

ACSS Conductor Cables

ACSS – Aluminum Conductor Steel Supported ASTM B856 B857

Application

ACSS is used for overhead distribution and transmission lines. It is designed to operate continuously at elevated temperatures up to 250°C without loss of strength; it sags less under emergency electrical loadings than ACSR/AW; it is self-damping if prestretched during installation; and its final sags are not affected by long term creep of aluminum. The advantages make ACSS/AW especially useful in reconductoring **applications** requiring increased current with existing tensions and clearances, new line **applications** where structures can be economized because of reduced conductor sag, new line **applications** requiring high emergency loadings, and lines where aeolian vibration is a problem.

ACSS/AW offers strength characteristics similar to ACSS, along with slightly greater ampacity and resistance to corrosion due to aluminum-cladding of the steel core wires

ACSS/TW is designed for overhead distribution and transmission lines. It is designed to operate continuously at elevated temperatures up to 250°C without loss of strength, it sags less under emergency electrical loadings than 0 ACSR/TW, excellent self-damping properties, and its final sags are not affected by long-term creep of aluminum.

Construction

ACSS is a composite concentric-lay-stranded conductor. Steel strands form the central core of the conductor with one or more layers of 63% minimum average conductivity aluminum 1350-0 wire stranded around it. The steel core carries most or all of the mechanical load of the conductor due to the "0" (fully annealed or soft) temper aluminum. Steel core wires are protected from corrosion by Galfan® , zinc-5% aluminum-mischmetal alloy coating. High strength steel core, aluminized, and aluminum clad steel core is also available. Corrosion protection should be selected to suit the environment to which the conductor will be exposed.

ACSS/AW is a composite concentric-lay-stranded conductor. Steel strands form the central core of the conductor with one or more layers of aluminum 1350-0 wire stranded around it. The steel core carries most or all of the mechanical load of the conductor due to the "0" (fully annealed or soft) temper aluminum. Steel core wires are protected from corrosion by an aluminum coating.

Shaped Wire Compact Concentric-Lay-Stranded Aluminum Conductor, Steel-Supported (ACSS/TW) is a concentrically stranded conductor with one or more layers of trapezoidal shaped hard drawn and annealed 1350-0 aluminum wires on a central core of steel.

Construction Parameters

ACSS ASTM B856

Code Word	Size (kcmil)	Stranding (Al/St)	Diameter (in)				Weight (lbs/1000ft)			Rated Strength (lbs)			Resistance (OHMS/1000ft)		Ampacity @ 200°C (AMPS)
			Individual Wires		Steel Core	Composite Cable									
			Al	Steel			Al	Steel	Total	Standard Strength	High * Strength	HS2 85** Strength	DC @ 20°C	AC @ 75°C	
Partridge/A	266.	26/7	0.1	0.0	0.2	0.64	251	115.	366	8880	9730	1140	.06	.07	812

CSS	8		013	788	363	2	.3	5	.8			0	19	61	
Junco/ACS S	266. 8	30/7	0.0 943	0.0 943	0.2 829	0.66 0	251 .9	165 .5	417 .4	1170 0	1300 0	1520 0	.06 15	.07 56	822
Ostrich/AC SS	300. 0	26/7	0.1 074	0.0 835	0.2 506	0.68 0	282 .6	129 .9	412 .5	1000 0	1090 0	1280 0	.05 51	.06 77	877
Linnet/ACS S	336. 4	26/7	0.11 37	0.0 885	0.2 654	0.72 0	316 .8	145 .7	462 .5	1120 0	1230 0	1440 0	.04 91	.06 04	945
Oriole/ACS S	336. 4	30/7	0.1 059	0.1 059	0.3 177	0.74 1	317 .6	208 .7	526 .3	1480 0	1630 0	1910 0	.04 88	.06 00	957
Brant/ACS S	397. 5	24/7	0.1 287	0.0 858	0.2 574	0.77 2	374 .4	137 .0	511. 4	1100 0	1210 0	1410 0	.04 17	.05 14	1047
Ibis/ACSS	397. 5	26/7	0.1 236	0.0 962	0.2 885	0.78 3	374 .4	172 .1	546 .5	1300 0	1420 0	1650 0	.04 16	.05 12	1054
Lark/ACSS	397. 5	30/7	0.11 51	0.11 51	0.3 453	0.80 6	375 .3	246 .5	621 .8	1750 0	1930 0	2260 0	.04 13	.05 08	1068
Flicker/ACS S	477	24/7	0.1 410	0.0 940	0.2 819	0.84 6	449 .3	164 .4	613 .7	1300 0	1420 0	1640 0	.03 48	.04 29	1180
Hawk/ACS S	477	26/7	0.1 354	0.1 053	0.3 160	0.85 8	449 .3	206 .5	655 .8	1560 0	1710 0	1980 0	.03 46	.04 27	1188
Hen/ACSS	477	30/7	0.1 261	0.1 261	0.3 783	0.88 3	450 .4	295 .9	746 .3	2100 0	2270 0	2670 0	.03 44	.04 24	1204
Parakeet/A CSS	556. 5	24/7	0.1 523	0.1 015	0.3 045	0.91 4	524 .0	192 .0	716 .0	1520 0	1660 0	1910 0	.02 98	.03 68	1306
Dove/ACS S	556. 5	26/7	0.1 463	0.11 38	0.3 413	0.92 7	524 .2	240 .9	765 .1	1820 0	1990 0	2320 0	.02 97	.03 66	1315
Eagle/ACS S	556. 5	30/7	0.1 362	0.1 362	0.4 086	0.95 3	525 .4	345 .2	870 .6	2450 0	2650 0	3110 0	.02 95	.03 63	1331
Peacock/A CSS	605	24/7	0.1 588	0.1 058	0.3 175	0.95 3	569 .8	208 .5	778 .3	1650 0	1810 0	2080 0	.02 74	.03 39	1379
Squab/ACS S	605	26/7	0.1 525	0.11 86	0.3 559	0.96 6	569 .8	261 .9	831 .7	1970 0	2130 0	2520 0	.02 73	.03 37	1389

