



APPLICATION 7 and 19 strand construction is suitable for bare overhead reticulation of medium spans, normally at low and medium voltages. 37 and 61 strand construction is suitable for transmission and subtransmission lines where homogeneous construction can reduce line losses and improve corrosion resistance in conductors with similar strength to ACSR types AAAC = All Aluminium Alloy Conductor	STANDARD	AS1531:1991
	CONDUCTOR	Aluminium Alloy 1120
	STRAND CONSTRUCTION	As Below

Code Name	Conductor			Approx. Mass kg/km	Calculated Min Breaking Load kN	Final Modulus of Elasticity GPa	Coefficient of Linear Expansion /° x 10-5	Maximum Packing Size m
	Nominal Area mm ²	Number & Diameter of Wires(No./mm)	Nominal Overall Diameter mm					
Argon	17	7/1.75	5.3	50	4.0	59	23	4800
Boron	28	7/2.25	6.8	80	6.6	59	23	3500
Chlorine	34	7/2.50	7.5	90	8.2	59	23	3000
Chromium	42	7/2.75	8.25	110	9.9	59	23	3000
Fluorine	49	7/3.00	9	140	11.8	59	23	3000
Helium	77	7/3.75	11.3	210	17.6	59	23	2000
Hydrogen	111	7/4.50	13.5	310	24.3	59	23	1500
Iodine	124	7/4.75	14.3	340	27.1	59	23	1500
Krypton	158	19/3.25	16.3	430	37.4	56	23	1900
Lutetium	183	19/3.50	17.5	500	41.7	56	23	2000
Neon	210	19/3.75	18.8	580	47.8	56	23	2000
Nitrogen	262	37/3.00	21	720	62.2	56	23	2000
Nobelium	307	37/3.25	22.8	850	72.8	56	23	2000
Oxygen	337	19/4.75	23.8	930	73.6	56	23	1900
Phosphorous	409	37/3.75	26.3	1100	93.1	56	23	1500
Selenium	506	61/3.25	29.3	1400	114	54	23	1500
Silicon	587	61/3.50	31.5	1620	127	54	23	1500
Sulphur	673	61/3.75	33.8	1860	145	54	23	1500

CONDUCTOR CODE NAME	ELECTRICAL CHARACTERISTICS							
	Equivalent Electrical Areas		Maximum DC Resistance @20°C	Maximum AC Resistance @75°C	Current Ratings @ 75°C (a)		Inductive Reactance to 0.4m	Single Phase Voltage Drop @ 0.4m spacing mV/Am
	Aluminium	Copper			Winter Night	Summer Noon		
mm ²	mm ²	Ω/km	Ω/km	A	A	Ω/km		
Argon	16.1	10.3	1.77	2.16	150	128	0.350	4.38
Boron	26.5	17.0	1.07	1.31	207	175	0.334	2.70
Chlorine	32.8	21.0	0.864	1.056	236	199	0.328	2.21
Chromium	39.7	25.4	0.713	0.871	267	225	0.322	1.86
Fluorine	47.2	30.2	0.601	0.732	299	251	0.317	1.60
Helium	73.7	47.1	0.383	0.468	398	333	0.302	1.11
Hydrogen	106	67.9	0.266	0.325	502	418	0.291	0.873
Iodine	118	75.6	0.239	0.292	502	448	0.288	0.820
Krypton	150	94.2	0.189	0.231	603	490	0.277	0.721
Lutetium	173	109.5	0.163	0.199	663	537	0.272	0.674
Neon	199	124.8	0.142	0.174	724	585	0.268	0.638
Nitrogen	248	155.6	0.114	0.140	833	672	0.260	0.590
Nobelium	291	182.5	0.097	0.120	922	741	0.255	0.563
Oxygen	320	200.7	0.088	0.109	979	786	0.253	0.550
Phosphorous	387	242.8	0.073	0.090	1110	888	0.246	0.523
Selenium	478	299.9	0.059	0.073	1272	1014	0.238	0.499
Silicon	555	348.2	0.051	0.064	1388	1103	0.234	0.485
Sulphur	636	399.0	0.044	0.056	1517	1202	0.230	0.472

(a) Wind Speed 1m/sec, air temp. 10°C for winter night, 40°C for summer noon, intensity of solar radiation 1000 W/m² for summer noon.

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