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Three Core XLPE/PVC/SWA/PVC Power Cable

3.8/6.6, 6.35/11 and 8.7/15 kV



Application

Multi-core power cable for use on fixed installations. Indoor or outdoor use, or for direct burial.

Specifications

- In accordance with BS6622.
- **Conductors:** Stranded Class 2 copper conductors to BS EN 60228.
- Extruded semi-conducting layer.
- **Insulation:** XLPE insulation.
- Extruded semi-conducting layer.
- Plain copper tape screen.
- **Inner Sheath:** PVC inner sheath Type 9 to BS7655.
- Mild galvanised steel wires to BS EN 10257-1.
- **Outer Sheath:** PVC outer sheath Type 9 to BS7655.
- Flame retardant to BS EN 60332-1-2.
- **Temperature Rating:** 90°C maximum conductor operating temperature.
- **Voltage Rating:** 3800/6600, 6350/11000, & 8700/15000V.

For black sheath add suffix -02, for red sheath -03 to part number.

For further technical information refer to page 1:80.

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Anixter Number	Number of Cores	Nominal Conductor Area mm ²	Insulation Thickness mm	Diameter Under Armour mm	Armour Wire Size mm	Nominal O/D mm	Approx Weight kg/km	Minimum Bending Radius	
								mm	mm
3800/6600V Cables									
A2CM-3016	3	16	2.5	31.3	2.0	39.7	2900	480	400
A2CM-3025	3	25	2.5	33.6	2.0	42.0	3300	510	420
A2CM-3035	3	35	2.5	35.8	2.0	44.4	3700	540	440
A2CM-3050	3	50	2.5	38.4	2.5	48.4	4900	590	490
A2CM-3070	3	70	2.5	42.2	2.5	52.4	5800	630	530
A2CM-3095	3	95	2.5	46.1	2.5	56.5	6900	680	570
A2CM-3120	3	120	2.5	49.5	2.5	60.1	7900	730	610
A2CM-3150	3	150	2.5	52.2	2.5	63.1	8900	760	640
A2CM-3185	3	185	2.5	56.4	2.5	67.4	10400	810	680
A2CM-3240	3	240	2.6	61.8	2.5	73.2	12700	880	740
A2CM-3300	3	300	2.8	68.0	3.15	81.3	16000	980	820
A2CM-3400	3	400	3.0	75.1	3.15	88.8	19400	1070	890
6350/11000V Cables									
A2CW-3016	3	16	3.4	35.6	2.0	44.2	3400	540	450
A2CW-3025	3	25	3.4	38.1	2.5	47.9	4300	580	480
A2CW-3035	3	35	3.4	40.3	2.5	50.3	4700	610	510
A2CW-3050	3	50	3.4	42.9	2.5	53.1	5500	640	540
A2CW-3070	3	70	3.4	46.7	2.5	57.1	6400	690	580
A2CW-3095	3	95	3.4	50.6	2.5	61.2	7500	740	620
A2CW-3120	3	120	3.4	54.0	2.5	65.0	8600	780	650
A2CW-3150	3	150	3.4	56.8	2.5	68.0	9600	820	680
A2CW-3185	3	185	3.4	60.9	2.5	72.3	11200	870	730
A2CW-3240	3	240	3.4	65.9	3.15	79.0	14200	950	790
A2CW-3300	3	300	3.4	71.0	3.15	84.5	16500	1020	850
A2CW-3400	3	400	3.4	77.0	3.15	90.9	19700	1100	910
8700/15000V Cables									
A2DH-3025	3	25	4.5	43.5	2.5	53.7	5000	650	540
A2DH-3035	3	35	4.5	45.7	2.5	56.1	5500	680	570
A2DH-3050	3	50	4.5	48.2	2.5	58.8	6100	710	590
A2DH-3070	3	70	4.5	52.1	2.5	62.9	7100	760	630
A2DH-3095	3	95	4.5	56.0	2.5	67.0	8300	810	670
A2DH-3120	3	120	4.5	59.4	2.5	70.6	9400	850	710
A2DH-3150	3	150	4.5	62.2	2.5	73.6	10500	890	740
A2DH-3185	3	185	4.5	66.3	3.15	79.4	12900	960	800
A2DH-3240	3	240	4.5	71.2	3.15	84.7	15200	1020	850
A2DH-3300	3	300	4.5	76.4	3.15	90.1	17600	1090	910
A2DH-3400	3	400	4.5	82.4	3.15	96.7	20800	1170	970