Wood Duck/ACSS	605	30/7	0.1 420	0.1 420	0.4 260	0.99 4	571 .2	375 .3	946 .5	2600 0	2830 0	3330 0	.02 71	.03 34	1407
Teal/ACSS	605	30/19	0.1 420	0.0 852	0.4 260	0.99 4	571 .2	367 .4	938 .6	2660 0	2930 0	3480 0	.02 72	.03 35	1406
Rook/ACSS	636	24/7	0.1 628	0.1 085	0.3 256	0.97 7	599 .0	219 .2	818 .2	1730 0	1900 0	2190 0	.02 61	.03 22	1425
Grosbeak/ACSS	636	26/7	0.1 564	0.1 216	0.3 649	0.99 1	599 .0	275 .4	874 .4	2070 0	2240 0	2600 0	.02 60	.03 21	1435
Scoter/ACSS	636	30/7	0.1 456	0.1 456	0.4 368	1.01 9	600 .5	394 .5	995 .0	2740 0	2970 0	3500 0	.02 58	.03 18	1454
Egret/ACSS	636	30/19	0.1 456	0.0 874	0.4 368	1.01 9	600 .5	386 .3	986 .8	2800 0	3090 0	3660 0	.02 58	.03 19	1453
Flamingo/ACSS	666.6	24/7	0.1 667	0.11 11	0.3 333	1.00 0	627 .9	229 .7	857 .6	1820 0	1990 0	2290 0	.02 49	.03 08	1470
Gannet/ACSS	666.6	26/7	0.1 601	0.1 245	0.3 736	1.01 4	627 .8	288 .6	916 .4	2170 0	2340 0	2730 0	.02 48	.03 06	1480
Stilt/ACSS	715.5	24/7	0.1 727	0.11 51	0.3 453	1.03 6	673 .9	246 .5	920 .4	1950 0	2130 0	2460 0	.02 32	.02 87	1540
Starling/ACSS	715.5	26/7	0.1 659	0.1 290	0.3 871	1.05 1	673 .9	309 .8	983 .7	2330 0	2520 0	2980 0	.02 31	.02 86	1550
Redwing/ACSS	715.5	30/19	0.1 544	0.0 927	0.4 633	1.08 1	675 .6	434 .6	111 0.2	3080 0	3400 0	3980 0	.02 30	.02 84	1570
Cuckoo/ACSS	795	24/7	0.1 820	0.1 213	0.3 640	1.09 2	748 .8	274 .0	102 2.8	2170 0	2330 0	2690 0	.02 09	.02 59	1650
Drake/ACSS	795	26/7	0.1 749	0.1 360	0.4 080	1.10 7	748 .8	344 .2	109 3.0	2590 0	2800 0	3260 0	.02 09	.02 57	1662
Macaw/ACSS	795	42/7	0.1 376	0.0 764	0.2 293	1.05 5	748 .8	108 .7	857 .5	1180 0	1260 0	1430 0	.02 11	.02 62	1621
Tern/ACSS	795	45/7	0.1 329	0.0 886	0.2 658	1.06 3	748 .8	146 .1	894 .9	1420 0	1520 0	1740 0	.02 10	.02 63	1618
Condor/AC	795	54/7	0.1	0.1	0.3	1.09	748	274	102	2170	2330	2690	.02	.02	1618

