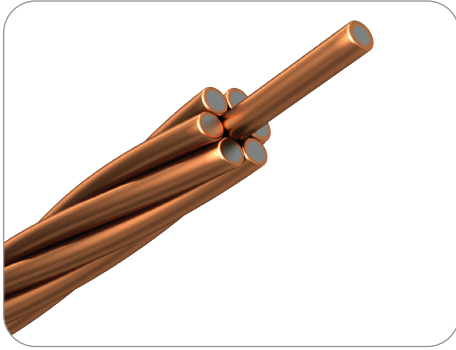


Copperclad Steel Wire—High Strength/Extra High Strength



7-strand Copperclad Steel Wire

High Strength (HS) and Extra High Strength (EHS) copperclad steel wire provides the same conductivity and corrosion resistance as copper while maintaining the high strength of steel. Frequently used for overhead ground wire and messenger wire, HS and EHS copperclad Steel Wire can resist mechanical damage caused during installation plus electrical damage during a fault condition. The core carbon steel is bonded with a uniform layer of oxygen-free coppercladding to ensure that the copper will not flake, crack or peel when the wire is twisted, installed or buried.

Specifications and Ordering Information

30% CONDUCTIVITY—HIGH STRENGTH

CONDUCTOR SIZE AWG	STRANDS	AFL NO.	OVERALL DIAMETER		AREA		MIN. BREAKING LOAD		WEIGHT/LENGTH		NOM. DC RESISTANCE	
			in.	mm	cmil	(mm ²)	lbf	kgf	lbs/kft	kg/km	Ω/kft	Ω/kM
19#4	19	CCS19043H	1.022	25.95	793,000	401.8	65264	29603	2231.3	3320.5	0.0442	0.1451
19#5	19	CCS19053H	0.910	23.10	628,700	318.6	53893	24445	1768.8	2632.3	0.0558	0.1830
19#6	19	CCS19063H	0.810	20.57	498,600	252.6	44456	20165	1403.0	2087.9	0.0703	0.2307
19#7	19	CCS19073H	0.722	18.33	395,600	200.5	36629	16615	1113.2	1656.6	0.0886	0.2908
19#8	19	CCS19083H	0.643	16.32	313,700	159.0	30123	13663	882.7	1313.6	0.1118	0.3667
19#9	19	CCS19093H	0.572	14.53	248,700	126.0	24727	11216	699.6	1041.2	0.1410	0.4626
4/0	19	CCS4/03H	0.528	13.40	211,500	107.2	21030	9539	595.0	885.5	0.1658	0.5440
19#10	19	CCS19103H	0.510	12.94	197,300	100.0	20431	9267	555.1	826.1	0.1777	0.5831
7#4	7	CCS07043H	0.613	15.57	292,200	148.1	24045	10906	818.8	1218.5	0.1195	0.3922
7#5	7	CCS07053H	0.546	13.86	231,600	117.4	19855	9006	649.1	966.0	0.1508	0.4947
7#6	7	CCS07063H	0.486	12.34	183,700	93.1	16379	7429	514.9	766.2	0.1901	0.6237
7#7	7	CCS07073H	0.433	11.00	145,800	73.9	13495	6121	408.5	607.9	0.2396	0.7861
2/0	7	CCS2/03H	0.414	10.51	133,100	67.4	12324	5590	373.1	555.2	0.2624	0.8608
7#8	7	CCS07083H	0.386	9.79	115,600	58.6	11098	5034	323.9	482.1	0.3021	0.9913
1/0	7	CCS1/03H	0.368	9.35	105,600	53.5	10135	4597	295.8	440.2	0.3308	1.0855
7#9	7	CCS07093H	0.343	8.72	91,610	46.4	9110	4132	256.7	382.1	0.3812	1.2507
7#10	7	CCS07103H	0.306	7.76	72,690	36.8	7527	3414	203.7	303.1	0.4805	1.5764
3#4	3	CCS03043H	0.440	11.18	125,200	63.4	10877	4934	350.2	521.2	0.2784	0.9132
3#5	3	CCS03053H	0.392	9.96	99,260	50.3	8982	4074	277.6	413.2	0.3511	1.1520
3#6	3	CCS03063H	0.349	8.86	78,730	39.9	7409	3361	220.2	327.7	0.4427	1.4524
3#7	3	CCS03073H	0.311	7.90	62,470	31.7	6105	2769	174.7	260.0	0.5580	1.8306
3#8	3	CCS03083H	0.277	7.04	49,540	25.1	5020	2277	138.6	206.2	0.7036	2.3084
3#9	3	CCS03093H	0.247	6.27	39,260	19.9	4121	1869	109.8	163.4	0.8877	2.9126
3#10	3	CCS03103H	0.220	5.59	31,150	15.8	3405	1545	87.1	129.7	1.1189	3.6709
#2 AWG	7	CCS02STR3H	0.258	6.55	51,770	26.2	5416	2457	145.1	215.9	0.6746	2.2132
#4 AWG	7	CCS04STR3H	0.204	5.18	32,370	16.4	2691	1221	90.7	135.0	1.0790	3.5399
#2 AWG	1	CCS01023H	0.258	6.54	66,370	33.6	6069	2753	184.2	274.1	0.5210	1.7093
#4 AWG	1	CCS01043H	0.204	5.19	41,740	21.2	3817	1731	115.8	172.4	0.8284	2.7180
#6 AWG	1	CCS01063H	0.162	4.12	26,250	13.3	2600	1180	72.8	108.4	1.3172	4.3216
#8 AWG	1	CCS01083H	0.129	3.26	16,510	8.4	1762	799	45.8	68.2	2.0941	6.8704
#9 AWG	1	CCS01093H	0.114	2.91	13,090	6.6	1446	656	36.3	54.0	2.6421	8.6683
#10 AWG	1	CCS01103H	0.102	2.59	10,380	5.3	1195	542	28.8	42.9	3.3301	10.9254

