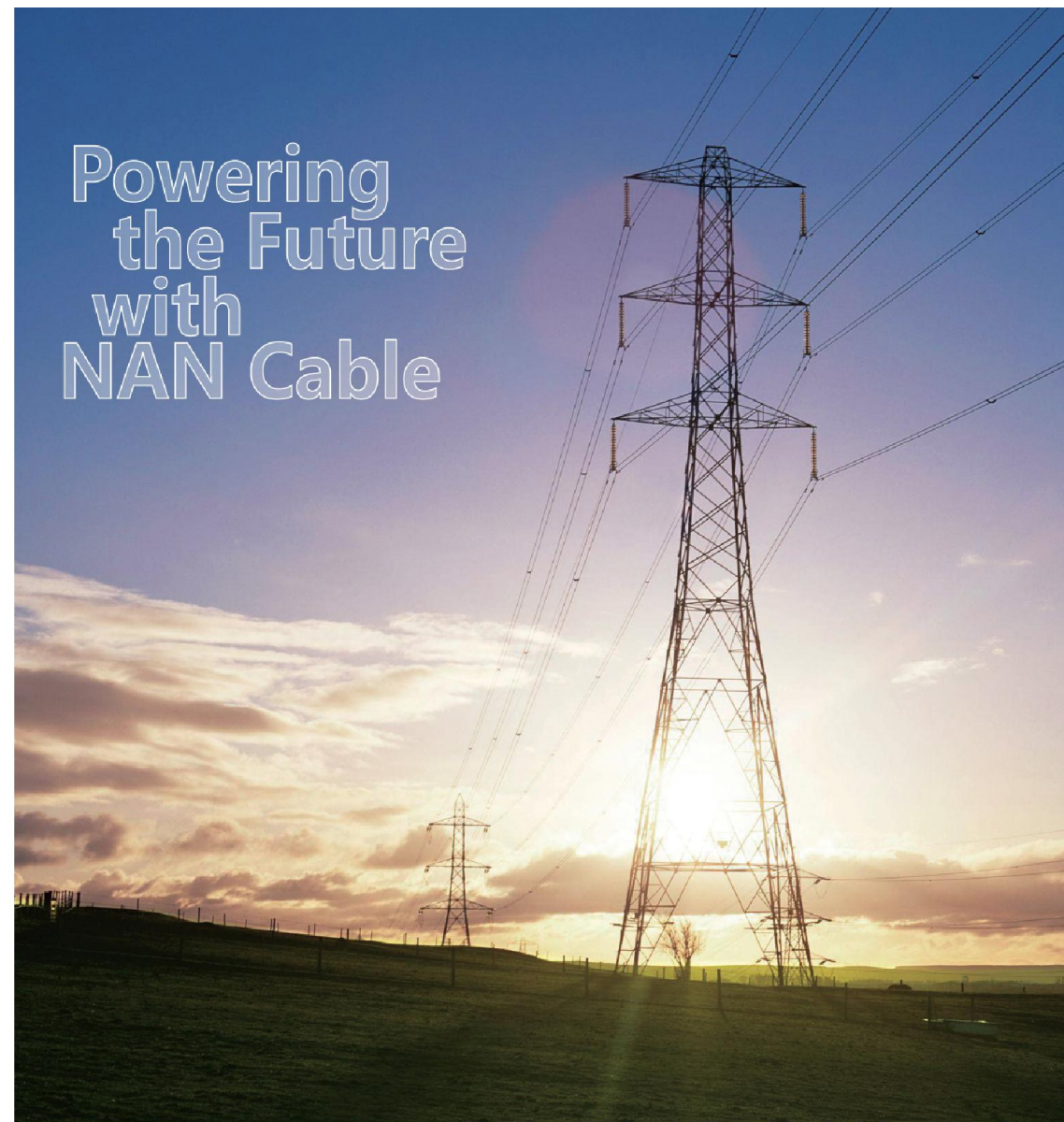


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Aerial Cables

Contents

01	Company Introduction
03	All Aluminium Conductors (Type AAC)
05	All Aluminium Alloy Conductors (Type AAAC 1120)
07	Aluminium Conductors Steel Reinforced (Type ACSR/GZ)
09	Aluminium Conductors Steel Reinforced (Type ACSR/AC)
11	Hard Drawn Copper Conductors
13	Steel Conductors (SC/GZ & SC/AC)
14	Low Voltage Aerial Bundled Cables (LV ABC)
15	LV XLPE Insulated Aerial Bundled Cables 2, 3 & 4 Core Aluminium
17	LV XLPE Insulated Aerial Bundled Cables 2, 3 & 4 Core Copper
19	LV PVC Insulated Aerial Cables Single & 2 Core Copper
21	LV PVC Insulated Twisted Aerial Cables 3 & 4 Core Copper
23	HV XLPE Insulated Metallic Screened ABC 12.7/22kV
25	Drum Handling Guide

Disclaimer:

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Persons using this information must make their own enquiries, are specifically referred to the appropriate Australian Standard and/or to the relevant local Electricity Supply Authority rulings and are solely responsible to ensure that the correct products are used for their intended applications.

NAN reserves the right to change specifications of products from time to time and at any time without notice.

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Company Introduction

NAN Electrical Cable Australia Pty Ltd (NAN Cables), a subsidiary of Chinese industrial giant Guangdong Nanyang Cable Group Holding Co. Ltd, now brings to the Australian market the wealth of experience and expertise that has made its parent company the largest cable company in Southern China.

NAN Cables signals the start of an exciting new chapter in the company's drive to be recognised as a world leader in its field.

With four large-scale modern manufacturing plants equipped with some of the world's most advanced and sophisticated cable making machinery and testing equipment NAN Cables offers a new high quality supplier to the Australian market.

NAN Cables "quality first, customer first" philosophy is credited for its innovative approach to product development and commitment to excellence which in turn has driven the company's remarkable growth and success.

Stringent quality controls at all production facilities and strict internationally-recognised testing at all stages of the manufacturing process ensures that nothing leaves the premises without the respected NAN Cables stamp of approval.

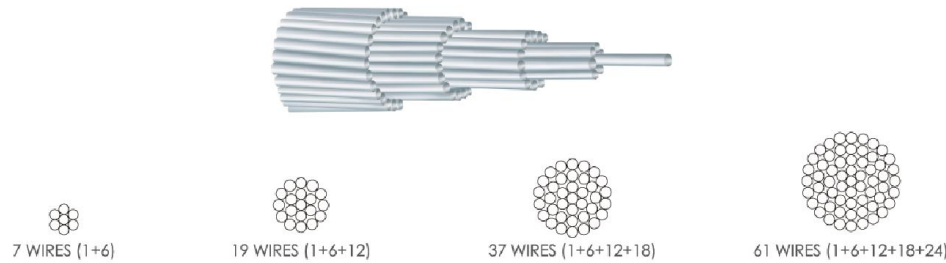
NAN Cables is now a part of the Australian landscape, here to serve Australian industry through leadership in technology and excellence in customer service.



All Aluminium Conductors (Type AAC)

All Aluminium Conductors (AAC) are concentrically stranded conductors of EC grade (alloy 1350) aluminium wires only. The conductor may be made up of 7, 19, 37, 61 or more wires in 1, 2, 3, 4 or more layer around a central wire. AAC conductors are typically used in installations where spacing is short and supports are close.