Technical Information

- 1 and 3 core XLPE Insulated Cables 3800/6600V, 6350/11000V & 8700/15000V

For further guidance refer to the BS7671 (IEE Wiring Regulations - latest edition).

NB. High voltage cables are not specifically covered in IEE Wiring Regulations but reference should be made to ensure compliance.

For ambient air and ground temperatures other than those specified, the following factors should be applied.

Cables laid in air

Ambient air temp °C	25	30	35	40	45	50	55
Rating factor	1.0	0.96	0.92	0.88	0.83	0.78	0.73

Cables laid direct in ground and in single-way ducts

Ground temp °C	10	15	20	25	30	35	40
Rating factor	1.03	1.0	0.97	0.93	0.89	0.86	0.82

Standard depth of laying 0.8m

Thermal resistivity of soil 1.2°C m/W

Standard ground temperature 15°C

Ambient air temperature 25°C

Maximum conductor temperature 90°C

NOTE:

All circuits thermally independent

Cables in trefoil group are solidly bonded

Cables in flat formation are single point bonded

Technical Information

CURRENT CARRYING CAPACITY (Amperes)

Single Core 3.8/6.6 kV, 6.35/11 kV, 8.7/15 kV 50 Hz

Direct Burial			Duct					Air				
Nominal Conductor Area	3 Cables		Nominal Conductor Area	3 Cables				Nominal Conductor Area	3 Cables			
	Trefoil	Flat Spaced		Trefoil		Flat Touching			Trefoil		Flat Spaced	
mm ²	Arm'd	Arm'd	mm ²	Unarm'd	Arm'd	Unarm'd	Arm'd	mm ²	Unarm'd	Arm'd	Unarm'd	Arm'd
25	-	-	25	-	-	-	-	25	-	-	-	-
35	-	-	35	-	-	-	-	35	-	-	-	-
50	220	230	50	225	220	220	220	50	235	250	295	300
70	270	280	70	270	260	270	270	70	285	310	370	370
95	320	335	95	320	305	325	325	95	360	375	455	460
120	360	380	120	360	340	370	370	120	415	430	520	530
150	410	430	150	400	375	415	410	150	470	490	600	600
185	455	485	185	440	410	465	460	185	540	550	690	690
240	520	560	240	505	470	540	540	240	640	650	820	820
300	580	640	300	560	500	610	610	300	740	740	940	940
400	650	730	400	610	530	690	690	400	840	840	1100	1100
500	710	830	500	680	570	790	780	500	980	930	1280	1280
630	760	940	630	750	620	890	890	630	1110	1040	1500	1480

3 Core 3.8/6.6 kV, 6.35/11 kV, 8.7/15 kV 50 Hz XLPE/PVC/SWA/PVC & XLPE/LSF/SWA/LSF

Direct Burial		In Single-Way Duct		Air	
Nominal Conductor Area	3 Core	Nominal Conductor Area	3 Core	Nominal Conductor Area	3 Core
mm ²	Arm'd	mm ²	Arm'd	mm ²	Arm'd
25	140	25	125	25	145
35	170	35	150	35	175
50	210	50	180	50	220
70	255	70	215	70	270
95	300	95	255	95	330
120	340	120	290	120	375
150	380	150	330	150	430
185	430	185	370	185	490
240	490	240	425	240	570
300	540	300	470	300	650
400	600	400	530	400	740

Technical Information

- Single core PCU/XLPE/PVC 3800/6600V to BS6622
- Single core PCU/XLPE/AWA/PVC 3800/6600V to BS6622

