

APPLICATION

DSA Copper Clad Steel stranded conductors are used in place of copper conductors in grounding applications and systems. conductors are classified as follows: Grade 40 HS, Grade 30 HS, Grade 30 EHS, Grade 40 DSA, and Grade 30 DSA. CCS strand wire is divided into soft state and hard state with perfect conductivity, which is a good choice for various industries such as communications, electrical power and electronics.

DESCRIPTION

Copper clad steel wire (CCS) combines the high tensile strength of steel as its core and the conductivity properties of copper as its outer layer. The core material is usually low carbon steel and is typically used as either grounding wire or the inner conductor of coaxial cables.

SPECIFICATIONS

- ASTM B 228 Concentric-Lay-Stranded Copper-Clad Steel Conductors

Parameter

CCS (Conductivity 20.3)

Size Designation	Conductor		No. of Wires	Diameter		Min. Rated Breaking Strength		Weight	Max. D.C. Resistance at 20°C
	Area			mm		kN		kg/km	Ω/km
	mm ²	in ²		Wire	Cond.	Grade 40 HS	Grade 40 DSA	Grade 40	
19 No.5	318.71	0.494	19	4.62	23.11	216.66	76.68	2660.8	0.14423
19 No.6	252.71	0.3917	19	4.115	20.57	179.45	60.81	2110.2	0.18183
19 No.7	200.45	0.3107	19	3.665	18.31	148.29	48.23	1674.2	0.22937
19 No. 8	158.97	0.2464	19	3.264	16.31	122.46	38.27	1327.4	0.28896
19 No. 9	126.06	0.1954	19	2.906	14.53	100.86	30.33	1052.6	0.36452
7 No. 4	148.06	0.2295	7	5.189	15.57	96.15	35.61	1231.5	0.3093
7 No. 5	117.42	0.182	7	4.62	13.87	79.84	28.25	976.5	0.38978
7 No. 6	93.1	0.1443	7	4.115	12.34	66.1	22.41	774.3	0.4915
7 No.7	73.87	0.1145	7	3.665	11	54.63	17.76	614.5	0.6201
7 No. 8	58.56	0.09077	7	3.264	9.78	45.12	14.1	487.1	0.7812
7 No. 9	46.44	0.07198	7	2.906	8.71	37.16	11.18	386.2	0.9859
7 No. 10	36.83	0.05708	7	2.588	7.77	30.73	8.87	306.3	1.2422
3 No. 5	50.32	0.078	3	4.62	9.96	36.1	12.78	417.7	0.9082
3 No. 6	39.9	0.06185	3	4.115	8.86	29.91	10.14	331.3	1.1447
3 No. 7	31.65	0.04905	3	3.665	7.9	24.71	8.04	262.7	1.444
3 No. 8	25.1	0.0389	3	3.264	7.04	20.41	6.38	208.3	1.8193
3 No. 9	19.9	0.03085	3	2.906	6.27	16.81	5.05	165.2	2.2957
3 No. 10	15.78	0.02446	3	2.588	5.59	13.9	4.01	131	2.8929
3 No. 12	9.93	0.01539	3	2.052	4.42	7.32	2.55	82.4	4.5573

Size Designation	Conductor	No. of wires	Diameter	Min. Rated Breaking Strength kN	Weight	Max. Resistance at 20°C
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AWG	Area			mm					kg/km	Ω/km
	mm ²	in ²		Wire	Cond.	Grade 30HS	Grade 30 EHS	Grade 30 DSA	Grade 30	
19 No.5	318.71	0.494	19	4.62	23.11	239.64	288.54	86.28	2634	0.19227
19 No.6	252.71	0.3917	19	4.115	20.57	197.68	239.51	68.41	2087.9	0.2424
19 No.7	200.45	0.3107	19	3.665	18.31	162.74	197.72	54.23	1656.3	0.30576
19 No. 8	158.97	0.2464	19	3.264	16.31	133.98	162.65	43.06	1313.6	0.3852
19 No. 9	126.06	0.1954	19	2.906	14.53	109.93	132.02	34.12	1041.7	0.4862
7 No. 4	148.06	0.2295	7	5.189	15.57	106.86	126.87	40.07	1218.7	0.4124
7 No. 5	117.42	0.182	7	4.62	13.87	88.28	106.28	31.78	966.4	0.5197
7 No. 6	93.1	0.1443	7	4.115	12.34	72.86	88.24	25.21	766.3	0.6552
7 No.7	73.87	0.1145	7	3.665	11	59.97	72.86	19.99	608.1	0.8268
7 No. 8	58.56	0.09077	7	3.264	9.78	49.34	59.92	15.86	482	1.0414
7 No. 9	46.44	0.07198	7	2.906	8.71	40.51	48.63	12.57	382.2	1.3144
7 No. 10	36.83	0.05708	7	2.588	7.77	33.48	39.69	9.97	303.1	1.6559
3 No. 5	50.32	0.078	3	4.62	9.96	39.94	48.1	14.38	413.4	1.2104
3 No. 6	39.9	0.06185	3	4.115	8.86	32.95	39.92	11.41	327.8	1.526
3 No. 7	31.65	0.04905	3	3.665	7.9	27.12	32.95	9.04	260	1.925
3 NO. 8	25.1	0.0389	3	3.264	7.04	22.33	27.11	7.17	206.1	2.4253
3 No. 9	19.9	0.03085	3	2.906	6.27	18.32	22	5.69	163.5	3.0605
3 No. 10	15.78	0.02446	3	2.588	5.59	15.14	17.95	4.51	129.6	3.855
3 No. 12	9.93	0.01539	3	2.052	4.42	7.64	11.4	2.87	81.6	6.073