

Cabos de Alumínio Nu com Alma de Aço (CAA)



Características construtiva: Os CAA são armados de forma concêntrica por fios de alumínio com fio(s) de aço galvanizado no centro para reforçar.



Aplicações: O CAA é adequado para linhas aéreas de MT, AT e MAT e para transmissões e distribuições de longa distância.



Temperatura de Serviço: Temperatura máxima permitida em serviço contínuo do condutor não deve ultrapassar 90°C



Normas Aplicáveis : ASTM B232, BS215, DIN48204, IEC61089, GB/T1179-2008 ou outras normas requeridas pelo cliente.



Embalagem: bobina de aço / madeira, bobina de madeira ou bobina de aço.



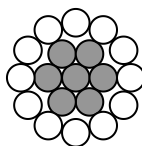
Propriedades mecânicas do CAA

Composição	Módulo de elasticidade final MPa	Coefficiente de expansão linear /°C	Composição	Módulo de elasticidade final MPa	Coefficiente de expansão linear /°C
6+1	79000	19.1X10 ⁻⁶	30+7	75500	18.0X10 ⁻⁶
9+3	88000	17.1X10 ⁻⁶	54+7	69000	19.3X10 ⁻⁶
12+7	103500	15.4X10 ⁻⁶	72+19	61000	21.5X10 ⁻⁶
18+1	66000	21.2X10 ⁻⁶	84+7	66000	20.4X10 ⁻⁶

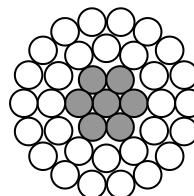
Encordoamento dos Cabos de Alumínio Nu com Alma de Aço



6Al/1Aço



12Al/7Aço



30Al/7Aço

CAA Norma Americana ASTM B231

Código	Tamanho (Al)	No. de Fios No./Diâmetro		Código	Tamanho (Al)	No. de Fios No./Diâmetro	
	AWG ou kcmil	Al	Aço		AWG ou kcmil	Al	Aço
		No./mm	No./mm			No./mm	No./mm
Wren	8	6/1.33	1/1.33	Redwing	715,5	30/3.92	19/2.35
Turkey	6	6/1.68	1/1.68	Tern	795	45/3.38	7/2.25
Swan	4	6/2.12	1/2.12	Condor	795	54/3.08	7/3.08
Swanate	4	7/1.96	1/2.61	Cuckoo	795	24/4.62	7/3.08
Swallow	3	6/2.38	1/2.38	Drake	795	26/4.44	7/3.45
Sparrow	2	6/2.67	1/2.67	Coot	795	36/3.77	1/3.77
Sparate	2	7/2.47	1/3.30	Mallard	795	30/4.14	19/2.48
Robin	1	6/3.00	1/3.00	Ruddy	900	45/3.59	7/2.40
Raven	0	6/3.37	1/3.37	Canary	900	54/3.28	7/3.28
Quail	2/0	6/3.78	1/3.78	Rail	954	45/3.70	7/2.47
Pigeon	3/0	6/4.25	1/4.25	Catbird	954	36/4.14	1/4.14
Penguin	4/0	6/4.77	1/4.77	Cardinal	954	54/3.38	7/3.38
Waxwing	266,8	18/3.09	1/3.09	Ortolan	1033,5	45/3.85	7/2.57
Partridge	266,8	26/2.57	7/2.00	Tanager	1033,5	36/4.30	1/4.30
Ostrich	300	26/2.73	7/2.12	Curlew	1033,5	54/3.52	7/3.52
Merlin	336,4	18/3.47	1/3.47	Bluejay	1113	45/4.00	7/2.66
Linnet	336,4	26/2.89	7/2.25	Finch	1113	54/3.65	19/2.19
Oriole	336,4	30/2.69	7/2.69	Bunting	1192,5	45/4.14	7/2.76
Chickadee	397,5	18/3.77	1/3.77	Grackle	1192,5	54/3.77	19/2.27
Brant	397,5	24/3.27	7/2.18	Bittern	1272	45/4.27	7/2.85
Ibis	397,5	26/3.14	7/2.44	Pheasant	1272	54/3.90	19/2.34
Lark	397,5	30/2.92	7/2.92	Skylark	1272	36/4.78	1/4.78
Pelican	477	18/4.14	1/4.14	Dipper	1351,5	45/4.40	7/2.92
Flicker	477	24/3.58	7/2.39	Martin	1351,5	54/4.02	19/2.41
Hawk	477	26/3.44	7/2.67	Bobolink	1431	45/4.53	7/3.02
Hen	477	30/3.20	7/3.20	Plover	1431	54/4.14	19/2.48
Osprey	556,5	18/4.47	1/4.47	Nuthatch	1510,5	45/4.65	7/3.10
Parakeet	556,5	24/3.87	7/2.58	Parrot	1510,5	54/4.25	19/2.55
Dove	556,5	26/3.72	7/2.89	Lapwing	1590	45/4.77	7/3.18
Eagle	556,5	30/3.46	7/3.46	Falcon	1590	54/4.36	19/2.62
Peacock	605	24/4.03	7/2.69	Chukar	1780	84/3.70	19/2.22
Squab	605	26/3.87	7/3.01	Bluebird	2156	84/4.07	19/2.44
Wood duck	605	30/3.61	7/3.61	Kiwi	2167	72/4.41	7/2.94
Teal	605	30/3.61	19/2.16	Thrasher	2312	76/4.43	19/2.09
Kingbird	636	18/4.78	1/4.78	Grouse	80	8/2.54	1/4.24
Rook	636	24/4.14	7/2.76	Petrel	101,8	12/2.34	7/2.34
Grosbeak	636	26/3.97	7/3.09	Minorca	110,8	12/2.44	7/2.44
Scoter	636	30/3.70	7/3.70	Leghorn	134,6	12/2.69	7/2.69
Egret	636	30/3.70	19/2.22	Guinea	159	12/2.92	7/2.92
Swift	636	36/3.38	1/3.38	Dotterel	176,9	12/3.08	7/3.08
Flamingo	666,6	24/4.23	7/2.82	Dorking	190,8	12/3.20	7/3.20
Gannet	666,6	26/4.07	7/3.16	Brahma	203,2	16/2.86	19/2.48
Stilt	715,5	24/4.39	7/2.92	Cochin	211,3	12/3.37	7/3.37
Starling	715,5	26/4.21	7/3.28				

