Aluminium Conductors

Aluminium Conductors are engineered from electrolytically refined aluminium, having 99.5% of aluminum. Due to corrosion resistance features, high tensile strength and shock proof, these aluminum conductors are employed in overhead line applications and although for diverse exact applications, they are all occupied in power distribution. The entire assortment of conductors is extensively used in urban areas and the supports are close with short spacing. All these conductors are made up of more than one strands of aluminum wire as per requirements on the end usage.

All Aluminium Conductors (AAC)

We manufacture a wide variety of All Aluminium Conductors (AAC) using E.C.GRADE aluminium, ensuring purity of minimum 99.55%. The entire assortment of aluminum conductors are widely demanded in urban areas for short spacing. These conductors are made with one or more strands depending upon the usage requirements. Also, these conductors are ideal for coastal areas due to its high degree rust resistance features.

IS: 398 (Part I)

Code	Nominal Aluminium Area mm²	Stranding & Wire Diameter mm	Approx Over all Dia mm	Approx Mass Kg/Km	Calculated Resistance at 20 C Max / KM	Approx Calculated Breaking Load KN	Approx. Calculated Breaking Load (kN)
Gnat	25	7/2.21	6.63	74	1.093	4.52	4.52
Ant	50	7/3.10	9.30	145	0.556	8.25	8.25
Wasp	100	7/4.39	13.17	290	0.277	15.96	15.96
Special	150	19/3.18	15.90	415	0.915	23.28	23.28
Spider	240	19/3.99	19.95	654	0.1244	35.74	35.74
Butterfly	300	19/4.65	23.25	888	0.01971	48.74	48.74

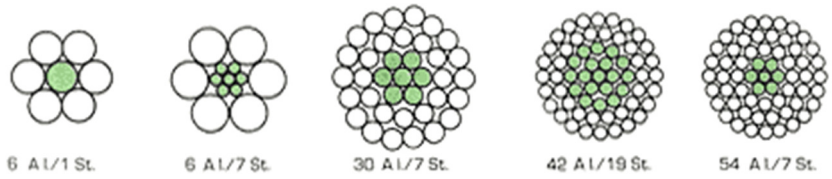
All Aluminium Alloy Conductors (AAAC)

Aluminium alloy wires used in the construction of standard aluminium alloy conductors.

Our offered All Aluminum Alloy Conductors (AAAC) is made from aluminium magnesium-silicon alloy. These alloys ensure high electrical conductivity containing sufficient magnesium silicide to provide it superior mechanical properties after conduction. These conductors are basically made out of aluminium alloy 6201. AAAC CONDUCTOR has a enhanced corrosion resistance and improved strength to weight ratio and improved electrical conductivity than ACSR CONDUCTOR on equal diameter basis.

Physical contents of all aluminium alloy :-
1. Resistivity - 0.0326 Ohms mm2/m at 20°C
2. Density - 2.70 kgm/dm3 at 20°C
3. Coefficient of Linear Expansion - 23 x 10-6 / °C
4. Constant Mass Temperature Coefficient (a) - 0.00360/ °C
5. Material - Heat treated Al. Mg. Si. Alloy
- Approximately 0.5% Mg & 0.5% Si
- Having Mechanical & Electrical properties as specified in table above :