Full hard drawn temper wires are used with the wires stranded in each successive layer having an opposite direction of lay, the outermost layer being right-handed. The illustration below shows the stranding patterns.



Aluminium conductors manufactured to AS 1531 (AAC/1350) Physical and Mechanical Properties

Conductor code	Stranding and wire diameter	Nominal Overall diameter	Cross sectional area	Approximate mass	Minimum breaking load	Coefficient of linear expansion
	No/mm	mm	mm ²	kg/km	kN	x10 ⁻⁶ /°C
Leo	7/2.50	7.5	34.4	94.3	5.71	23.0
Leonids	7/2.75	8.25	41.6	113	6.72	23.0
Libra	7/3.00	9.00	49.5	135	7.98	23.0
Mars	7/3.75	11.3	77.3	211	11.8	23.0
Mercury	7/4.50	13.5	111	304	16.9	23.0
Moon	7/4.75	14.3	124	339	18.9	23.0
Neptune	19/3.25	16.3	158	433	24.7	23.0
Orion	19/3.50	17.5	183	503	28.7	23.0
Pluto	19/3.75	18.8	210	576	31.9	23.0
Saturn	37/3.00	21.0	262	721	42.2	23.0
Sirius	37/3.25	22.8	307	845	48.2	23.0
Taurus	19/4.75	23.8	337	924	51.3	23.0
Triton	37/3.75	26.3	409	1120	62.2	23.0
Uranus	61/3.25	29.3	506	1400	75.2	23.0
Ursula	61/3.50	31.5	587	1620	87.3	23.0
Venus	61/3.75	33.8	673	1860	97.2	23.0

Electrical Properties

Conductor code	DC resist at 20°C	AC Resist at 50Hz 75°C	Inductive reactance to 0.3m at 50Hz	Continuous current carrying capacity, A											
				Rural weathered						Industrial weathered					
				Winter night			Summer noon			Winter night			Summer noon		
Ω/km	Ω/km	Ω/km	still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind	
Leo	0.833	1.022	0.294	128	219	253	104	191	238	141	223	258	92	192	218
Leonids	0.689	0.840	0.286	149	238	286	109	215	252	159	248	293	102	212	238
Libra	0.579	0.705	0.285	163	265	338	121	241	293	172	275	349	123	243	271
Mars	0.370	0.451	0.271	224	356	425	167	322	372	236	378	423	151	314	374
Mercury	0.258	0.316	0.257	273	437	519	203	386	458	295	463	538	179	387	459
Moon	0.232	0.287	0.256	293	468	539	212	418	489	323	489	565	183	411	493
Neptune	0.183	0.223	0.243	352	552	643	251	483	583	381	578	659	209	475	563
Orion	0.157	0.190	0.242	379	615	710	273	532	636	413	625	722	227	516	628
Pluto	0.137	0.166	0.231	415	677	776	302	577	680	456	696	789	269	559	674
Saturn	0.110	0.137	0.228	497	769	873	345	656	781	528	782	914	312	639	763
Sirius	0.094	0.112	0.223	546	846	973	368	726	864	584	871	1023	341	702	828
Taurus	0.0857	0.104	0.218	585	879	1056	408	769	923	642	922	1087	359	739	875
Triton	0.0706	0.0870	0.211	669	996	1195	449	853	1038	736	1038	1238	401	824	1011
Uranus	0.0572	0.0713	0.208	787	1128	1388	535	973	1173	855	1189	1427	452	936	1163
Ursula	0.0493	0.0615	0.202	856	1254	1534	582	1063	1326	938	1312	1581	502	1018	1289
Venus	0.0429	0.0537	0.194	943	1376	1685	644	1129	1438	1027	1430	1724	543	1091	1434

Note: Current ratings are based to the following conditions

- Conductor temperature rise above ambient of 40°C
- Ambient air temp. of 35°C for summer noon or 10°C for winter night
- Direct solar radiation intensity of 1000W/m² for summer noon or zero for winter night
- Diffuse solar radiation intensity of 100W/m² for summer noon or zero for winter night
- Ground reflectance of 0.2
- Emissivity of 0.5 for rural weathered conductor or 0.85 for industrial weathered conductor
- Solar absorption coefficient of 0.5 for rural weathered conductor or 0.85 for industrial weathered conductor
- Cross sections not to scale

All Aluminium Alloy Conductors (Type AAAC 1120)

All Aluminium alloy conductors (AAAC) are used as bare overhead conductors for power transmission and distribution lines and provide several benefits over ACSR or AAC conductors. AAAC conductors are significantly stronger than similar AAC conductors therefore providing much better sag resistance than either ACSR or AAC and AAAC has a higher corrosion resistance which makes it suitable for coastal and industrial areas

Aluminium alloy 1120 conductors manufactured to AS 1531 Physical and Mechanical Properties

Conductor code	Stranding and wire diameter	Nominal Overall diameter	Cross sectional area	Approximate mass	Minimum breaking load	Modulus of elasticity	Coefficient of linear expansion
Chlorine	7/2.50	7.50	34.4	94.3	8.18	65	23.0
Chromium	7/2.75	8.25	41.6	113	9.91	65	23.0
Fluorine	7/3.00	9.00	49.5	135	11.8	65	23.0
Helium	7/3.75	11.3	77.3	211	17.6	65	23.0
Hydrogen	7/4.50	13.5	111	304	24.3	65	23.0
Iodine	7/4.75	14.3	124	339	27.1	65	23.0
Krypton	19/3.25	16.3	158	433	37.4	65	23.0
Lutetium	19/3.50	17.5	183	503	41.7	65	23.0
Neon	19/3.75	18.8	210	576	47.8	65	23.0
Nitrogen	37/3.00	21.0	262	721	62.2	64	23.0
Nobelium	37/3.25	22.8	307	845	72.8	64	23.0
Oxygen	19/4.75	23.8	337	924	73.6	65	23.0
Phosphorus	37/3.75	26.3	409	1120	93.1	64	23.0
Selenium	61/3.25	29.3	506	1400	114	64	23.0
Silicon	61/3.50	31.5	587	1620	127	64	23.0
Sulfur	61/3.75	33.8	673	1860	145	64	23.0

Electrical Properties

Conductor code	DC resist at 20°C	AC Resist at 50Hz 75°C	Inductive reactance to 0.3m at 50Hz	Continuous current carrying capacity, A											
				Rural weathered						Industrial weathered					
				Winter night			Summer noon			Winter night			Summer noon		
Ω/km	Ω/km	Ω/km	still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind	
Chlorine	0.864	1.051	0.294	128	211	238	99	185	218	134	228	252	89	188	222
Chromium	0.713	0.862	0.286	135	239	279	111	213	252	152	245	279	102	214	251
Fluorine	0.599	0.724	0.285	159	268	313	123	242	275	172	272	344	111	232	278
Helium	0.383	0.463	0.271	211	355	412	157	311	360	236	358	415	145	311	363
Hydrogen	0.266	0.325	0.257	274	449	509	190	393	451	292	452	519	181	383	459
Iodine	0.239	0.290	0.256	292	473	542	211	412	492	323	491	562	192	402	479
Krypton	0.189	0.231	0.243	342	549	633	243	485	576	369	557	649	215	462	563
Lutetium	0.163	0.194	0.242	383	592	692	268	522	623	423	620	715	248	513	613
Neon	0.142	0.172	0.231	422	638	751	285	571	674	458	673	787	258	552	658
Nitrogen	0.114	0.137	0.228	491	749	858	344	638	774	534	786	882	303	624	756
Nobelium	0.0973	0.113	0.223	549	830	960	382	711	838	592	863	985	324	678	820
Oxygen	0.0884	0.105	0.218	585	879	1038	480	752	882	635	914	1063	347	728	878
Phosphorus	0.0731	0.0894	0.211	669	975	1158	463	843	1023	738	1038	1214	386	811	991
Selenium	0.0592	0.0731	0.208	777	1138	1350	511	956	1181	844	1182	1415	452	915	1128
Silicon	0.0511	0.0632	0.202	845	1234	1511	572	1044	1290	936	1293	1559	493	999	1260
Sulfur	0.0444	0.0552	0.194	938	1342	1648	629	1129	1426	1029	1424	1723	540	1070	1891