CAA Norma Britânica BS 215 - Parte 2

Código	Tamanho	No. de Fios No./Diâmetro		Código	Tamanho	encordoamento No./Diâmetro	
	AWG ou kcmil	Al	Aço		AWG ou kcmil	Al	Aço
		No./mm	No./mm			No./mm	No./mm
Mole	10	6/1.50	1/1.50	Tiger	125	30/2.36	7/2.36
Squirrel	20	6/2.11	1/2.11	Dingo	150	18/3.35	1/3.35
Gopher	25	6/2.36	1/2.36	Wolf	150	30/2.59	7/2.59
Weasel	30	6/2.59	1/2.59	Caracal	175	18/3.61	1/3.61
Fox	35	6/2.79	1/2.79	Lynx	175	30/2.79	7/2.79
Ferret	40	6/3.00	1/3.00	Jaguar	200	18/3.86	1/3.86
Rabbit	50	6/3.35	1/3.35	Panther	200	30/3.00	7/3.00
Mink	60	6/3.66	1/3.66	Lion	225	30/3.18	7/3.18
Skunk	60	12/2.59	7/2.59	Bear	250	30/3.35	7/3.35
Beaver	70	6/3.99	1/3.99	Goat	300	30/3.71	7/3.71
Horse	70	12/2.79	7/2.79	Sheep	350	30/3.99	7/3.99
Racoon	75	6/4.10	1/4.10	Antilope	350	54/2.97	7/2.97
Otter	80	6/4.22	1/4.22	Bizon	350	54/3.00	7.3.00
Cat	90	6/4.50	1/4.50	Deer	400	30/4.27	7/4.27
Hare	100	6/4.72	1/4.72	Zebra	400	54/3.18	7/3.18
Dog	100	6/4.72	7/1.57	Elk	450	30/4.50	7/4.50
Hyena	100	7/4.39	7/1.93	Camel	450	54/3.35	7/3.35
Leopard	125	8/5.28	7/1.75	Moose	500	54.3.53	7/3.53
Coyote	125	26/2.54	7/1.91	Finch	500	54/3.65	19/2.29
Congar	125	18/3.05	1/3.05				

CAA Norma Alemã DIN 48204

Tamanho	No. de Fios No./Diâmetro		Tamanho	No. de Fios No./Diâmetro		Tamanho	No. de Fios No./Diâmetro	
Al / Aço	Al	Aço	Al / Aço	Al	Aço	Al / Aço	Al	Aço
sq. mm	No./mm	No./mm	sq. mm	No./mm	No./mm	sq. mm	No./mm	No./mm
16/2.5	6/1.80	1/1.80	150/25	26/2.70	7/2.10	435/55	54/3.20	7/3.20
25/4.0	6/2.25	1/2.25	170/40	30/2.70	7/2.70	450/40	48/3.45	7/2.68
35/6.0	6/2.70	1/2.70	185/30	26/3.00	7/2.33	490/65	54/3.40	7/3.40
44/32.0	14/2.00	7/2.40	210/35	26/3.20	7/2.49	495/35	45/3.74	7/2.49
50/8.0	6/3.20	1/3.20	210/50	30/3.00	7/3.00	510/45	48/3.68	7/2.87
50/30	12/2.33	7/2.33	230/30	24/3.50	7/2.33	550/70	54/3.60	7/3.60
70/12	26/1.85	7/1.44	240/40	26/3.45	7/2.68	560/50	48/3.86	7/3.00
95/15	26/2.15	7/1.67	265/35	24,3,74	7/2.49	570/40	45/4.00	7/2.68
95/55	12/3.20	7/3.20	300/50	26/3.86	7/3.00	650/45	45/4.30	7/2.87
105/75	14/3.10	9/2.25	305/40	54/2.68	7/2.68	680/85	545,00	19/2.40
120/20	26/2.44	7/1.90	340/30	48/3.00	7/2.33	1045/45	72/4.30	7/2.87
120/70	12/3.60	7/3.60	380/50	54/3.00	7/3.00			
125/30	30/2.33	7/2.33	385/35	48/3.20	7/2.49			