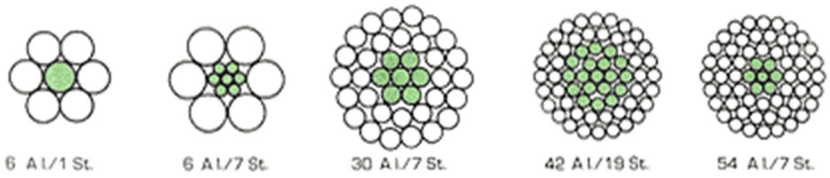
Sl. No.	Nom. Al Area mm	Standing & wire Dia in mm	Approx. Overall Dia in mm	Approx. Mass in kg/km	Calculated Maximum Resistance at 20 C (Ohms/km)	Approx. Calculated Breaking Load (kN)
1	15	3/2.5	5.39	40.15	2.3040	4.33
2	22	7/2.00	6.00	60.16	1.5410	6.45
3	34	7/2.50	7.50	94.00	0.9900	10.11
4	55	7/3.15	9.45	149.20	0.6210	16.30
5	80	7/3.81	11.43	218.26	0.4250	23.41
6	100	7/4.26	12.78	272.86	0.3390	29.26
7	125	19/2.89	14.45	342.51	0.2735	36.64
8	148	19/3.15	15.75	406.91	0.2298	43.50
9	173	19/3.40	17.00	474.02	0.1969	50.54
10	200	19/3.66	18.30	549.40	0.1710	58.66
11	232	19/3.94	19.70	636.67	0.1471	68.05
12	288	37/3.15	22.05	794.05	0.1182	84.71
13	346	37/3.45	24.15	952.56	0.0984	101.58
14	400	37/3.71	25.97	1101.63	0.0855	117.40
15	465	37/4.00	28.00	1280.50	0.0734	136.38
16	525	61/3.31	29.79	1448.39	0.0651	146.03
17	570	61/3.45	31.05	1573.71	0.0598	158.66
18	604	61/3.55	31.95	1666.00	0.0568	167.99
19	642	61.3.66	32.94	1771.36	0.0534	178.43
20	695	61/3.81	34.29	1919.13	0.0492	193.25
21	767	61/4.00	36.00	2115.54	0.0446	213.01



Aluminium Conductors Steel Reinforced (ACSR)

All Aluminium Conductors Steel Reinforced (ACSR) consists of stranded or solid steel core enclosed by strands of aluminum. These ACSR conductors are made available in broad range of steels varying from as low as 6% to as high as 40 %. The superior strength of these conductors is ideal for overhead ground wires, river crossings, installations involving extra long span and many other applications. Manufactured using best quality materials, these conductors ensure high tensile strength. Light in weight, these ACSR conductors a higher corona limit can be acquired causing huge advantages on high as well as extra high voltage overhead lines.

ACSR Code Word	Cond. Area mm^2	Stranding& Wire Dia in mm		Calculated sectional Area Sq.mm		Approx overall Dia mm	Weight kg/km			Calc. Electrical Resistance at 20°C Ohms/km	Approx Calc. Breaking Load(KN)
		Alum.	Steel	Alum.	ACSR	ACSR	ACSR	Alum.	Steel	Cond.	Cond.
MOLE	10	6/1.50	1/1.50	10.60	12.37	4.50	43	29	14	2.780	3.97
SPECIAL	18	6/1.95	1/1.95	18.10	21.12	5.88	73	50	23	1.618	6.74
SQUIRREL	20	6/2.11	1/2.11	20.98	24.48	6.33	85	58	27	1.394	70.61
WEASEL	30	6/2.59	1/2.59	31.61	36.88	7.77	128	87	41	0.929	11.12
RABBIT	50	6/3.35	1/3.35	52.88	61.70	10.05	214	145	69	0.552	18.25
RACCOON	80	6/4.09	1/4.09	78.83	91.97	12.27	319	216	103	0.371	26.91
DOG	100	6/4.72	7/1.57	105.00	118.50	14.15	394	288	106	0.279	32.41
WOLF	150	30/2.59	7/2.59	158.10	194.90	18.13	726	437	289	0.187	67.34
PANTHER	200	30/3.0	7/3.00	212.10	261.50	21.00	974	586	388	0.139	89.67
KUNDAH	400	42/3.50	7/1.96	404.10	425.20	26.88	1281	1116	165	0.073	88.79
ZEBRA	420	54/3.18	7/3.18	428.90	484.50	28.62	1621	1186	435	0.069	130.32
MOOSE	520	54/3.53	7/3.53	528.50	597.00	31.77	2004	1461	537	0.056	161.20
MORKULLA	560	42/4.13	7/2.30	562.70	591.70	31.68	1787	1553	228	0.052	120.16



Lay Ratio for AAC/ACSR /AAAC

No. of Wires in conductors	6 Wire Layer		12 Wire Layer		18 Wire Layer		24 Wire Layer	
	Min	Max	Min	Max	Min	Max Steel	Min	Max
7	10	14	-	-	-	-	-	-
19	10	16	10	14	-	-	-	-
37	10	17	10	16	10	14	-	-
61	10	17	10	16	10	15	10	14