Copperclad Steel Wire—High Strength (cont.)

Specifications and Ordering Information

40% CONDUCTIVITY—HIGH STRENGTH												
CONDUCTOR SIZE AWG	STRANDS	AFL NO.	OVERALL DIAMETER		AREA		MIN. BREAKING LOAD		WEIGHT/LENGTH		NOM. DC RESISTANCE	
			in.	mm	cmil	(mm ²)	lbf	kgf	lbs/kft	kg/km	Ω/kft	Ω/kM
19#4	19	CCS19044H	1.022	25.95	793,000	401.8	58738	26643	2251.7	3350.9	0.0331	0.1087
19#5	19	CCS19054H	0.910	23.10	628,700	318.6	48719	22099	1785.0	2656.3	0.0418	0.1371
19#6	19	CCS19064H	0.810	20.57	498,600	252.6	40353	18303	1415.8	2106.9	0.0527	0.1729
19#7	19	CCS19074H	0.722	18.33	395,600	200.5	33373	15138	1123.3	1671.7	0.0664	0.2179
19#8	19	CCS19084H	0.643	16.32	313,700	159.0	27541	12492	890.8	1325.6	0.0837	0.2747
19#9	19	CCS19094H	0.572	14.53	248,700	126.0	22681	10288	706.0	1050.7	0.1057	0.3466
4/0	19	CCS4/04H	0.528	13.40	211,500	107.2	19289	8749	600.4	893.6	0.1242	0.4076
19#10	19	CCS19104H	0.510	12.94	197,300	100.0	18753	8506	560.2	833.6	0.1332	0.4369
7#4	7	CCS07044H	0.613	15.57	292,200	148.1	21640	9816	826.3	1229.7	0.0896	0.2938
7#5	7	CCS07054H	0.546	13.86	231,600	117.4	17949	8142	655.0	974.8	0.1130	0.3707
7#6	7	CCS07064H	0.486	12.34	183,700	93.1	14867	6743	519.6	773.2	0.1424	0.4673
7#7	7	CCS07074H	0.433	11.00	145,800	73.9	12295	5577	412.2	613.5	0.1795	0.5890
2/0	7	CCS2/04H	0.414	10.51	133,100	67.4	11229	5093	376.5	560.2	0.1966	0.6450
7#8	7	CCS07084H	0.386	9.79	115,600	58.6	10147	4602	326.9	486.5	0.2264	0.7428
1/0	7	CCS1/04H	0.368	9.35	105,600	53.5	9266	4203	298.5	444.3	0.2479	0.8133
7#9	7	CCS07094H	0.343	8.72	91,610	46.4	8356	3790	259.1	385.6	0.2856	0.9371
7#10	7	CCS07104H	0.306	7.76	72,690	36.8	6909	3134	205.6	305.9	0.3600	1.1812
3#4	3	CCS03044H	0.440	11.18	125,200	63.4	9790	4440	353.4	526.0	0.2086	0.6843
3#5	3	CCS03054H	0.392	9.96	99,260	50.3	8120	3683	280.2	416.9	0.2631	0.8632
3#6	3	CCS03064H	0.349	8.86	78,730	39.9	6725	3051	222.2	330.7	0.3317	1.0883
3#7	3	CCS03074H	0.311	7.90	62,470	31.7	5562	2523	176.3	262.4	0.4181	1.3716
3#8	3	CCS03084H	0.277	7.04	49,540	25.1	4590	2082	139.8	208.1	0.5272	1.7297
3#9	3	CCS03094H	0.247	6.27	39,260	19.9	3780	1715	110.8	164.9	0.6652	2.1823
3#10	3	CCS03104H	0.220	5.59	31,150	15.8	3125	1418	87.9	130.8	0.8384	2.7506
#2 AWG	7	CCS02STR4H	0.258	6.55	51,770	26.2	4971	2255	146.4	217.9	0.5054	1.6583
#4 AWG	7	CCS04STR4H	0.204	5.18	32,370	16.4	2579	1170	91.5	136.2	0.8085	2.6524
#2 AWG	1	CCS01024H	0.258	6.54	66,370	33.6	5462	2477	185.8	276.6	0.3904	1.2808
#4 AWG	1	CCS01044H	0.204	5.19	41,740	21.2	3435	1558	116.9	173.9	0.6207	2.0366
#6 AWG	1	CCS01064H	0.162	4.12	26,250	13.3	2360	1071	73.5	109.4	0.9870	3.2382
#8 AWG	1	CCS01084H	0.129	3.26	16,510	8.4	1611	731	46.2	68.8	1.5691	5.1479
#9 AWG	1	CCS01094H	0.114	2.91	13,090	6.6	1326	602	36.6	54.5	1.9797	6.4951
#10 AWG	1	CCS01104H	0.102	2.59	10,380	5.3	1097	497	29.1	43.3	2.4952	8.1863

