



## Contact Us:

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# Australia Standard MV 6.35/11kv 12.7/22kV Overhead Covered Conductor, Cables. AS/NZS 3675



## APPLICATION

CCT covered conductors have a specified thickness of covering for each of the nominated working voltages. While still required to operate under similar principles to a bare wire or CC system, they have electrical and mechanical characteristics which permit them to remain in contact with tree limbs for an extended period dependent on abrasive characteristics of the tree, frequency and strength of prevailing winds and operating temperature. CCT show better performance in polluted environments. They are suitable for use in 'spacer cable' systems and in the insulated unscreened conductor (IUC) systems.

## CONSTRUCTION

XLPE covered aerial cables to AS/NZS 3675. Water-blocked aluminium alloy 1120 conductors. Also available with XLPE/HDPE covering.

## TECHNICAL REQUIREMENTS FOR COVERED CONDUCTORS (CC)

1	2	3	4	5	6
Characteristic	Units	Conductor size and type			
Nominal cross-sectional area	mm <sup>2</sup>	40	80	120	180
Stranding and nominal wire diameter	No./mm	7/2.75	7/3.75	7/4.75	19/3.50
Material		AAAC/1120 or AAAC/6201			
Approximate conductor diameter*	mm	8.3	11.3	14.3	17.5
Covering thickness:					
(a) minimum average	mm	2.0	2.0	2.0	2.0
(b) minimum at any point	mm	1.70	1.70	1.70	1.70
(c) maximum at any point	mm	2.50	2.50	2.50	2.50
Resultant overall diameter range*	mm	12.2 to 13.3	15.1 to 16.4	18.1 to 19.4	21.3 to 22.7
Approximate mass*	kg/km	210	340	500	710

\* Given for information only.



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**TECHNICAL REQUIREMENTS FOR COVERED CONDUCTORS (CCT)**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Characteristic	Units	Conductor size and type											
Nominal cross-sectional area	mm <sup>2</sup>	40			80			120			180		
Stranding and nominal wire diameter	No./mm	7/2.75			7/3.75			7/4.75			19/3.50		
Material		AAAC/1120			AAC/1120 or AAAC/6201								
Approximate conductor diameter*	mm	8.3			11.3			14.3			17.5		
Voltage rating	kV	6.35/11	12.7/22	19/33	6.35/11	12.7/22	19/33	6.35/11	12.7/22	19/33	6.35/11	12.7/22	19/33
Covering thickness:													
(a) Minimum average	mm	3.4	5.5	8.0	3.4	5.5	8.0	3.4	5.5	8.0	3.4	5.5	8.0
(b) Minimum at any point	mm	2.96	4.85	7.10	2.96	4.85	7.10	2.96	4.85	7.10	2.96	4.85	7.10
(c) Maximum at any point	mm	4.00	6.40	9.30	4.00	6.40	9.30	4.00	6.40	9.30	4.00	6.40	9.30
Resultant overall diameter range*	mm	14.9 to 16.4	19.1 to 21.2	24.1 to 27.0	17.9 to 19.4	22.1 to 24.2	27.1 to 30.0	20.9 to 22.4	25.1 to 27.2	30.1 to 33.0	24.1 to 25.7	28.3 to 30.5	33.3 to 36.3
Approximate mass†	kg/km	255	370	540	450	635	900	640	845	1145	870	1105	1440

\*Given for information only.

†Given for information only. Values are calculated for X-90 only.

**TECHNICAL PERFORMANCE CHARACTERISTICS FOR COVERED CONDUCTORS (CC)**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Conductor size No./mm	Conductor d.c. resistance at 20°C Ω/km	Conductor a.c. resistance at 80°C Ω/km	Reactance at 50 Hz (460 mm spacing) Ω/km	Continuous current carrying capacity A						Fault current rating kA for 1 sec.*	Everday working tension† kN	Maximum working tension (50% MBL) kN	Minimum breaking load kN	Minimum bending radius mm
				Based on 30°C ambient			Based on 40°C ambient							
				Still air	1.0 m/s wind	2.0 m/s wind	Still air	1.0 m/s wind	2.0 m/s wind					
Alloy 6201														
7/2.75	0.799	0.988	0.331	125	210	235	110	185	210	3.5	1.51	5.80	11.6	200
7/3.75	0.430	0.532	0.312	180	300	345	160	270	310	6.4	2.82	10.90	21.7	245
7/4.75	0.268	0.331	0.297	245	410	465	220	365	415	10.3	4.52	17.40	34.8	290
19/3.50	0.183	0.227	0.281	315	515	595	280	460	530	15.2	6.67	25.70	51.3	340
Alloy 1120														
7/2.75	0.713	0.881	0.331	130	220	250	115	195	225	3.7	1.49	4.96	9.91	200
7/3.75	0.383	0.474	0.312	190	320	365	170	285	325	6.8	2.64	8.80	17.60	245
7/4.75	0.239	0.296	0.297	260	430	485	230	385	435	11.0	4.07	13.60	27.10	290
19/3.50	0.163	0.202	0.281	330	545	625	295	485	560	16.2	6.26	20.90	41.70	340

