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## 3.8/6.6KV to 19/33KV Single Core Cables to BS 6622/BS 7835

### Al/Cu Conductor, Conductor Screen, XLPE/EPR/HEPR insulation, Insulation Screen, Metallic Screen, PVC/PE/LSZH Sheath

#### APPLICATIONS

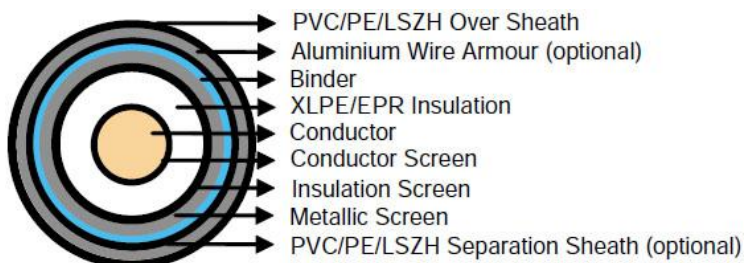
The single core cables are designed for distribution of electrical power with nominal voltage  $U_0/U$  ranging from 3.8/6.6KV to 19/33KV and frequency 50Hz.

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.

#### STANDARD

- BS 6622
- BS 7835 (LSZH Version)

#### CONSTRUCTION



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

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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 (Um=7.2KV)	6.35/11KV (Um=12KV)	8.7/15KV (Um=17.5KV)	12.7/22KV (Um=24KV)	19/33KV (Um=36KV)
mm <sup>2</sup>	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

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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 <sup>2</sup>	mm <sup>2</sup>	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	2.0
35	60	2.5

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60

-

3.15

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 over sheath is normally black in colour. When a DC voltage test is to be performed on the over sheath, a semi-conducting layer such as graphite coating shall be applied over the surface of the extruded over sheath. The nominal Over Sheath over sheath thickness is calculated by  $0.035+D$  where D is the diameter immediately under the over sheath in mm. For cables with the over sheath not applied over the armour, the nominal over sheath thickness shall not be less than 1.4mm. And for cables with over sheath applied over the armour, the nominal over sheath thickness shall not be less than 1.8mm.

**PHYSICAL PROPERTIES**

Operating Temperature up to 90°C

Temperature Range -5°C ( PVC or LSZH 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 U <sub>0</sub> /U	Operating Voltage (U <sub>m</sub> )	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 (U<sub>m</sub>=7.2KV)**

**Dimensional Data**



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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
mm <sup>2</sup>	mm	mm <sup>2</sup>	mm	mm	kg/km		mm <sup>2</sup>	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	3040	1520	6.3	1.2	2.0	2.1	40.3	3740	2200
300	2.8	25	2.0	36.1	3650	1770	7.0	1.2	2.0	2.2	42.9	4400	2520
400	3.0	35	2.2	40.6	4680	2170	7.7	1.2	2.0	2.3	47.2	5490	2960
500	3.2	35	2.3	43.6	5670	2570	8.5	1.3	2.5	2.5	51.6	6760	3660
630	3.2	35	2.4	48.8	6980	2990	9.5	1.4	2.5	2.6	57.0	8200	4160

**Electrical Data**

Nom.		Unarmoured	Aluminium
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Cross-Section Area	Unarmoured Cables						Armoured Cables		Unarmoured Cables				Armoured Cables			
	DC Resistance CU / AL	AC Resistance CU / AL	Short Circuit Rating of Conductor CU / AL 1 sec	Capacitance	Charging Current	Short Circuit Rating of Copper Wire Screen 1 sec	Short Circuit Rating of Copper Tape Screen 1 sec	Reactance		Inductance		Impedance				
								Trefoil	Flat spaced	Trefoil	Flat Spaced	Trefoil		Flat Spaced		
	μΩ/m	μΩ/m	kA	pF/m	mA/m	kA	kA	μΩ/m	μΩ/m	nH/m	nH/m	CU	AL	CU	AL	
mm <sup>2</sup>	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	727/1200	927/1538	3.6/2.3	263	0.32	2.6	0.4	136	194	400	590	936	1544	952	1554	
35	524/868	668/1113	5.0/3.2	291	0.35	2.6	0.5	127	185	390	580	679	1121	695	1131	
50	387/641	494/822	6.8/4.4	321	0.39	2.6	0.5	121	179	380	570	511	834	527	844	
70	268/443	343/568	9.8/6.3	371	0.45	2.6	0.6	115	173	370	550	364	583	386	597	
95	193/320	248/410	13.3/8.5	417	0.50	2.6	0.6	110	168	350	540	272	427	300	446	
120	153/253	196/325	17.2/11.0	459	0.55	2.6	0.7	107	165	340	520	225	345	257	367	
150	124/206	159/265	21.2/13.5	494	0.59	4.3	0.7	103	161	330	510	193	287	229	313	
185	99.1/164	128/211	26.6/17.0	543	0.65	4.3	0.8	100	158	320	500	165	237	206	267	
240	75.4/125	98/161	34.9/22.3	583	0.70	4.3	0.9	97	155	310	490	140	191	185	226	
300	60.1/10	80/130	43.8/28.	602	0.72	4.3	1.0	95	153	300	490	12	163	174	203	