ELECTRICAL CHARACTERISTICS

- Three core PCU/XLPE/PVC 3800/6600V to BS6622
- Three core PCU/XLPE/PVC/SA/PVC 3800/6600V to BS6622

ELECTRICAL CHARACTERISTICS

Conductor Size mm ²	Maximum d.c. Conductor Resistance @ 20°C ohms/km	Maximum a.c. Conductor Resistance @ 90°C		Reactance @ 50Hz		Impedance @ 90°C, 50Hz	
		Unarm'd	Arm'd	Unarm'd	Arm'd	Unarm'd	Arm'd
16	1.15	1.47	1.47	0.128	0.128	1.48	1.48
25	0.727	0.927	0.927	0.121	0.121	0.935	0.935
35	0.524	0.668	0.668	0.113	0.113	0.677	0.677
50	0.387	0.494	0.494	0.108	0.108	0.506	0.506
70	0.268	0.343	0.343	0.102	0.102	0.358	0.358
95	0.193	0.248	0.248	0.0962	0.0962	0.266	0.266
120	0.153	0.196	0.196	0.0931	0.0931	0.217	0.217
150	0.124	0.159	0.159	0.0908	0.0908	0.183	0.183
185	0.0991	0.128	0.128	0.0881	0.0881	0.155	0.155
240	0.0754	0.098	0.098	0.0859	0.0859	0.130	0.130
300	0.0601	0.080	0.080	0.0847	0.0847	0.117	0.117
400	0.047	0.064	0.064	0.0832	0.0832	0.105	0.105

Also applicable to LSF sheathed versions to BS7835

Technical Information

- Single core PCU/XLPE/PVC 6350/11000V to BS6622
- Single core PCU/XLPE/AWA/PVC 6350/11000V to BS6622

ELECTRICAL CHARACTERISTICS

Conductor Size	Maximum d.c. Conductor Resistance @ 20°C	Maximum a.c. Conductor Resistance @ 90°C		Reactance @ 50Hz		Impedance @ 90°C, 50Hz	
		Unarm'd	Arm'd	Single Core Cables in Trefoil Unarm'd	Single Core Cables in Trefoil Arm'd	Single Core Cables in Trefoil Unarm'd	Single Core Cables in Trefoil Arm'd
mm ²	ohms/km	ohms/km	ohms/km	ohms/km	ohms/km	ohms/km	ohms/km
50	0.387	0.494	0.494	0.124	0.138	0.508	0.512
70	0.268	0.343	0.343	0.117	0.130	0.361	0.366
95	0.193	0.248	0.248	0.110	0.123	0.270	0.276
120	0.153	0.196	0.196	0.107	0.118	0.223	0.229
150	0.124	0.159	0.159	0.104	0.117	0.190	0.197
185	0.0991	0.128	0.128	0.100	0.112	0.162	0.169
240	0.0754	0.0980	0.098	0.0972	0.109	0.138	0.146
300	0.0601	0.0800	0.080	0.0940	0.105	0.123	0.131
400	0.0470	0.0640	0.064	0.0912	0.101	0.111	0.119
500	0.0366	0.0510	0.051	0.0888	0.0998	0.102	0.112
630	0.0283	0.0420	0.042	0.0862	0.0965	0.0959	0.105

- Three core PCU/XLPE/PVC 6350/11000V to BS6622
- Three core PCU/XLPE/PVC/SAW/PVC 6350/11000V to BS6622

ELECTRICAL CHARACTERISTICS

Conductor Size	Maximum d.c. Conductor Resistance @ 20°C	Maximum a.c. Conductor Resistance @ 90°C	Reactance @ 50Hz	Impedance @ 90°C, 50Hz
mm ²	ohms/km	ohms/km	ohms/km	ohms/km
16	1.15	1.47	0.137	1.48
25	0.727	0.927	0.129	0.936
35	0.524	0.668	0.121	0.679
50	0.387	0.494	0.115	0.506
70	0.268	0.343	0.108	0.360
95	0.193	0.248	0.102	0.268
120	0.153	0.196	0.0988	0.220
150	0.124	0.159	0.0962	0.186
185	0.0991	0.128	0.0931	0.158
240	0.0754	0.098	0.090	0.134
300	0.0601	0.080	0.0874	0.119
400	0.047	0.064	0.0849	0.106