Copperclad Steel Wire—Extra High Strength

Specifications and Ordering Information

30% CONDUCTIVITY—EXTRA HIGH STRENGTH

CONDUCTOR SIZE AWG	STRANDS	AFL NO.	OVERALL DIAMETER		AREA		MIN. BREAKING LOAD		WEIGHT/LENGTH		NOM. DC RESISTANCE	
			in.	mm	cmil	(mm ²)	lbf	kgf	lbs/kft	kg/km	Ω/kft	Ω/kM
19#4	19	CCS19043E	1.022	25.95	793,000	401.8	77501	35154	2231.3	3320.5	0.0442	0.1451
19#5	19	CCS19053E	0.910	23.10	628,700	318.6	64887	29432	1768.8	2632.3	0.0558	0.1830
19#6	19	CCS19063E	0.810	20.57	498,600	252.6	53860	24431	1403.0	2087.9	0.0703	0.2307
19#7	19	CCS19073E	0.722	18.33	395,600	200.5	44497	20184	1113.2	1656.6	0.0886	0.2908
19#8	19	CCS19083E	0.643	16.32	313,700	159.0	36577	16591	882.7	1313.6	0.1118	0.3667
19#9	19	CCS19093E	0.572	14.53	248,700	126.0	29690	13467	699.6	1041.2	0.1410	0.4626
4/0	19	CCS4/03E	0.528	13.40	211,500	107.2	25250	11453	595.0	885.5	0.1658	0.5440
19#10	19	CCS19103E	0.510	12.94	197,300	100.0	24219	10986	555.1	826.1	0.1777	0.5831
7#4	7	CCS07043E	0.613	15.57	292,200	148.1	28553	12951	818.8	1218.5	0.1195	0.3922
7#5	7	CCS07053E	0.546	13.86	231,600	117.4	23906	10843	649.1	966.0	0.1508	0.4947
7#6	7	CCS07063E	0.486	12.34	183,700	93.1	19843	9001	514.9	766.2	0.1901	0.6237
7#7	7	CCS07073E	0.433	11.00	145,800	73.9	16394	7436	408.5	607.9	0.2396	0.7861
2/0	7	CCS2/03E	0.414	10.51	133,100	67.4	14972	6791	373.1	555.2	0.2624	0.8608
7#8	7	CCS07083E	0.386	9.79	115,600	58.6	13476	6113	323.9	482.1	0.3021	0.9913
1/0	7	CCS1/03E	0.368	9.35	105,600	53.5	12307	5582	295.8	440.2	0.3308	1.0855
7#9	7	CCS07093E	0.343	8.72	91,610	46.4	10938	4962	256.7	382.1	0.3812	1.2507
7#10	7	CCS07103E	0.306	7.76	72,690	36.8	8923	4047	203.7	303.1	0.4805	1.5764
3#4	3	CCS03043E	0.440	11.18	125,200	63.4	12917	5859	350.2	521.2	0.2784	0.9132
3#5	3	CCS03053E	0.392	9.96	99,260	50.3	10815	4905	277.6	413.2	0.3511	1.1520
3#6	3	CCS03063E	0.349	8.86	78,730	39.9	8977	4072	220.2	327.7	0.4427	1.4524
3#7	3	CCS03073E	0.311	7.90	62,470	31.7	7416	3364	174.7	260.0	0.5580	1.8306
3#8	3	CCS03083E	0.277	7.04	49,540	25.1	6096	2765	138.6	206.2	0.7036	2.3084
3#9	3	CCS03093E	0.247	6.27	39,260	19.9	4948	2245	109.8	163.4	0.8877	2.9126
3#10	3	CCS03103E	0.220	5.59	31,150	15.8	4037	1831	87.1	129.7	1.1189	3.6709
#2 AWG	7	CCS02STR3E	0.258	6.55	51,770	26.2	6420	2912	145.1	215.9	0.6746	2.2132
#4 AWG	7	CCS04STR3E	0.204	5.18	32,370	16.4	4014	1821	90.7	135.0	1.0790	3.5399
#2 AWG	1	CCS01023E	0.258	6.54	66,370	33.6	7207	3269	184.2	274.1	0.5210	1.7093
#4 AWG	1	CCS01043E	0.204	5.19	41,740	21.2	4532	2056	115.8	172.4	0.8284	2.7180
#6 AWG	1	CCS01063E	0.162	4.12	26,250	13.3	3151	1429	72.8	108.4	1.3172	4.3216
#8 AWG	1	CCS01083E	0.129	3.26	16,510	8.4	2139	970	45.8	68.2	2.0941	6.8704
#9 AWG	1	CCS01093E	0.114	2.91	13,090	6.6	1736	788	36.3	54.0	2.6421	8.6683
#10 AWG	1	CCS01103E	0.102	2.59	10,380	5.3	1416	642	28.8	42.9	3.3301	10.9254

