

ABC, Copper, AAAC & ACSR Conductor Specifications



Technical Specification for Aerial Bundled Conductor (ABC) to ESI 43-13 Issue 2 : 1990

Nominal CSA of Conductor	No. of Cores	Nom. No. of Wires in Cores	Core Ø		Overall Ø	Weight	Calculated Breaking Load	Calculated DC Resistance @ 20°C	Min. Bending Radius of Bundle
			Min	Max					
mm	mm		mm	mm	mm		kN	Ohms/km	m
25	2	7	5.6	6.5	19.9	0.20	8.1	1200	159
35	2	7	6.6	7.5	21.9	0.26	11.3	868	175
50	2	19	7.7	8.5	24.7	0.35	15.3	641	198
70	2	19	9.3	10.2	28.1	0.48	22.1	443	225
95	2	19	11.0	12.0	32.7	0.65	30.6	320	262
25	4	7	5.6	6.5	23.8	0.40	16.3	1200	190
35	4	7	6.6	7.5	26.2	0.52	22.4	868	210
50	4	19	7.7	8.5	29.6	0.70	30.4	641	237
70	4	19	9.3	10.2	33.7	0.96	44.0	443	270
95	4	19	11.0	12.0	39.3	1.30	61.2	320	314
120	4	19	12.9	13.1	42.0	1.55	79.6	253	336

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Technical Specification for Hard Drawn Copper to BS 125

Nominal Area	Nominal Imperial Cu Equivalent	Stranding & Wire Ø	Overall Ø	Weight	Calculated Breaking Load
mm	in	/mm	mm	kg/km	kN
16	25	3/2.65	5.69	148.3	672.0
32	0.05	3/3.75	8.05	296.9	1296
70	0.1	7/3.55	10.65	621.0	2741
100	0.15	7/4.30	12.9	911.2	3838
125	0.2	19/2.90	14.5	1130	4929

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Technical Specification for All Aluminium Alloy Conductor (AAAC) to BS 3242:1970

Code Name	Nominal Al Area	Stranding & Wire Ø	Actual Area	Overall Ø	Weight	Calculated Breaking Load		Calculated DC Resistance @ 20°C	Breaking Length
	mm²	/mm	mm²	mm	m	kgf	kN	Ohms/km	km
-	0	7/1.47	11.88	4.41	32	340	3.33	2,771	10.63
Box	15	7/1.85	18.82	5.55	51	537	5.27	1,749	10.53
Acacia	20	7/2.08	23.79	6.24	65	680	6.67	1,384	10.46
Almond	25	7/2.34	30.10	7.02	82	861	8.44	1,093	10.5
Cedar	30	7/2.54	35.47	7.62	97	1014	9.94	0.9281	10.45
-	5	7/2.77	42.18	8.31	115	1205	11.82	0.7804	10.48
Fir	40	7/2.95	47.84	8.85	131	1367	13.41	0.6881	10.44
Hazel	50	7/3.30	59.87	9.90	164	1711	16.78	0.5498	10.43
Pine	60	7/3.61	71.65	10.83	196	2048	20.08	0.4594	10.45
-	0	7/3.91	84.05	11.73	230	2402	23.56	0.3917	10.44
Willow	75	7/4.04	89.73	12.12	245	2564	25.15	0.3669	10.47
-	0	7/4.19	96.52	12.57	264	2758	27.05	0.3411	10.45
-	0	7/4.45	108.9	13.35	298	3112	30.52	0.3023	10.44
Oak	100	7/4.65	118.9	13.95	325	3398	33.32	0.2769	10.46
-	100	19/2.82	118.7	14.10	326	3393	33.27	0.2787	10.41
Mulberry	125	19/3.18	150.9	15.90	415	4312	42.29	0.2192	10.39
Ash	150	19/3.48	180.7	17.40	497	5164	50.64	0.1831	10.39
Elm	175	19/3.76	211.0	18.80	580	6030	59.13	0.1568	10.4
Poplar	200	32/2.87	239.4	20.09	659	6841	67.09	0.1385	10.38
-	225	37/3.05	270.3	21.35	744	7724	75.75	0.1227	10.38
Sycamore	250	37/3.23	303.2	22.61	835	8664	84.97	0.1093	10.38
Upas	300	37/3.53	362.1	24.71	997	10350	101.5	0.09156	10.38
Walnut	350	37/3.81	421.8	26.67	1162	12053	118.2	0.07860	10.37
Yew	400	37/4.06	479.0	28.42	1319	13685	134.2	0.06921	10.38
Totara	425	37/4.14	498.1	28.98	1372	14233	139.6	0.06656	10.37
Rubus	500	61/3.50	586.9	31.50	1620	16771	164.5	0.05662	10.35
Araucaria	700	61/4.14	821.1	37.26	2266	23450	230.0	0.04047	10.35