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	0		0																6
400	47.0/77.8	64/102	57.3/36.6	627	0.75	5.8	1.1	92	150	290	480	113	141	16	184				
500	36.6/60.5	51/81	72.3/46.2	654	0.79	5.8	1.2	90	149	290	470	105	124	15	171				
630	28.3/46.9	42/64	91.2/58.3	726	0.87	5.8	1.3	87	145	280	460	97	110	151	160				

## Single Core 6.35/11KV (Um=12KV)

### 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 <sup>2</sup>	mm	mm <sup>2</sup>	mm	mm	kg/km		mm <sup>2</sup>	mm	mm	mm	mm	kg/km	
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



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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

Nom. Cross-Section Area	Unarmoured Cables						Aluminium Wire Armoured Cables										
	DC Resistance CU / AL	AC Resistance CU / AL	Short Circuit Rating of Conductor CU / AL 1 sec	Capacitance	Charging Current	Short Circuit Rating of Copper Wire Screen 1 sec	Short Circuit Rating of Copper Tape Screen 1 sec	Reactance		Inductance		Impedance					
								Trefoil	Flat Spaced	Trefoil	Flat Spaced	Trefoil		Flat Spaced			
mm <sup>2</sup>	μΩ/m	μΩ/m	kA	pF/m	mA/m	kA	kA	μΩ/m	μΩ/m	nH/m	nH/m	CU	AL	CU	AL	μΩ/m	μΩ/m
25	727/1200	927/1538	3.6/2.3	208	0.42	2.6	0.5	146	206	440	640	936	1544	952	1554		
35	524/88	668/1113	5.0/3.2	229	0.46	2.6	0.6	138	201	440	640	679	1121	695	1131		
50	387/641	494/822	6.8/4.4	252	0.50	2.6	0.6	132	195	420	620	511	834	527	844		
70	268/44	343/568	9.8/6.3	288	0.58	2.6	0.7	122	188	390	600	363	583	383	597		





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	3												4	6	
95	193/320	248/410	13.3/8.5	323	0.65	2.6	0.7	122	182	390	580	27 2	427	30 0	44 6
120	153/253	196//32 5	17.2/11.0	353	0.71	2.6	0.8	116	172	370	550	22 5	345	25 7	367
150	124/206	159/265	21.2/13.5	380	0.76	4.3	0.8	110	166	350	530	19 3	287	22 9	313
185	99.1/16 4	128/211	26.6/17.0	416	0.83	4.3	0.9	107	166	340	530	16 5	237	20 6	267
240	75.4/12 5	98/161	34.9/22.3	460	0.92	4.3	0.9	104	163	330	520	14 0	191	18 5	22 6
300	60.1/10 0	80/130	43.8/28.0	506	1.01	4.3	1.0	100	157	320	500	12 6	163	17 4	20 3
400	47/77.8	64/102	57.3/36.6	561	1.12	5.8	1.1	94	154	300	490	11 3	141	16 4	184
500	36.6/60 .5	51/81	72.3/46.2	619	1.24	5.8	1.2	91	151	290	480	10 5	124	15 8	171
630	28.3/46 .9	42/64	91.2/58.3	698	1.37	5.8	1.3	91	148	290	470	97	110	151	160

### 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 <sup>2</sup>	mm	mm <sup>2</sup>	mm	mm	kg/km	kg/km	mm <sup>2</sup>	mm	mm	mm	mm	kg/km	kg/km
25	4.5	16	1.6	23.7	940	820	4.4	1.2	1.6	1.8	30.3	1430	1210