Note: Current ratings are based to the following conditions

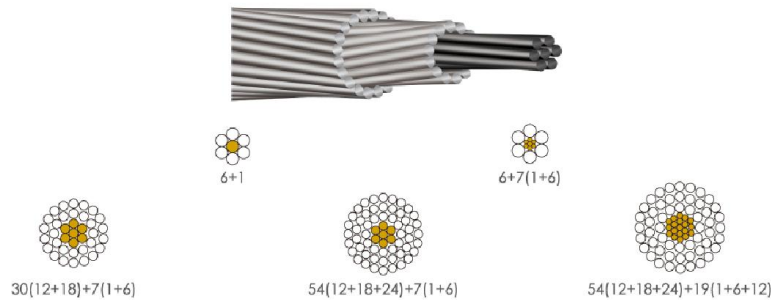
- Conductor temperature rise above ambient of 40°C
- Ambient air temp. of 35°C for summer noon or 10°C for winter night
- Direct solar radiation intensity of 1000W/m² for summer noon or zero for winter night
- Diffuse solar radiation intensity of 100W/m² for summer noon or zero for winter night
- Ground reflectance of 0.2
- Solar absorption coefficient of 0.5 for rural weathered conductor or 0.85 for industrial weathered conductor
- Cross sections not to scale

Aluminium Conductors Steel Reinforced (Type ACSR/GZ)

ACSR conductors are a composite, concentrically stranded conductor consisting of a single galvanised steel wire or a stranded galvanised steel central core surrounded with one or more layers of EC grade (alloy 1350) stranded aluminium wires. The combination of the light weight and good conductivity of the aluminium and the high tensile strength of steel in the conductor design make ACSR conductors the most economical solution for overhead high tension transmission lines with an established reputation for dependability under adverse weather conditions.

The illustration below shows typical standard sizes and stranding patterns. The wires in all bare conductors are stranded with each successive layer having an opposite direction of lay, the outermost layer being right-handed.

For installations that require increased corrosion protection ACSR conductors incorporating an aluminium-clad steel central core can be supplied.



Aluminium conductors, galvanized steel reinforced manufactured to AS 3607 (ACSR). Physical and Mechanical Properties

Conductor code	Stranding and wire diameter No/mm		Nominal Overall diameter mm	Cross sectional area mm ²	Approximate mass kg/km	Minimum breaking load kN	Modulus of elasticity GPa	Coefficient of linear expansion x10 ⁻⁶ /°C
	Aluminum	Steel						
Almond	6/2.50	1/2.5	7.5	34.4	119	10.5	83	19.3
Apricot	6/2.75	1/2.75	8.3	41.6	144	12.6	83	19.3
Apple	6/3.00	1/3.00	9.0	49.5	171	14.9	83	19.3
Banana	6/3.75	1/3.75	11.3	77.3	268	22.7	83	19.3
Cherry	6/4.75	7/1.60	14.3	120	402	33.4	80	19.9
Grape	30/2.50	7/2.50	17.5	182	677	63.5	88	18.4
Lemon	30/3.00	7/3.00	21.0	262	973	90.4	88	18.4
Lychee	30/3.25	7/3.25	22.8	307	1140	105	88	18.4
Lime	30/3.50	7/3.50	24.5	356	1320	122	88	18.4
Mango	54/3.00	7/3.00	27.0	431	1440	119	78	19.9
Orange	54/3.25	7/3.25	29.3	506	1690	137	78	19.9
Olive	54/3.50	7/3.50	31.5	587	1960	159	78	19.9
Pawpaw	54/3.75	19/2.25	33.8	672	2240	178	77	20.0
Quince	3/1.75	4/1.75	5.3	16.8	95	12.7	136	13.9
Raisin	3/2.50	4/2.50	7.5	34.4	195	24.4	136	13.9
Sultana	4/3.00	3/3.00	9.0	49.5	243	28.3	119	15.2
Walnut	4/3.75	3/3.75	11.3	77.3	380	43.9	119	15.2

Electrical Properties

Conductor code	DC resist at 20°C Ω/km	AC Resist at 50Hz 75°C Ω/km	Inductive reactance to 0.3m at 50Hz Ω/km	Continuous current carrying capacity, A											
				Rural weathered						Industrial weathered					
				Winter night			Summer noon			Winter night			Summer noon		
	Ω/km	Ω/km	Ω/km	still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind
Almond	0.975	1.32	0.295	114	195	219	85	172	203	121	195	228	81	166	202
Apricot	0.805	1.07	0.291	126	211	252	97	192	229	135	221	252	90	188	218
Apple	0.677	0.909	0.284	144	235	279	110	210	255	149	249	286	97	214	243
Banana	0.433	0.583	0.272	192	314	365	145	284	336	222	325	371	132	272	318
Cherry	0.271	0.366	0.256	262	415	492	195	369	444	289	441	499	177	368	428
Grape	0.196	0.264	0.241	335	515	605	242	454	539	372	525	628	215	444	528
Lemon	0.136	0.165	0.223	448	686	789	311	593	702	495	705	816	272	571	695
Lychee	0.116	0.143	0.220	490	768	885	349	668	787	559	795	917	302	529	766
Lime	0.100	0.124	0.218	551	838	975	383	711	852	613	874	1018	333	690	828
Mango	0.0758	0.0957	0.213	652	961	1158	445	828	1002	723	1012	1192	394	794	974
Orange	0.0646	0.0815	0.208	736	1058	1293	499	903	1123	806	1123	1328	429	872	1082
Olive	0.0557	0.0706	0.203	811	1172	1448	556	989	1238	896	1235	1475	467	940	1203
Pawpaw	0.0485	0.0617	0.197	896	1275	1559	601	1078	1358	985	1348	1628	512	1018	1325
Quince	3.25	4.35	0.345	52	94	107	40	83	99	57	96	119	42	82	98
Raisin	1.59	2.13	0.326	84	148	171	65	132	159	95	152	177	60	130	154
Sultana	0.897	1.20	0.300	121	209	232	92	180	220	135	211	248	85	177	213
Walnut	0.573	0.771	0.287	160	258	311	123	245	289	177	280	321	113	235	288