Copperclad Part Number Nomenclature

Ordering Information

Step 1: Determine Catalog Number.

Step 2: Determine Package Code.

Step 3: Assemble complete part number—Catalog Number + Package Code

- Example: For a 2,000 ft. reel of 40% and 7#8 DSA, the complete part number is CCS07084DR2000F.

Step 1—Catalog Number

CATALOG NUMBER (NOT ALL SIZES LISTED)		
CONDUCTOR CONFIGURATION	30% CONDUCTIVITY	40% CONDUCTIVITY
#6 Jacketed		CCS01064D-JV*
#4 Jacketed		CCS01044D-JV*
#2 Jacketed		CCS01024D-JV*
#4 Stranded Jacketed		CCS4STR4D-JV*
#2 Stranded Jacketed		CCS2STR4D-JV*
#2 Stranded		CCS2STR4D
#4 Stranded		CCS4STR4D
#2	CCS01023D	CCS01024D
#4	CCS01043D	CCS01044D
#6	CCS01063D	CCS01064D
3#5	CCS03053D	CCS03054D
3#6	CCS03063D	CCS03064D
3#7	CCS03073D	CCS03074D
3#8	CCS03083D	CCS03084D
3#9	CCS03093D	CCS03094D
3#10	CCS03103D	CCS03104D
7#5	CCS07053D	CCS07054D
7#6	CCS07063D	CCS07064D
7#7	CCS07073D	CCS07074D
7#8	CCS07083D	CCS07084D
7#9	CCS07093D	CCS07094D
7#10	CCS07103D	CCS07104D
19#5	CCS19053D	CCS19054D
19#6	CCS19063D	CCS19064D
19#7	CCS19073D	CCS19074D
19#8	CCS19083D	CCS19084D
19#9	CCS19093D	CCS19094D

* See Jacket detail sheet for alternate jacketing configurations and part numbers.

Step 2—Package Code

Select preference of packaging type.

COILS		REELS		SPOOLS	
CODE (LBS)	CODE (FT)	CODE (LBS)	CODE (FT)	CODE (LBS)	CODE (FT)
C50P	C334F	R500P	R500F	S25P	S318F
C100P		R1000P	R1000F		
C200P		R2000P	R2000F		
		R3521P	R3521F		

Not all sizes listed.