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mm <sup>2</sup>			AL1 sec	sec											
	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	727/120 0	927/153 8	3.6/2.3	171	0.47	2.6	0.6	154	217	480	680	93 6	154 4	95 2	155 4
35	524/868	668/111 3	5.0/3.2	187	0.51	2.6	0.6	145	208	460	660	67 9	112 1	69 5	113 1
50	387/641	494/822	6.8/4.4	204	0.56	2.6	0.7	138	201	440	640	511	834	52 7	84 4
70	268/443	343/568	9.8/6.3	232	0.63	2.6	0.7	132	188	420	600	36 4	583	38 6	597
95	193/320	248/410	13.3/8.5	258	0.70	2.6	0.8	126	182	400	580	27 2	427	30 0	446
120	153/253	196/325	17.2/11. 0	281	0.77	2.6	0.8	119	179	380	570	22 5	345	25 7	367
150	124/206	159/265	21.2/13. 5	301	0.82	4.3	0.9	113	176	360	560	19 3	287	22 9	313
185	99.1/164	128/211	26.6/17. 0	329	0.90	4.3	0.9	110	170	350	540	16 5	237	20 6	267
240	75.4/125	98/161	34.9/22. 3	363	0.99	4.3	1.0	107	166	340	530	14 0	191	18 5	226
300	60.1/10 0	80/130	43.8/28. 0	398	1.09	4.3	1.1	104	160	330	510	12 6	163	17 4	20 3
400	47/77.8	64/102	57.3/36. 6	439	1.20	5.8	1.2	97	157	310	500	11 3	141	16 4	184
500	36.6/60. 5	51/81	72.3/46. 2	483	1.32	5.8	1.3	94	154	300	490	10 5	124	15 8	171
630	28.3/46. 9	42/64	91.2/58. 3	534	1.46	5.8	1.4	91	151	290	480	97	110	151	160

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**Single Core 12.7/22KV (Um=24KV)**

**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 <sup>2</sup>	mm	mm <sup>2</sup>	mm	mm	kg/km		mm <sup>2</sup>	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	2.0	34.8	1850	1540
70	5.5	16	1.9	30.6	1570	1130	5.9	1.2	2.0	2.0	37.2	2190	1750
95	5.5	16	1.9	32.2	1840	1240	6.2	1.2	2.0	2.1	39.0	2510	1900
120	5.5	16	2.0	33.8	2120	1360	6.6	1.2	2.0	2.1	40.4	2810	2040
150	5.5	25	2.0	35.5	2440	1500	6.9	1.2	2.0	2.2	42.3	3180	2240
185	5.5	25	2.1	37.2	2810	1640	7.4	1.2	2.0	2.2	43.8	3560	2380
240	5.5	25	2.2	39.9	3390	1860	7.8	1.2	2.0	2.3	46.5	4200	2640
300	5.5	25	2.2	41.9	3990	2110	8.4	1.3	2.5	2.4	49.9	5030	3130
400	5.5	35	2.3	45.8	5100	2490	9.0	1.3	2.5	2.5	53.8	6140	3600
500	5.5	35	2.4	48.4	6000	2900	9.7	1.4	2.5	2.6	56.6	7210	4100
630	5.5	35	2.5	53.6	7340	3340	10.4	1.4	2.5	2.8	62.0	8700	4650

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Nom. Cross-Section Area						Unarmoured Cables	Aluminium Wire Armoured Cables								
	DC Resistance CU / AL	AC Resistance CU / AL	Short Circuit Rating of Conductor CU / AL 1 sec	Capacitance	Charging Current	Short Circuit Rating of Copper Wire Screen 1 sec	Short Circuit Rating of Copper Tape Screen 1 sec	Reactance		Inductance		Impedance			
								Trefoil	Flat Spaced	Trefoil	Flat Spaced	Trefoil		Flat Spaced	
												CU	AL	CU	AL
mm <sup>2</sup>	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	67	112	69	113
50	387/641	494/822	6.8/4.4	177	0.8	2.6	0.8	141	201	450	640	511	83	52	84
70	268/443	343/568	9.8/6.3	200	0.8	2.6	0.8	135	195	430	620	36	58	38	59
95	193/320	248/410	13.3/8.5	222	0.9	2.6	0.9	129	188	410	600	27	42	30	44
120	153/253	196/325	17.2/11.0	241	0.9	2.6	0.9	122	182	390	580	22	34	25	36
150	124/206	159/265	21.2/13.5	257	1.0	4.3	1.0	116	176	370	560	19	28	22	31
185	99.1/164	128/211	26.6/17.0	280	1.0	4.3	1.0	116	173	370	550	16	23	20	26
240	75.4/125	98/161	34.9/22.3	307	1.1	4.3	1.1	110	170	350	540	14	19	18	22
300	60.1/100	80/130	43.8/28.0	336	1.2	4.3	1.2	107	166	340	530	12	16	17	20