Note: Current ratings are based to the following conditions

- Conductor temperature rise above ambient of 40°C
 - Ambient air temp. of 35°C for summer noon or 10°C for winter night
 - Direct solar radiation intensity of 1000W/m² for summer noon or zero for winter night
 - Diffuse solar radiation intensity of 100W/m² for summer noon or zero for winter night
 - Ground reflectance of 0.2
 - Emissivity of 0.5 for rural weathered conductor or 0.85 for industrial weathered conductor
 - Solar absorption coefficient of 0.5 for rural weathered conductor or 0.85 for industrial weathered conductor
- Cross sections not to scale

Aluminium Conductors Steel Reinforced (Type ACSR/AC)

Aluminium conductors, aluminium-clad steel reinforced manufactured to AS 3607.
Physical and Mechanical Properties

Conductor code	Stranding and wire diameter No/mm		Nominal Overall diameter mm	Cross sectional area mm ²	Approximate mass kg/km	Minimum breaking load kN	Modulus of elasticity GPa	Coefficient of linear expansion x10 ⁻⁶ /°C
	Aluminum	Steel						
Angling	6/2.50	1/2.5	7.5	34.4	113	10.6	79	20.1
Aquatics	6/2.75	1/2.75	8.3	41.6	137	12.7	79	20.1
Archery	6/3.00	1/3.00	9.0	49.5	163	15.1	79	20.1
Baseball	6/3.75	1/3.75	11.3	77.3	254	22.3	79	20.1
Bowls	6/4.75	7/1.60	14.3	120	385	32.7	76	20.6
Cricket	30/2.50	7/2.50	17.5	182	636	64.4	82	19.4
Darts	30/3.00	7/3.00	21.0	262	913	91.6	82	19.4
Dice	30/3.25	7/3.25	22.8	307	1070	106	82	19.4
Diving	30/3.50	7/3.50	24.5	356	1240	122	82	19.4
Golf	54/3.00	7/3.00	27.0	431	1380	120	75	20.6
Gymnastics	54/3.25	7/3.25	29.3	506	1620	139	75	20.6
Hurdles	54/3.50	7/3.50	31.5	587	1880	159	75	20.6
Lacrosse	54/3.75	19/2.25	33.8	672	2150	180	74	20.7
Skating	3/1.75	4/1.75	5.3	16.8	83	12.3	119	15.3
Soccer	3/2.50	4/2.50	7.5	34.4	171	24.9	119	15.3
Swimming	4/3.00	3/3.00	9.0	49.5	218	28.9	106	16.5
Tennis	4/3.75	3/3.75	11.3	77.3	340	42.6	106	16.5

Electrical Properties

Conductor code	DC resist at 20°C Ω/km	AC Resist at 50Hz 75°C Ω/km	Inductive reactance to 0.3m at 50Hz Ω/km	Continuous current carrying capacity, A											
				Rural weathered						Industrial weathered					
				Winter night			Summer noon			Winter night			Summer noon		
	still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind			
Angling	0.923	1.22	0.295	115	199	225	88	176	200	223	202	228	82	172	209
Aquatics	0.763	1.02	0.291	128	222	268	102	198	226	130	225	250	92	196	224
Archery	0.641	0.860	0.284	136	248	281	110	223	248	158	252	296	103	218	258
Baseball	0.410	0.550	0.272	198	323	373	149	294	336	209	333	388	138	288	336
Bowls	0.259	0.353	0.256	272	432	499	203	388	449	294	449	513	179	369	445
Cricket	0.182	0.244	0.241	350	548	629	258	473	562	372	558	644	224	458	549
Darts	0.126	0.152	0.223	466	710	828	322	613	736	500	744	849	289	596	718
Dice	0.108	0.133	0.220	518	773	919	369	674	790	565	828	946	311	655	783
Diving	0.0928	0.115	0.218	573	855	1024	399	738	881	634	899	1052	353	707	859
Golf	0.0726	0.0913	0.213	669	989	1188	464	830	1017	728	1038	1207	399	803	993
Gymnastics	0.0619	0.0781	0.208	749	1092	1320	512	915	1141	815	1146	1359	438	893	1113
Hurdles	0.0533	0.0670	0.203	828	1193	1467	559	1000	1250	910	1252	1502	486	960	1232
Lacrosse	0.0465	0.0592	0.197	913	1288	1588	614	1076	1388	998	1378	1659	526	1057	1345
Skating	2.75	3.60	0.345	56	100	117	47	90	107	60	104	121	41	90	107
Soccer	1.34	1.70	0.326	94	157	183	73	142	172	100	163	193	68	141	166
Swimming	0.807	1.07	0.300	129	216	250	98	190	223	136	220	258	93	188	226
Tennis	0.517	0.694	0.287	173	285	335	130	255	295	183	294	346	115	247	290

Note: Current ratings are based to the following conditions

- Conductor temperature rise above ambient of 40°C
 - Ambient air temp. of 35°C for summer noon or 10°C for winter night
 - Direct solar radiation intensity of 1000W/m² for summer noon or zero for winter night
 - Diffuse solar radiation intensity of 100W/m² for summer noon or zero for winter night
 - Ground reflectance of 0.2
 - Emissivity of 0.5 for rural weathered conductor or 0.85 for industrial weathered conductor
 - Solar absorption coefficient of 0.5 for rural weathered conductor or 0.85 for industrial weathered conductor
- Cross sections not to scale

Hard Drawn Copper Conductors

Hard drawn copper conductors manufactured to AS 1746

Physical and Mechanical Properties

Stranding and wire diameter	Nominal Overall diameter	Cross sectional area	Approximate mass	Minimum breaking load	Modulus of elasticity	Coefficient of linear expansion
No/mm	mm	mm ²	kg/km	kN	GPa	x10 ⁻⁶ /°C
7/1.00	3.00	5.5	49.3	2.32	120	17.0
7/1.25	3.75	8.59	76.9	3.59	120	17.0
7/1.75	5.25	16.8	151	6.89	120	17.0
7/2.00	6.00	22.0	197	8.89	120	17.0
7/2.75	8.25	41.6	375	16.2	120	17.0
19/1.75	8.75	45.7	413	18.3	118	17.0
19/2.00	10.0	59.7	538	23.6	118	17.0
7/3.50	10.5	67.4	607	25.4	120	17.0
7/3.75	11.3	77.3	696	28.8	120	17.0
37/1.75	12.3	89.0	806	35.6	117	17.0
19/2.75	13.8	113	1020	43.1	118	17.0
19/3.00	15.0	134	1210	50.8	118	17.0
37/2.50	17.5	182	1640	70.3	117	17.0
37/2.75	19.3	220	1990	83.9	117	17.0
97/3.00	21.0	262	2370	98.9	117	17.0
61/2.75	24.8	362	3290	138	117	17.0