\* Initial temperature 80°C, final temperature 210°C, constant K = 83.0 for alloy 6201 and 88.4 for alloy 1120.

† 13% MBL for alloy 6201 and 15% MBL for alloy 1120.

### TECHNICAL PERFORMANCE CHARACTERISTICS FOR COVERED CONDUCTORS (CCT)

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Conductor size  No./mm	Conductor d.c. resistance at 20°C  Ω/km	Conductor a.c. resistance at 80°C  Ω/km	Reactance at 50 Hz (460 mm spacing)  Ω/km	Continuous current carrying capacity A						Fault current rating  kA for 1 sec.*	Everday working tension†  kN	Maximum working tension (50% MBL)  kN	Minimum breaking load  kN	Minimum bending radius  mm
				Based on 30°C ambient			Based on 40°C ambient							
				Still air	1.0 m/s wind	2.0 m/s wind	Still air	1.0 m/s wind	2.0 m/s wind					
11 kV Alloy 6201														
7/3.75	0.430	0.532	0.312	185	295	330	165	265	295	6.4	2.82	10.9	21.7	285
7/4.75	0.268	0.331	0.297	245	390	440	220	350	395	10.3	4.52	17.4	34.8	330
19/3.50	0.183	0.227	0.281	315	500	560	280	445	500	15.2	6.67	25.7	51.3	380
22 kV Alloy 6201														
7/3.75	0.430	0.532	0.312	185	285	315	165	255	280	6.4	2.82	10.9	21.7	350
7/4.75	0.268	0.331	0.297	245	375	420	220	335	375	10.3	4.52	17.4	34.8	395
19/3.50	0.183	0.227	0.281	315	475	530	280	425	475	15.2	6.67	25.7	51.3	445
33 kV Alloy 6201														
7/3.75	0.430	0.532	0.312	185	270	295	165	240	265	6.4	2.82	10.9	21.7	425
7/4.75	0.268	0.331	0.297	245	360	400	220	320	355	10.3	4.52	17.4	34.8	470
19/3.50	0.183	0.227	0.281	315	455	505	280	405	450	15.2	6.67	25.7	51.3	520

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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				Based on 30°C ambient			Based on 40°C ambient							
				Still air	1.0 m/s wind	2.0 m/s wind	Still air	1.0 m/s wind	2.0 m/s wind					
11 kV Alloy 1120														
7/2.75	0.713	0.881	0.331	130	215	240	115	190	215	3.7	1.49	4.96	9.9	230
7/3.75	0.383	0.474	0.312	190	315	345	170	280	310	6.8	2.64	8.80	17.6	285
7/4.75	0.239	0.296	0.297	260	415	470	230	370	420	11.0	4.07	13.6	27.1	330
19/3.50	0.163	0.202	0.281	330	525	595	295	470	530	16.2	6.26	20.9	41.7	380
22 kV Alloy 1120														
7/2.75	0.713	0.881	0.331	135	205	225	120	185	200	3.7	1.49	4.96	9.9	300
7/3.75	0.383	0.474	0.312	190	295	330	170	265	295	6.8	2.64	8.80	17.6	350
7/4.75	0.239	0.296	0.297	260	400	440	230	355	395	11.0	4.07	13.6	27.1	395
19/3.50	0.163	0.202	0.281	330	505	560	295	450	500	16.2	6.26	20.9	41.7	445
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7/3.75	0.383	0.474	0.312	195	285	315	175	255	280	6.8	2.64	8.80	17.6	425
7/4.75	0.239	0.296	0.297	260	380	420	230	340	375	11.0	4.07	13.6	27.1	470
19/3.50	0.163	0.202	0.281	330	480	530	295	430	475	16.2	6.26	20.9	41.7	520

\* Initial temperature 80°C, final temperature 210°C, constant K = 83.0 for alloy 6201 and 88.4 for alloy 1120.

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