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400	470/77.8	64/102	57.3/36.6	370	1.3	5.8	1.3	100	160	320	510	113	141	164	184
500	36.6/60.5	51/81	72.3/46.2	406	1.4	5.8	1.4	97	154	310	490	105	124	158	171
630	28.3/46.9	42/64	91.2/58.3	449	1.5	5.8	1.5	94	151	300	480	97	110	151	160

### Single Core 19/33KV (Um=36KV)

#### 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 <sup>2</sup>	mm	mm <sup>2</sup>	mm	mm	kg/km		mm <sup>2</sup>	mm	mm	mm	mm	kg/km	
50	8.0	16	2.0	34.2	1580	1270	6.7	1.2	2.0	2.2	41.0	2300	1980
70	8.0	16	2.0	35.8	1820	1380	7.1	1.2	2.0	2.2	42.6	2560	2120
95	8.0	16	2.1	37.6	2120	1510	7.5	1.2	2.0	2.3	44.4	2890	2290
120	8.0	16	2.1	39.0	2400	1630	7.9	1.2	2.0	2.3	45.8	3200	2430
150	8.0	25	2.2	40.9	2740	1810	8.2	1.3	2.5	2.4	48.9	3760	2830
185	8.0	25	2.2	42.4	3110	1950	8.6	1.3	2.5	2.5	50.6	4180	3010
240	8.0	25	2.3	45.1	3720	2180	9.2	1.3	2.5	2.5	53.1	4830	3270
300	8.0	25	2.4	47.3	4350	2460	9.7	1.4	2.5	2.6	55.5	5540	3630



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400	8.0	35	2.5	51.2	5410	2880	10.3	1.4	2.5	2.7	59.4	6680	4130
500	8.0	35	2.6	53.8	6420	3320	11.0	1.5	2.5	2.8	62.2	7790	4690
630	8.0	35	2.7	59.0	7800	3780	11.8	1.5	2.5	2.9	67.4	9290	5220

### Electrical Data

Nom. Cross-Section Area	Unarmoured Cables						Aluminium Wire Armoured Cables		Reactance		Inductance		Impedance			
	DC Resistance CU / AL	AC Resistance CU / AL	Short Circuit Rating of Conductor CU / AL 1 sec	Capacitance	Charging Current	Short Circuit Rating of Copper Wire Screen 1 sec	Short Circuit Rating of Copper Tape Screen 1 sec	Trefoil	Flat Spaced	Trefoil	Flat Spaced	Trefoil		Flat Spaced		
												CU	AL	CU	AL	
	mm <sup>2</sup>	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
50	387/641	494/822	6.8/4.4	138	0.83	2.6	1.0	151	214	480	680	511	834	527	844	
70	268/443	343/568	9.8/6.3	154	0.92	2.6	1.0	144	201	460	640	364	583	386	597	
95	193/320	248/410	13.3/8.5	169	1.01	2.6	1.1	138	195	440	620	272	427	300	446	
120	153/253	196/325	17.2/11.0	183	1.10	2.6	1.1	132	188	420	600	225	345	257	367	
150	124/206	159/265	21.2/13.5	194	1.16	4.3	1.2	126	182	400	580	193	287	229	313	
185	99.1/164	128/211	26.6/17.	210	1.26	4.3	1.2	122	182	390	580	1616	2323	2020	2626	





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			0										5	7	6	7
240	75.4/125	98/161	34.9/22.3	229	1.37	4.3	1.3	119	176	380	560	140	191	185	226	
300	60.1/100	80/130	43.8/28.0	249	1.49	4.3	1.4	113	173	360	550	126	163	174	203	
400	47/77.8	64/102	57.3/36.6	273	1.64	5.8	1.5	107	163	340	520	113	141	164	184	
500	36.6/60.5	51/81	72.3/46.2	298	1.79	5.8	1.6	104	163	330	520	105	124	158	171	
630	28.3/46.9	42/64	91.2/58.3	327	1.96	5.8	1.7	100	160	320	510	97	110	151	160	