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Technical Specification for Aluminium Conductor Steel Reinforced (ACSR) to BS 215 Part 2:1970

Code Name	Nominal Al Area mm ²	Stranding & Wire ø		Overall ø mm	Weight kg/km	Calculated Breaking Load		Calculated DC Resistance @ 20°C Ohms/km	Breaking Length km
		Al /mm	Steel /mm			kgf	kN		
Mole	10	6/1.50	1/1.50	4.50	43.4	421	4.13	2,707	9.79
Squirrel	20	6/2.11	1/2.11	6.33	85.7	807	7.91	1,368	9.49
Gopher	25	6/2.36	1/2.36	7.08	106.9	979	9.60	1,093	9.24
Weasel	30	6/2.59	1/2.59	7.77	129.0	1167	11.44	0.9077	9.12
Fox	35	6/2.79	1/2.79	8.37	150.2	1342	13.16	0.7823	9.01
Ferret	40	6/3.00	1/3.00	9.00	172.4	1553	15.23	0.6766	9.08
Rabbit	50	6/3.35	1/3.35	10.05	215.7	1872	18.36	0.5426	8.75
Mink	60	6/3.66	1/3.66	10.98	257.1	2223	21.8	0.4545	8.72
Skunk	60	12/2.59	7/2.59	12.95	470.7	5396	52.92	0.4568	11.6
Beaver	70	6/3.99	1/3.99	11.97	305.5	2626	25.75	0.3825	8.67
Horse	70	12/2.79	7/2.79	13.95	545.8	6240	61.19	0.3936	11.6
Raccoon	75	6/4.10	1/4.10	12.30	322.6	2774	27.2	0.3622	8.67
Otter	80	6/4.22	1/4.22	12.66	341.8	2939	28.82	0.3419	8.67
Cat	90	6/4.50	1/4.50	13.50	389.2	3330	32.66	0.3007	8.63
Hare	100	6/4.72	1/4.72	14.16	428.5	3666	35.95	0.2733	8.63
Dog	100	6/4.72	7/1.57	14.15	396.5	3332	32.68	0.2733	8.46
Hyena	100	7/4.39	7/1.93	14.57	456.7	4183	41.02	0.2728	9.23
Cougar	125	18/3.05	1/3.05	15.25	428.3	3062	30.03	0.2190	7.31
Leopard	125	6/5.28	7/1.75	15.81	496.1	4156	40.76	0.2184	8.43
Tiger	125	30/2.36	7/2.36	16.52	620.0	5914	58.00	0.2203	9.81
Dingo	150	18/3.35	1/3.35	16.75	517.0	3642	35.72	0.1814	7.20
Wolf	150	30/2.59	7/2.59	18.13	746.0	7061	69.24	0.1828	9.73
Caracal	175	18/3.61	1/3.61	18.05	600.0	4191	41.10	0.1563	7.14
Lynx	175	30/2.79	7/2.79	19.53	865.0	8136	79.79	0.1576	9.66
Jaguar	200	18/3.86	1/3.86	19.30	686.0	4749	46.57	0.1367	7.08
Panther	200	30/3.00	7/3.00	21.00	1001	9407	92.25	0.1362	9.66
Lion	225	30/3.18	7/3.18	22.26	1125	10248	100.5	0.1213	9.36
Bear	250	30/3.35	7/3.35	23.45	1248	11339	111.2	0.1093	9.34
Goat	300	30/3.71	7/3.71	25.97	1530	13848	135.8	0.08911	9.30
Sheep	350	30/3.99	7/3.99	27.93	1771	15938	156.3	0.07704	9.25
Antelope	350	54/2.97	7/2.97	26.73	1467	12084	118.5	0.07727	8.55
Bison	350	54/3.00	7/3.00	27.00	1497	12328	120.9	0.07573	8.54
Deer	400	30/4.27	7/4.27	29.89	2027	18202	178.5	0.06727	9.23
Zebra	400	54/3.18	7/3.18	28.62	1683	13450	131.9	0.06740	8.29
Elk	450	30/4.5	7/4.50	31.50	2251	20221	198.3	0.06057	9.23
Camel	450	54/3.35	7/3.35	30.15	1849	14878	145.9	0.06073	9.25
Moose	500	54/3.35	7/3.53	31.77	2025	16417	161.0	0.0547	9.41

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