Also applicable to LSF sheathed versions to BS7835

Technical Information

- Single core PCU/XLPE/PVC 8700/15000V to BS6622
- Single core PCU/XLPE/PVC/AWA/PVC 8700/15000V to BS6622

ELECTRICAL CHARACTERISTICS

Conductor Size	Maximum d.c. Conductor Resistance @ 20°C	Maximum a.c. Conductor Resistance @ 90°C		Reactance @ 50Hz		Impedance @ 90°C, 50Hz	
		Unarm'd	Arm'd	Single Core Cables in Trefoil Unarm'd	Arm'd	Single Core Cables in Trefoil Unarm'd	Arm'd
mm ²	ohms/km	ohms/km	ohms/km	ohms/km	ohms/km	ohms/km	ohms/km
50	0.387	0.494	0.494	0.131	0.144	0.510	0.514
70	0.268	0.343	0.343	0.123	0.135	0.363	0.368
95	0.193	0.248	0.248	0.116	0.129	0.273	0.279
120	0.153	0.196	0.196	0.112	0.124	0.226	0.232
150	0.124	0.159	0.159	0.109	0.121	0.192	0.198
185	0.0991	0.128	0.128	0.106	0.117	0.165	0.172
240	0.0754	0.098	0.098	0.102	0.113	0.141	0.148
300	0.0601	0.080	0.080	0.0984	0.108	0.126	0.133
400	0.0470	0.064	0.064	0.0954	0.107	0.114	0.124
500	0.0366	0.051	0.051	0.0927	0.103	0.105	0.114
630	0.0283	0.042	0.042	0.0897	0.0995	0.0986	0.107

- Three core PCU/XLPE/PVC 8700/15000V to BS6622
- Three core PCU/XLPE/PVC/SA/PVC 8700/15000V to BS6622

ELECTRICAL CHARACTERISTICS

Conductor Size	Maximum d.c. Conductor Resistance @ 20°C	Maximum a.c. Conductor Resistance @ 90°C	Reactance @ 50Hz	Impedance @ 90°C, 50Hz
mm ²	ohms/km	ohms/km	ohms/km	ohms/km
16	1.15	1.47	0.147	1.48
25	0.727	0.927	0.138	0.937
35	0.524	0.668	0.129	0.680
50	0.387	0.494	0.123	0.508
70	0.268	0.343	0.115	0.361
95	0.193	0.248	0.109	0.270
120	0.153	0.196	0.105	0.223
150	0.124	0.159	0.102	0.189
185	0.0991	0.128	0.0986	0.162
240	0.0754	0.098	0.0952	0.137
300	0.0601	0.080	0.0922	0.123
400	0.047	0.064	0.0893	0.110

Also applicable to LSF sheathed versions to BS7835

Conductor Short-Circuit Ratings

XLPE Insulated Cables

Short-Circuit Ratings

Conductor Size mm ²	0.2s duration kA	1.0s duration kA	3.0s duration kA
1.5	0.479	0.214	0.123
2.5	0.799	0.357	0.206
4.0	1.27	0.572	0.330
6.0	1.91	0.858	0.495
10	3.19	1.43	0.825
16	5.11	2.28	1.32
25	7.99	3.57	2.06
35	11.1	5.0	2.88
50	15.9	7.15	4.12
70	22.3	10.0	5.77
95	30.3	13.5	7.84
120	38.3	17.1	9.9
150	47.9	21.4	12.3
185	59.1	26.4	15.2
240	76.7	34.3	19.8
300	95.9	42.9	24.7
400	127	57.2	33.0
500	159	71.5	41.2
630	201	90.0	52.0

N.B: The above ratings assume an adiabatic temperature rise and are based on a conductor temperature of 90°C at start of short-circuit and 250°C at end of shortcircuit.