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

Nom. Cross-Section Area mm <sup>2</sup>	Ground				Duct				Air			
	Trefoil		Flat		Trefoil		Flat		Trefoil		Flat	
	Unarm'd/Arm'd		SpacedUnarm'd/Arm'd		Unarm'd/Arm'd		TouchingUnarm'd/Arm'd		Unarm'd/Arm'd		SpacedUnarm'd/Arm'd	
	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL
25	160/160	120/120	170/170	125/125	165/165	125/125	165/165	125/125	170/170	130/130	230/235	180/180
35	180/180	150/150	190/190	155/155	185/185	155/155	185/185	155/155	200/200	160/160	260/265	210/210
50	220/220	170/170	230/230	175/175	225/220	175/170	220/220	170/170	235/250	180/190	295/300	230/230
70	270/270	210/210	280/280	215/215	270/270	215/210	270/270	210/210	285/310	225/240	370/370	290/290
95	320/320	250/250	335/335	260/260	320/320	255/240	325/325	250/250	360/375	280/280	455/460	350/355



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	0	0			05	5					95		
120	360/360	280/280	380/380	295/295	360/340	285/275	370/370	285/285	415/430	320/355	520/530	410/410	
150	410/410	320/315	430/430	330/330	400/375	315/300	415/410	320/320	470/490	365/380	600/600	465/465	
185	460/455	360/355	485/485	375/375	440/410	350/335	465/460	360/360	540/550	425/435	690/690	530/530	
240	530/520	415/405	560/560	440/440	505/460	405/380	540/540	420/420	640/650	500/510	820/820	640/630	
300	600/580	475/455	640/640	495/495	560/500	455/420	610/610	475/470	740/740	580/580	940/940	730/730	
400	680/650	540/510	730/730	570/570	610/600	510/455	690/690	540/540	840/840	670/670	1100/1100	860/860	
500	750/710	610/570	830/830	650/650	680/670	570/500	790/780	620/620	940/930	790/770	1280/1280	1010/1010	
630	830/760	680/640	940/940	750/750	750/700	640/550	890/890	710/700	1110/1100	910/880	1500/1480	1190/1118	

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

Nom. Cross-Section Area mm <sup>2</sup>	Ground				Duct				Air			
	Trefoil		Flat		Trefoil		Flat		Trefoil		Flat	
	Unarm'd/Arm'd	SpacedUnarm'd/Arm'd	Unarm'd/Arm'd	SpacedUnarm'd/Arm'd	Unarm'd/Arm'd	TouchingUnarm'd/Arm'd	Unarm'd/Arm'd	TouchingUnarm'd/Arm'd	Unarm'd/Arm'd	SpacedUnarm'd/Arm'd	Unarm'd/Arm'd	SpacedUnarm'd/Arm'd
	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL
	A		A		A		A		A		A	
35	180/180	130/130	200/200	135/135	180/170	130/125	180/175	130/125	190/175	145/135	225/230	175/175
50	220/220	170/170	230/230	175/175	225/215	175/170	225/220	175/170	245/260	190/200	295/300	230/230





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50	220/2 20	170/17 0	230/230	175/175	225/22 0	175/17 0	225/220	175/170	245/260	190/20 0	295/300	230/230
70	270/27 0	210/21 0	280/280	215/215	270/26 0	210/20 5	270/270	210/210	300/32 0	235/24 5	365/370	285/285
95	320/3 20	250/24 5	335/335	260/260	320/3 00	250/24 5	320/325	250/250	360/38 0	280/2 95	450/450	345/350
120	360/3 60	280/2 80	380/380	295/295	360/3 40	280/2 75	365/365	285/285	425/440	330/34 0	520/520	400/400
150	410/41 0	320/31 0	430/430	330/330	405/37 0	320/3 00	410/410	320/315	485/49 0	375/38 5	590/590	455/455
185	460/4 50	360/35 0	485/485	375/375	445/4 00	350/33 5	460/460	360/360	550/560	430/4 40	670/670	520/520
240	530/51 0	415/40 5	560/560	440/440	520/45 0	415/38 0	530/530	415/415	650/65 0	510/51 0	800/800	620/620
300	600/5 70	475/45 0	640/640	495/495	570/49 0	460/41 5	600/600	470/470	740/730	580/5 80	920/910	710/710
400	690/6 40	550/51 0	730/730	570/570	630/53 0	520/4 60	690/680	540/530	850/83 0	680/67 0	1070/106 0	840/830
500	760/70 0	610/57 0	830/830	650/650	700/57 0	570/51 0	780/770	610/610	980/94 0	790/77 0	1250/123 0	980/970
630	850/76 0	690/6 40	940/940	750/750	780/61 0	650/56 0	890/880	700/700	1130/10 50	920/8 80	1450/143 0	1060/114 0

### Current Rating Conditions

Ground Temperature 20°C

Ambient Temperature (air) 30°C

Depth of Soil 0.8m



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Thermal Resistance of  
Soil 1.5K<sub>om</sub>/W