Electrical Properties

Stranding and wire diameter	DC Resist at 20°C	AC Resist at 50Hz 75°C	Inductive reactance to 0.3m at 50Hz	Continuous current carrying capacity, A											
				Rural weathered						Industrial weathered					
				Winter night			Summer noon			Winter night			Summer noon		
				still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind
Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	
7/1.00	3.25	3.91	0.351	49	97	102	41	82	90	51	88	109	36	80	92
7/1.25	2.09	2.50	0.337	65	118	135	54	105	129	67	119	135	52	105	123
7/1.75	1.06	1.27	0.315	102	182	208	77	163	195	109	182	209	71	162	195
7/2.00	0.815	0.984	0.311	118	213	242	90	185	219	128	209	248	88	187	222
7/2.75	0.433	0.522	0.287	181	308	354	144	271	322	195	311	350	125	269	318
19/1.75	0.395	0.477	0.280	192	322	363	149	294	345	209	385	388	135	288	347
19/2.00	0.303	0.365	0.273	228	378	439	171	342	412	249	398	452	152	335	395
7/3.50	0.268	0.322	0.278	245	415	474	180	366	435	268	423	486	161	359	426
7/3.75	0.233	0.281	0.271	269	448	520	201	390	472	285	458	558	177	393	465
37/1.75	0.203	0.244	0.260	310	492	566	222	432	515	322	515	578	196	425	513
19/2.75	0.160	0.192	0.252	349	568	658	259	499	596	381	592	678	229	490	584
19/3.00	0.134	0.161	0.248	392	633	731	285	563	663	425	652	752	252	544	649
37/2.50	0.0996	0.122	0.237	481	757	882	342	669	782	529	788	912	308	648	775
37/2.75	0.0823	0.101	0.234	549	859	993	396	751	880	603	892	1028	331	729	872
37/3.00	0.0691	0.0843	0.278	623	953	1121	445	824	988	688	1002	1144	386	792	969
61/2.75	0.0500	0.0617	0.218	778	1158	1388	536	997	1199	852	1226	1428	475	954	1158

Note: Current ratings are based to the following conditions

- Conductor temperature rise above ambient of 40°C
 - Ambient air temp. of 35°C for summer noon or 10°C for winter night
 - Direct solar radiation intensity of 1000W/m² for summer noon or zero for winter night
 - Diffuse solar radiation intensity of 100W/m² for summer noon or zero for winter night
 - Ground reflectance of 0.2
 - Emissivity of 0.5 for rural weathered conductor or 0.85 for industrial weathered conductor
 - Solar absorption coefficient of 0.5 for rural weathered conductor or 0.85 for industrial weathered conductor
- Cross sections not to scale

Steel Conductors (SC/GZ & SC/AC)

Galvanised steel conductors manufactured to AS 1222.1 SC/GZ

Stranding and wire diameter	Nominal Overall diameter	Cross sectional area	Approx mass	Minimum breaking load	Modulus of elasticity	Coefficient of linear expansion	DC resist at 20 °C	AC Resist at 50Hz 75 °C	Continuous current carrying capacity, A					
									Winter night			Summer noon		
									still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind
3/2.00	4.3	9.43	74	11.7	189	11.5	20	25	22	39	46	18	35	42
3/2.75	5.9	17.8	140	22.2	189	11.5	11	14	32	56	64	26	52	59
7/2.00	6.0	22.0	173	26.0	187	11.5	8.7	11	33	63	72	30	57	67
7/2.75	8.3	41.6	328	49.0	187	11.5	4.6	5.7	56	93	109	43	83	103
7/3.25	9.8	58.1	458	68.7	187	11.5	3.3	4.1	69	115	134	52	105	122
7/3.75	11.3	77.3	609	91.3	187	11.5	2.5	3.1	83	136	160	63	122	144
19/2.00	10.0	59.7	473	70.5	184	11.5	3.2	4.0	72	118	136	55	106	125
19/2.75	13.8	113	894	133	184	11.5	1.7	2.1	108	173	203	78	154	182
19/3.25	16.3	158	1250	186	184	11.5	1.2	1.5	138	216	252	96	188	224

Aluminium-clad steel conductors manufactured to AS 1222.2 SC/AC

Stranding and wire diameter	Nominal Overall diameter	Cross sectional area	Approx mass	Minimum breaking load	Modulus of elasticity	Coefficient of linear expansion	DC resist at 20 °C	AC Resist at 50Hz 75 °C	Continuous current carrying capacity, A					
									Winter night			Summer noon		
									still air	1m/s wind	2m/s wind	still air	1m/s wind	2m/s wind
3/2.75	5.9	17.82	118	22.7	159	12.9	4.80	5.74	49	85	102	42	79	94
3/3.00	6.5	21.21	141	27.0	159	12.9	4.02	4.83	56	95	108	45	86	106
3/3.25	7.0	24.89	165	31.6	159	12.9	3.42	4.12	62	106	125	48	94	115
3/3.75	8.1	33.12	220	39.3	159	12.9	2.58	3.08	73	127	145	58	115	137
7/2.75	8.3	41.58	277	50.1	157	12.9	2.06	2.45	84	142	163	66	126	151
7/3.00	9.0	49.48	330	59.7	157	12.9	1.73	2.05	93	155	184	71	142	163
7/3.25	9.8	58.07	387	69.9	157	12.9	1.47	1.77	105	175	200	79	159	185
7/3.75	11.3	77.28	515	86.9	157	12.9	1.11	1.34	126	208	238	95	193	219
7/4.25	12.8	99.33	662	105	157	12.9	0.864	1.06	152	245	279	112	215	255
19/2.75	13.8	112.9	755	136	155	12.9	0.764	0.912	162	263	304	118	236	273
19/3.00	15.0	134.3	899	162	155	12.9	0.642	0.767	185	293	338	133	254	307
19/3.25	16.3	157.6	1060	189	155	12.9	0.545	0.650	206	328	373	144	281	338
19/3.75	18.8	209.8	1410	236	155	12.9	0.411	0.491	248	385	445	175	336	402
19/4.25	21.3	269.6	1800	286	155	12.9	0.320	0.382	290	454	520	205	394	468

Note: Current ratings are based to the following conditions

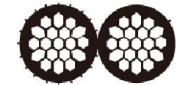
- Conductor temperature rise above ambient of 40°C
 - Ambient air temp. of 35 °C for summer noon or 10°C for winter night
 - Direct solar radiation intensity of 1000W/m² for summer noon or zero for winter night
 - Diffuse solar radiation intensity of 100W/m² for summer noon or zero for winter night
 - Ground reflectance of 0.2
 - Emissivity of 0.5 for rural weathered conductor or 0.85 for industrial weathered conductor
 - Solar absorption coefficient of 0.5 for rural weathered conductor or 0.85 for industrial weathered conductor
- Cross sections not to scale

Low Voltage Aerial Bundled Cables (LV ABC)

LV Aerial Bundled Cables are overhead power lines using several insulated phase conductors bundled tightly together so that all the equal sized phase and neutral cores share the mechanical load. The compacted, stranded circular EC grade (alloy 1350) aluminium conductor with cross-sectional areas of 16 mm² to 150 mm² are insulated with cross-linked polyethylene with a minimum of 2% carbon black to provide resistance to ultra-violet light. Each phase core is marked with numerals 1, 2 or 3 and one rib, two ribs or three ribs to denote the phase and the neutral core has equally spaced ribs around the circumference. The cores are laid up with a left hand lay.