Step 3—Assemble Complete Part Number



Explanation of Copperclad Part Numbers

CCS	0707	4	D	R	1000	F
Copperclad Steel (CCX = Onyx)	Stranding of #7 0707 = 7 Strands of #7 0102 = Single Strand of #2	Conductivity (IACS Int'l Annealed Copper) 3 = 30% 4 = 40%	Material Type D = DSA (Dead Soft Annealed) H = High Strength E = Extra High Strength	Package Type R = Reel S = Spool C = Coil	Package Quantity	Unit of Measure F = Feet (ft) P = Pounds (lbs)

Recommended Maximum Footage per Reel

19 Strands

REEL SIZE	19#4	19#5	19#6	19#7	19#8	19#9	4/0	19#10
4	—	—	—	—	—	575	675	725
5	—	—	—	—	575	750	875	950
6	—	—	600	775	975	1,200	1,450	1,550
7.5	575	725	925	1,150	1,450	1,850	2,200	2,350
8	775	975	1,200	1,550	1,950	2,450	2,900	3,100
9	1,200	1,550	1,950	2,450	3,100	3,950	4,650	4,950
10	1,550	1,950	2,450	3,100	3,900	4,950	5,800	6,200
11	2,050	2,600	3,300	4,150	5,250	6,650	7,850	8,400
12	3,150	4,000	5,000	6,350	8,000	10,100	11,800	12,700

7 Strands

REEL SIZE	7#4	7#5	7#6	7#7	2/0	7#8	1/0	7#9	7#10	#2 STR	#4 STR
4	475	600	775	975	1,050	1,200	1,350	1,550	1,950	2,750	4,450
5	625	800	1,000	1,250	1,400	1,600	1,750	2,050	2,550	3,600	5,800
6	1,050	1,300	1,650	2,100	2,300	2,650	2,950	3,400	4,250	6,000	9,600
7.5	1,600	2,000	2,550	3,200	3,500	4,050	4,450	5,100	6,450	9,100	14,500
8	2,100	2,650	3,350	4,250	4,650	5,350	5,850	6,750	8,500	11,900	—
9	3,350	4,250	5,350	6,750	7,400	8,550	9,350	10,800	13,600	—	—
10	4,200	5,300	6,700	8,450	9,250	10,700	11,700	13,500	—	—	—
11	5,700	7,200	9,050	11,400	12,500	14,400	15,800	—	—	—	—
12	8,600	10,900	13,700	—	—	—	—	—	—	—	—

3 Strands

REEL SIZE	3#5	3#6	3#7	3#8	3#9	3#10
4	1,450	1,800	2,300	2,900	3,650	4,600
5	1,900	2,400	3,000	3,800	4,800	6,050
6	3,100	3,950	5,000	6,300	7,950	10,000
7.5	4,750	6,000	7,550	9,500	12,000	15,100
8	6,250	7,850	9,900	12,500	15,800	19,900
9	9,950	12,500	15,800	20,000	—	—
10	12,400	15,700	19,800	—	—	—
11	16,800	21,200	—	—	—	—
12	—	—	—	—	—	—

Single Strand

REEL SIZE	#2	#4	#6
4	2,150	3,450	5,500
5	2,850	4,550	7,250
6	4,700	7,500	11,900
7.5	7,150	11,400	18,100
8	—	—	—
9	—	—	—
10	—	—	—
11	—	—	—
12	—	—	—

Reel Specifications

REEL NO.	OD (in.)	ID (in.)	WIDTH (in.)	MAX CAPACITY (lbs)
4	24.0	12.0	13.0	407
5	24.0	12.0	16.9	533
6	28.0	12.0	17.9	881
8	36.0	17.9	21.1	1,751
9	40.0	17.1	29.5	2,797
10	41.9	13.8	29.5	3,496
11	48.0	26.0	30.0	5,070
12	54.0	36.0	30.0	7,140

Green Spool Specifications



Spool of Copperclad Steel Wire with PVC jacketed material. For spool sizes and specifications, see page 14.

SIZE	ARBOR HOLE SIZE*	WEIGHT	SPOOL DIMENSIONS (inches)	DSA	JACKET TYPE	WIRE LENGTH (ft.)
#6 Bare Solid	2 inch	25	12 x 4 x 5	40	—	338
#6 Solid Jacketed	2 inch	29	13 x 4 x 5	40	Vinyl	338
#4 Bare Solid	2 inch	25	12 x 4 x 5	40	—	214
#4 Solid Jacketed	2 inch	29	12 x 4 x 5	40	Vinyl	214
#4 Stranded	2 inch	20	12 x 4 x 5	40	—	214
#4 Stranded Jacketed	2 inch	22	12 x 4 x 5	40	Vinyl	214
#2 Bare Solid	2 inch	25	12 x 4 x 5	40	—	134
#2 Solid Jacketed	2 inch	27	12 x 4 x 5	40	Vinyl	134
#2 Stranded	2 inch	20	12 x 4 x 5	40	—	134
#2 Stranded Jacketed	2 inch	23	12 x 4 x 5	40	Vinyl	134

* Special arbor hole sizes available upon request.