CAA(A1/S1A) Norma Internacional IEC1089

Tamanho (Al)	No. de Fios No./Diâmetro		Tamanho (Al)	No. de Fios No./Diâmetro		Tamanho (Al)	No. de Fios No./Diâmetro	
	Al	Aço		Al	Aço		Al	Aço
sq. mm	No./mm	No./mm	sq. mm	No./mm	No./mm	sq. mm	No./mm	No./mm
16	6/1.84	1/1.84	315	45/2.99	7/1.99	710	54/4.09	7/2.45
25	6/2.30	1/2.30	315	26/3.93	7/3.05	800	72/3.76	7/2.51
40	6/2.91	1/2.91	400	45/3.36	7/2.24	800	84/3.48	7/3.48
63	6/3.66	1/3.66	400	54/3.07	7/3.07	800	54/4.34	7/2.61
100	6/4.61	1/4.61	450	45/3.57	7/2.38	900	72/3.99	7/2.66
125	18/2.97	1/2.97	450	54/3.26	7/3.26	900	84/3.69	7/3.69
125	26/2.47	7/1.92	500	45/3.76	7/2.51	1000	72/4.21	7/2.80
160	18/3.36	1/3.36	500	54/3.43	7/3.43	1120	72/4.45	19/1.78
160	26/2.80	7/2.18	560	45/3.98	7/2.65	1120	84/4.12	19/2.47
200	18/3.76	1/3.76	560	54/3.63	19/2.18	1250	84/4.35	19/2.61
200	26/3.13	7/2.43	630	45/4.22	7/2.81	1250	72/4.70	19/1.88
250	22/3.80	7/2.11	630	54/3.85	19/2.31			
250	26/3.50	7/2.72	710	45/4.48	7/2.99			

CAA Norma Chinesa GB1179-83

Tamanho	No. de Fios No./Diâmetro		Tamanho	No. de Fios No./Diâmetro		Tamanho	No. de Fios No./Diâmetro	
	Al / Aço	Al / Aço		Al / Aço	Al / Aço		Al / Aço	Al / Aço
sq. mm	No./mm	No./mm	sq. mm	No./mm	No./mm	sq. mm	No./mm	No./mm
10/2	6/1.50	1/1.50	150/25	26/2.70	7/2.10	300/50	26/3.83	7/2.98
16/3	6/1.85	1/1.85	150/35	30/2.50	7/2.50	300/70	30/3.60	7/3.60
25/4	6/2.32	1/2.32	185/10	18/3.60	1/3.60	400/20	42/3.51	7/1.95
35/6	6/2.72	1/2.72	185/25	24/3.15	7/2.10	400/25	45/3.33	7/2.22
50/8	6/3.20	1/3.20	185/30	26/2.98	7/2.32	400/35	48/3.22	7/2.50
50/30	12/2.32	7/2.32	185/45	30/2.80	7/2.80	400/50	54/3.07	7/3.07
70/10	6/3.80	1/3.80	210/10	18/3.80	1/3.80	400/65	26/4.42	7/3.44
70/40	12/2.72	7/2.72	210/25	24/3.33	7/2.22	400/95	30/4.16	19/2.50
95/15	26/2.15	7/1.67	210/35	26/3.22	7/2.50	500/35	45/3.75	7/2.50
95/20	7/4.16	1/1.85	210/50	30/2.98	7/2.98	500/45	48/3.60	7/2.80
95/55	12/3.20	7/3.20	240/30	24/3.60	7/2.40	500/65	54/3.44	7/3.44
120/7	18/2.90	1/2.90	240/40	26/3.42	7/2.66	630/45	45/4.20	7/2.80
120/20	26/2.38	7/1.85	240/55	30/3.20	7/3.20	630/55	48/4.12	7/3.20
120/25	7/4.72	7/2.10	300/15	42/3.00	7/1.67	630/80	54/3.87	19/2.32
120/70	12/3.60	7/3.60	300/20	45/2.93	7/1.95	800/55	45/4.80	7/3.20
150/8	18/3.20	1/3.20	300/25	48/2.85	7/2.22	800/70	48/4.63	7/3.60
150/20	24/2.78	7/1.85	300/40	24/3.99	7/2.66	800/100	54/4.33	19/2.60