The cables are designed for use with mechanical fittings for aerial bundled cables specified in AS 3766

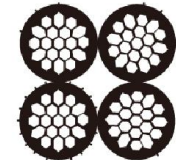
Two Cores



Three Cores



Four Cores



LV XLPE Insulated Aerial Bundled Cables 2, 3 & 4 Core Aluminium

0.6/1kV XLPE(X-90) Insulated, aerial bundled cables to AS/NZS 3560.1
Hard drawn aluminium conductors

Physical data

Nominal conductor area	Nominal conductor diameter	Average insulation thickness	Nominal diameter over insulation	Nominal diameter over laid-up cores	Approximate mass
mm ²	mm	mm		mm	kg/km
2 Core					
16	4.9	1.3	7.5	15.0	144
25	5.9	1.3	8.5	17.0	210
35	6.9	1.3	9.5	19.0	264
50	8.4	1.5	11.4	22.8	374
95	11.5	1.7	14.9	29.8	668
3 Core					
25	5.9	1.3	8.5	18.3	302
35	6.9	1.3	9.5	20.5	396
50	8.4	1.5	11.4	24.6	561
4 Core					
16	4.9	1.3	7.5	18.1	287
25	5.9	1.3	8.5	20.5	403
35	6.9	1.3	9.5	22.9	529
50	8.4	1.5	11.4	27.5	748
95	11.5	1.7	14.9	36.0	1336
120	13.0	1.7	16.4	39.6	1641
150	14.6	1.7	18.0	43.5	2001

Electrical Properties

Nominal conductor area	DC resist at 20°C	AC resist at 50Hz 85°C	Inductive reactance at 50Hz	Voltage drop at 50Hz 80°C	Continuous current carrying capacity, A			Fault current rating	Minimum bending radius (installed)		Min. breaking load of cable	Rec. tension		Modulus of elasticity of conductor	Coeff. of linear expansion
					still air	1m/s wind	2m/s wind		Core	Cable		Highest everyday tension	Max. working tension		
mm ²	Ω/km	Ω/km	Ω/km	mV/A.m				kA for 1S			kN	kN	kN	GPa	x10 ⁻⁶ /°C
2 Core															
16	1.91	2.36	0.093	4.74	51	80	93	1.3	35	100	4.5	0.80	1.25	59	23
25	1.20	1.48	0.088	2.98	65	107	122	2.1	40	110	7.2	1.28	1.97	59	23
35	0.868	1.07	0.085	2.15	81	128	147	3.0	65	130	10.0	1.80	2.76	59	23
50	0.641	0.795	0.085	1.61	95	152	183	4.2	70	140	14.5	2.55	3.95	59	23
95	0.320	0.397	0.081	0.813	142	234	278	8.4	100	290	27.0	4.80	7.48	56	23
3 Core															
25	1.20	1.48	0.088	2.98	60	100	118	2.3	40	120	10.8	1.90	2.96	59	23
35	0.868	1.07	0.085	2.15	78	122	136	3.2	65	130	15.0	2.70	4.13	59	23
50	0.641	0.795	0.085	1.62	89	142	167	4.0	70	150	21.3	3.80	5.89	59	23
4 Core															
16	1.91	2.36	0.10	4.10	45	75	88	1.5	35	120	8.80	1.58	2.45	59	23
25	1.20	1.48	0.097	2.58	60	100	118	2.3	40	130	14.5	2.50	3.93	59	23
35	0.868	1.07	0.094	1.86	78	122	136	3.2	65	150	19.8	3.55	5.47	59	23
50	0.641	0.795	0.092	1.38	89	142	167	4.0	70	170	28.2	5.03	7.83	59	23
70	0.443	0.551	0.088	0.965	112	178	208	6.1	80	290	39.0	7.04	11.2	56	23
95	0.320	0.397	0.087	0.705	138	218	258	8.5	100	330	53.0	9.57	15.0	56	23
120	0.253	0.315	0.085	0.565	157	255	305	10.7	110	360	67.1	12.0	18.7	56	23
150	0.206	0.257	0.084	0.469	182	284	350	12.8	120	400	84.2	15.2	23.6	56	23

Note:

- Voltage drops are single phase for 2 & 3 core cables and three-phase for 4 core cables. Continuous current ratings are based on an ambient temperature at 40°C
- Maximum conductor temperature of 80°C and solar radiation intensity of 1000W/mm². Rating for 2&3core cables are based on all cores fully loaded. Ratings for 4 core cables are based on a lightly loaded neutral. Fault current ratings are based on initial and final conductor temperatures of 80°C 210°C respectively.

LV XLPE Insulated Aerial Bundled Cables 2, 3 & 4 Core Copper

0.6/1kV XLPE(X-90) Insulated, aerial bundled cables to AS/NZS 3560.2
Hard drawn copper conductor

Physical data

Nominal conductor area	Number and nominal diameter of wires	Nominal conductor diameter	Average insulation thickness	Nominal diameter over insulation	Nominal diameter over laid-up cores	Approximate mass
mm ²	mm	mm	mm	mm	mm	kg/km
2 Core						
6	7/1.04	3.1	1.3	5.7	11.4	151
10	7/1.35	4.1	1.3	6.7	13.4	235
16	7/1.70	5.1	1.3	7.7	15.4	352
3 Core						
6	7/1.04	3.1	1.3	5.7	12.3	226
10	7/1.35	4.1	1.3	6.7	14.4	352
16	7/1.70	5.1	1.3	7.7	16.6	528
4 Core						
6	7/1.04	3.1	1.3	5.7	13.8	301
10	7/1.35	4.1	1.3	6.7	16.2	470
16	7/1.70	5.1	1.3	7.7	18.6	704

Electrical Properties

Nominal conductor area	DC resist at 20°C	AC resist at 50Hz 80°C	Inductive reactance at 50Hz	Voltage drop at 50Hz 80°C	Continuous current carrying capacity, A			Fault current rating	Minimum bending radius (installed)		Min. breaking load of cable	Rec. tension		Modulus of elasticity of conductor	Coeff. of linear expansion
					still air	1m/s wind	2m/s wind		kA for 1S	Core		Cable	kN		
mm ²	Ω/km	Ω/km	Ω/km	mV/A.m							kN	kN	kN	GPa	x10 ⁻⁶ /°C
2 Core															
6	3.17	3.15	0.12	7.78	38	58	68	0.7	25	75	4.60	0.85	1.30	112	17
10	1.88	1.88	0.097	4.63	50	81	93	1.3	25	85	7.82	1.43	2.20	112	17
16	1.18	1.17	0.096	2.93	65	104	124	2.1	30	90	11.7	2.15	3.35	112	17
3 Core															
6	3.17	3.88	0.12	7.78	33	56	65	0.7	25	80	7.00	1.28	1.98	112	17
10	1.88	2.32	0.097	4.63	46	75	87	1.3	25	95	11.7	2.15	3.30	112	17
16	1.18	1.41	0.096	2.93	60	98	114	2.1	30	105	17.5	3.22	4.99	112	17
4 Core															
6	3.17	3.88	0.12	6.71	33	56	65	0.7	25	90	9.30	1.65	2.62	112	17
10	1.88	2.32	0.12	4.02	46	75	87	1.3	25	105	15.6	2.80	4.37	112	17
16	1.18	1.41	0.10	2.53	60	98	114	2.1	30	115	23.5	4.24	6.65	112	17

Note:

- Voltage drops are single phase for 2 & 3 core cables and three-phase for 4 core cables. Continuous current ratings are based on an ambient temperature at 40°C
- maximum conductor temperature of 80°C and solar radiation intensity of 1000W/mm². Rating for 2&3core cables are based on all cores fully loaded. Ratings for 4 core cables are based on a lightly loaded neutral. Fault current ratings are based on initial and final conductor temperatures of 80°C 210°C respectively.

