 20	175/1 70	225/2 20	175/1 70	245/260	190/2 00	295/300	230/230
70	270/2 70	210.2 1	280/2 80	215/2 15	270/2 60	210/2 05	270/2 70	210/2 10	300/320	235/2 45	365/370	285/285
95	320/3 20	250/2 45	335/3 35	260/2 60	320/3 00	250/2 45	320/3 25	250/2 50	360/380	280/2 95	450/450	345/350
120	360/3 60	280/2 80	380/3 80	295/2 95	360/3 40	280/2 75	365/3 65	285/2 85	425/440	330/3 40	520/520	400/400
150	410/4 10	320/3 10	430/4 30	330/3 30	405/3 70	320/3 00	410/4 10	320/3 15	485/490	375/3 85	590/590	455/455
185	460/4 50	360/3 50	485/4 85	375/3 75	445/4 00	350/3 35	460/4 60	360/3 60	550/560	430/4 40	670/670	520/520
240	530/5 10	415/4 05	560/5 60	440/4 40	520/4 50	415/3 80	530/5 30	415/4 15	650/650	510/5 10	800/800	620/620
300	600/5 70	475/4 50	640/6 40	495/4 95	570/4 90	460/4 15	600/6 00	470/4 70	740/730	580/5 80	920/910	710/710
400	690/6 40	550/5 10	730/7 30	570/5 70	630/5 30	520/4 60	690/6 80	540/5 30	850/830	680/6 70	1070/10 60	840/830
500	760/7 00	610/5 70	830/8 30	650/6 50	700/5 70	570/5 10	780/7 70	610/6 10	980/940	790/7 70	1250/12 30	980/970

630	850/7	690/6	940/9	750/7	780/6	650/5	890/8	700/7	1130/10	920/8	1450/14	1060/11
	60	40	40	50	10	60	80	00	50	80	30	40

Current Rating Conditions:

Ground Temperature:20°C

Ambient Temperature (air): 30°C

Depth of Soil: 0.8m

Thermal Resistance of Soil: 1.5K•m/W