LV PVC Insulated Aerial Cables Single & 2 Core Copper

0.6/1kV PVC insulated aerial cables to AS/NZS 5000.1
Hard drawn copper conductors



Physical data

Nominal conductor area	Number and nominal diameter of wires	Nominal conductor diameter	Average insulation thickness	Nominal diameter over insulation	Approximate mass
mm ²	no./mm	mm		mm	kg/km
Single Core					
6	7/1.04	3.1	1.0	5.3	81
10	7/1.35	4.1	1.0	6.3	123
16	7/1.70	5.1	1.0	7.3	183
25	19/1.35	6.8	1.2	9.4	308
35	19/1.53	7.7	1.2	10.3	385
50	19/1.78	8.9	1.4	11.9	522
70	19/2.14	10.7	1.4	13.7	729
2 Core					
6	7/1.04	3.1	1.0	5.3 x 11.1	157
10	7/1.35	4.1	1.0	6.3 x 13.1	243
16	7/1.70	5.1	1.0	7.3 x 15.1	362
25	19/1.35	6.8	1.2	9.4 x 19.3	609

Electrical Properties

Nominal conductor area	DC resist at 20°C	AC resist at 50Hz 80°C	Inductive reactance at 50Hz	Voltage drop at 50Hz 75°C	Continuous current carrying capacity, A			Fault current rating	Minimum bending radius (installed) Cable	Min. breaking load of cable	Rec. tension		Modulus of elasticity of conductor	Coeff. of linear expansion
					still air	1 m/s wind	2 m/s wind				Highest everyday tension	Max. working tension		
mm ²	Ω/km	Ω/km	Ω/km	mV/A.m				kA for 1S		kN	kN	kN	GPa	x10 ⁻⁶ /°C
Single Core														
6	3.17	3.82	0.37	6.65	36	72	80	0.6	25	2.30	0.45	0.68	112	17
10	1.88	2.27	0.36	3.98	50	100	114	1.0	30	3.90	0.73	1.14	112	17
16	1.18	1.42	0.34	2.54	70	128	150	1.6	35	5.90	1.09	1.67	112	17
25	0.749	0.905	0.32	1.68	90	168	195	2.7	40	10.44	1.88	2.93	110	17
35	0.54	0.652	0.31	1.25	110	210	235	3.4	65	12.75	2.30	3.55	110	17
50	0.399	0.482	0.30	0.997	135	245	280	4.8	75	17.32	3.13	4.85	110	17
70	0.276	0.033	0.30	0.783	168	310	350	7.0	85	25.00	4.50	7.01	110	17
2 Core														
6	3.17	3.82	0.10	7.75	35	52	60	0.6	35	4.63	0.82	1.30	112	17
10	1.88	2.27	0.095	4.53	45	70	83	1.0	40	7.80	1.40	2.20	112	17
16	1.18	1.42	0.094	2.84	57	95	110	1.6	50	11.82	2.15	3.30	112	17
25	0.749	0.905	0.082	1.80	70	125	145	2.7	60	20.80	3.75	5.80	110	17

Note:

- Reactance and voltage drop are based on three cables laid in flat formation spaced 0.46m apart. The values can also be applied to single-phase circuits or 3-phase circuits with cables in trefoil formation. For single-phase circuits the voltage drop values should be multiplied by 1.155. Continuous current ratings are based on an ambient temperature of 40°C, maximum conductor temperature of 75°C and solar radiation intensity of 1000W/m². Fault current ratings are based on initial and final conductor temperatures of 75°C and 150°C respectively.

LV PVC Insulated Twisted Aerial Cables 3 & 4 Core Copper

0.6/1kV PVC insulated twisted aerial cables to AS/NZS 5000.1
Hard drawn copper conductors



Physical data

Nominal conductor area	Number and nominal diameter of wires	Nominal conductor diameter	Average insulation thickness	Nominal diameter over insulation	Nominal diameter over laid-up cores	Approximate mass
mm ²	no./mm	mm		mm	mm	kg/km
3 Core						
6	7/1.04	3.1	1.0	5.3	11.4	240
10	7/1.35	4.1	1.0	6.3	13.4	372
16	7/1.70	5.1	1.0	7.3	15.6	558
25	19/1.35	6.8	1.2	9.4	20.0	915
4 Core						
6	7/1.04	3.1	1.0	5.3	12.7	319
10	7/1.35	4.1	1.0	6.3	15.0	495
16	7/1.70	5.1	1.0	7.3	17.5	742
25	19/1.35	6.8	1.2	9.4	22.5	1218

Electrical Properties

Nominal conductor area	DC resist at 20°C	AC resist at 50Hz 80°C	Inductive reactance at 50Hz	Voltage drop at 50Hz 75°C	Continuous current carrying capacity, A			Fault current rating	Minimum bending radius (installed)		Min. breaking load of cable	Rec. tension		Modulus of elasticity of conductor	Coeff. of linear expansion
					still air	1m/s wind	2m/s wind		kA for 1S	Core		Cable	kN		
3 Core															
6	3.17	3.82	0.097	7.75	28	50	58	0.6	25	75	7.01	1.27	1.96	112	17
10	1.88	2.27	0.091	4.54	38	68	78	1.0	30	85	11.82	2.13	3.30	112	17
16	1.18	1.42	0.086	2.85	49	88	104	1.7	35	110	17.83	3.20	4.99	112	17
25	0.749	0.905	0.082	1.81	65	118	138	2.7	40	125	31.20	5.60	8.75	110	17
4 Core															
6	3.17	3.82	0.11	6.63	28	50	58	0.6	25	80	9.30	1.69	2.60	112	17
10	1.88	2.27	0.10	3.95	38	68	78	1.0	30	95	15.71	2.80	4.40	112	17
16	1.18	1.42	0.094	2.47	49	88	104	1.7	35	105	23.72	4.20	6.65	112	17
25	0.749	0.905	0.091	1.56	65	118	138	2.7	40	145	41.61	7.50	11.60	110	17

Note:

Reactance and voltage drop are based on three cables laid in flat formation spaced 0.46m apart. The values can also be applied to single-phase circuits or 3-phase circuits with cables in trefoil formation. For single-phase circuits the voltage drop values should be multiplied by 1.155. Continuous current ratings are based on an ambient temperature of 40°C, maximum conductor temperature of 75°C and solar radiation intensity of 1000W/m². Fault current ratings are based on initial and final conductor temperatures of 75°C and 150°C respectively.

HV XLPE Insulated Metallic Screened ABC 12.7/22kV

XLPE insulated copper wire screened HDPE sheath aerial bundled cables to AS/NZS 3599.1
Aluminium conductors, galvanized steel catenary.



Physical data

Nominal conductor area	Nominal conductor diameter	Average insulation thickness	Nominal diameter over insulation	Average insulation screen thickness	Copper wire screen stranding	Nominal diameter over screen	Average sheath thickness	Nominal diameter over sheath	Galvanised steel catenary stranding		Nominal overall diameter	Approximate mass
									Size	Diameter		
mm ²	mm	mm	mm	mm	no/mm	mm	mm	mm	No/mm	mm	mm	kg/km
Light duty screen												
35	7	5.5	19.40	0.9	24/0.85	23.8	1.8	28.0	7/2.00	6.0	62.0	2308
35	7	5.5	19.40	0.9	24/0.85	23.8	1.8	28.0	19/2.00	10.0	66.0	2608
50	8.3	5.5	20.70	0.9	24/0.85	25.1	1.8	29.3	19/2.00	10.0	68.6	2842
70	10	5.5	22.40	0.9	24/0.85	26.8	1.9	31.0	19/2.00	10.0	72.4	3179
95	11.6	5.5	24.00	0.9	24/0.85	28.4	1.9	32.8	19/2.00	10.0	75.6	3520
120	12.9	5.5	25.30	0.9	24/0.85	29.7	2.0	34.1	19/2.00	10.0	78.8	3867
150	14.5	5.5	26.90	0.9	24/0.85	31.3	2.0	35.9	19/2.00	10.0	81.8	4249
185	16.2	5.5	28.60	0.9	24/0.85	33.0	2.1	37.6	19/2.00	10.0	85.6	4715
Heavy duty screen												
35	7	5.5	19.40	0.9	40/0.85	23.8	1.8	28.0	7/2.00	6.0	62.0	2560
35	7	5.5	19.40	0.9	40/0.85	23.8	1.8	28.0	19/2.00	10.0	66.0	2859
50	8.3	5.5	20.70	0.9	23/1.35	26.1	1.8	30.3	19/2.00	10.0	70.6	3395
70	10	5.5	22.40	0.9	32/1.35	27.8	1.9	32.0	19/2.00	10.0	74.4	4091
95	11.6	5.5	24.00	0.9	38/1.35	29.4	1.9	33.8	19/2.00	10.0	77.6	4670
120	12.9	5.5	25.30	0.9	38/1.35	30.7	2.0	35.1	19/2.00	10.0	80.6	5017
150	14.5	5.5	26.90	0.9	38/1.35	32.3	2.0	36.9	19/2.00	10.0	83.8	5399
185	16.2	5.5	28.60	0.9	38/1.35	34.0	2.1	38.6	19/2.00	10.0	87.6	5866

Electrical Properties

Nominal conductor area	DC resist at 20°C	AC resist at 50Hz 90°C	Inductive reactance at 50Hz	Three-phase Voltage drop at 50Hz 90°C	Conductor To Screen capacitance	Continuous current carrying capacity, A			Earth fault current rating for 1s conductor	Minimum bending radius (installed)		Projected diameter for wind loading
						still air	1m/s wind	2m/s wind		Core	Cable	
mm ²	Ω/km	Ω/km	Ω/km	mV/A.m	µf/km				kA			mm
Light duty screen												
35	0.868	1.11	0.157	1.93	0.143	105	145	170	2.1	430	620	58.9
35	0.868	1.11	0.163	1.93	0.143	110	150	170	2.1	430	660	60.9
50	0.641	0.821	0.156	1.44	0.156	130	175	205	2.1	440	680	63.2
70	0.443	0.566	0.142	1.01	0.175	155	220	255	2.1	470	720	66.8
95	0.320	0.410	0.137	0.750	0.194	185	265	310	2.1	500	760	70.3
120	0.253	0.324	0.132	0.607	0.213	210	305	355	2.1	520	780	73.5
150	0.206	0.263	0.127	0.511	0.231	240	345	400	2.1	540	820	76.4
185	0.164	0.210	0.122	0.423	0.245	270	395	460	2.1	570	850	79.8
Heavy duty screen												
35	0.868	1.11	0.157	1.93	0.143	105	145	170	3.5	430	620	58.9
35	0.868	1.11	0.163	1.93	0.143	110	150	170	3.5	430	660	60.8
50	0.641	0.821	0.156	1.44	0.156	130	175	205	5.0	460	700	65.1
70	0.443	0.566	0.142	1.01	0.175	155	220	255	6.9	490	740	68.8
95	0.32	0.410	0.137	0.751	0.194	185	265	310	8.2	510	780	72.4
120	0.253	0.324	0.132	0.608	0.213	210	310	355	8.2	540	800	75.5
150	0.206	0.263	0.127	0.512	0.231	240	345	400	8.2	560	840	78.6
185	0.164	0.210	0.122	0.424	0.245	270	395	460	8.2	580	870	81.8

Galvanised Steel Support Wire Manufactured to AS 1222.1

Stranding and nom. wire dia. meter	Nominal overall diameter	Cross sectional area	DC resist at 20°C	Minimum breaking load	Recommended tension		Modulus of elasticity of conducto	Coeff. Of linear expansion
					Highest Everyday tension	Max. working tension		
no/mm	mm	mm ²	Ω/km	kN	kN	kN	GPa	x10 ⁻⁶ /°C
7/2.00	6.0	22.0	8.7	26.0	6.5	13.0	170	11.5
19/2.00	10.0	59.7	3.2	70.5	17.6	35.3	166	11.5

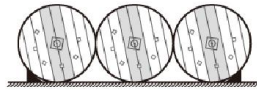
Note: Continuous current ratings are based on an ambient temperature of 40°C maximum conductor temperature of 90°C and solar radiation intensity of 1000W/M fault current ratings are based on an initial conductor temperature of 90°C and final conductor temperature of 250°C

Drum Handling Guide

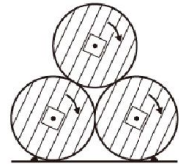
STORAGE



Keep the drum standing upright, using wedges in the heels of the flanges.



Keep in sequence.

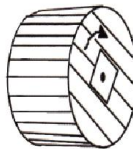


Only drums with protection lagging may be stacked flange on flange. Lower layer to be secured over full drum width.



Never lay them flat.

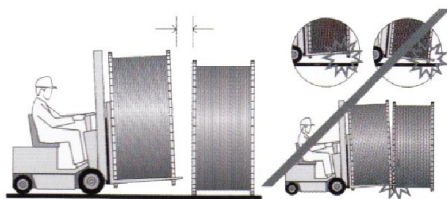
TRANSPORT



Roll the drum in the direction used during cable reeling.



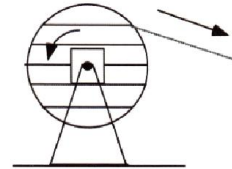
Drums may be lifted either by crane or fork-lift truck.



The forks of the truck must be longer than the width of the drum, so that the lagging is not damaged. When moving the drum, tilt the truck mast so that the drum remains in the fork and the points don't touch the ground. Raise the forks of the forklift sufficiently above the ground.

Insufficient raising may cause the drum to be dragged on the ground and damaged or dropped off the forks if the ground surface is uneven. Don't release the drum until the truck has stopped completely. Don't push the drum with the truck. Leave sufficient room between each drum so that the fork doesn't damage the drum.

UNWINDING

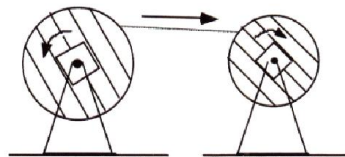


Unwinding this way.

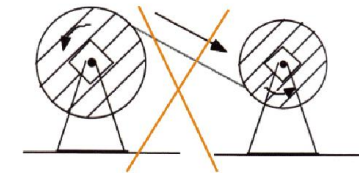


Never unwinding this way.

RE-WINDING

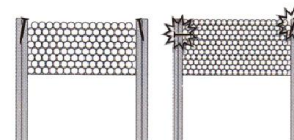


Recommended.



Not recommended.

NAIL WITH CAUTION



If the wooden lagging needs to be refastened, the nailing should be done carefully in the middle of the drum flange. If label or similar is attached to the drum with nails, make sure that they don't touch the cable.