SS			213	213	640	2	.8	.0	2.8	0	0	0	09	66	
Mallard/AC SS	795	30/19	0.1 628	0.0 977	0.4 884	1.13 9	750 .6	482 .8	123 3.4	3430 0	3790 0	4430 0	.02 07	.02 55	1683
Ruddy/ACS S	900	45/7	0.1 414	0.0 943	0.2 828	1.13 1	847 .7	165 .4	101 2.1	1580 0	1700 0	1920 0	.01 86	.02 33	1755
Canary/AC SS	900	54/7	0.1 291	0.1 291	0.3 873	1.16 2	847 .7	310 .1	115 7.8	2460 0	2640 0	3050 0	.01 84	.02 36	1756
Redbird/AC SS	954	24/7	0.1 994	0.1 329	0.3 987	1.19 6	898 .5	328 .7	122 7.2	2600 0	2800 0	3230 0	.01 74	.02 17	1859
Rail/ACSS	954	45/7	0.1 456	0.0 971	0.2 912	1.16 5	898 .5	175 .3	107 3.8	1670 0	1800 0	2040 0	.01 75	.02 20	1824
Towhee/AC SS	954	48/7	0.1 410	0.1 097	0.3 290	1.17 5	898 .5	223 .7	112 2.2	1970 0	2130 0	2430 0	.01 75	.02 18	1842
Cardinal/A CSS	954	54/7	0.1 329	0.1 329	0.3 987	1.19 6	898 .6	328 .7	122 7.2	2600 0	2800 0	3230 0	.01 74	.02 23	1825
Canvasbac k/ACSS	954	30/19	0.1 783	0.1 070	0.5 350	1.24 8	900 .7	579 .4	148 0.1	4110 0	4540 0	5310 0	.01 72	.02 14	1897
Snowbird/A CSS	103 3.5	42/7	0.1 569	0.0 871	0.2 614	1.20 3	973 .4	141 .3	111 4.7	1540 0	1650 0	1850 0	.01 62	.02 04	1924
Ortolan/AC SS	103 3.5	45/7	0.1 515	0.1 010	0.3 031	1.21 2	973 .4	190 .0	116 3.4	1810 0	1950 0	2200 0	.01 62	.02 04	1921
Curlew/AC SS	103 3.5	54/7	0.1 383	0.1 383	0.4 150	1.24 5	973 .4	356 .2	132 9.6	2820 0	3030 0	3500 0	.01 61	.02 06	1924
Bluejay/AC SS	1113	45/7	0.1 573	0.1 048	0.3 145	1.25 8	104 8.3	204 .5	125 2.8	1950 0	2110 0	2380 0	.01 50	.01 90	2017
Finch/ACS S	1113	54/19	0.1 436	0.0 861	0.4 307	1.29 2	105 3.4	375 .5	142 8.9	3040 0	3320 0	3870 0	.01 50	.01 93	2015
Bunting/AC SS	1192 .5	45/7	0.1 628	0.1 085	0.3 256	1.30 2	112 3.2	219 .2	134 2.4	2140 0	2350 0	2540 0	.01 40	.01 78	2110
Bittern/ACS S	127 2	45/7	0.1 681	0.11 21	0.3 363	1.34 5	119 8.0	234 .0	143 2.0	2230 0	2400 0	2710 0	.01 31	.01 67	2201

Pheasant/A CSS	127 2	54/19	0.1 535	0.0 921	0.4 604	1.38 1	120 3.9	429 .2	163 3.1	3410 0	3730 0	4300 0	.01 31	.01 69	2200
Dipper/ACS S	135 1	45/7	0.1 733	0.11 55	0.3 465	1.38 6	127 2.5	248 .3	152 0.8	2370 0	2550 0	2880 0	.01 24	.01 58	2289
Martin/ACS S	135 1	54/19	0.1 582	0.0 949	0.4 745	1.42 4	127 8.7	455 .8	173 4.5	3620 0	3960 0	4560 0	.01 23	.01 60	2288
Bobolink/A CSS	143 1	45/7	0.1 783	0.11 89	0.3 566	1.42 7	134 7.8	263 .0	161 0.8	2510 0	2700 0	3050 0	.01 17	.01 50	2375
Plover/ACS S	143 1	54/19	0.1 628	0.0 977	0.4 884	1.46 5	135 4.4	482 .8	183 7.2	3840 0	4190 0	4830 0	.01 17	.01 51	2375
Nuthatch/A CSS	151 0	45/7	0.1 832	0.1 221	0.3 664	1.46 5	142 2.2	277 .5	169 9.7	2650 0	2810 0	3180 0	.01 11	.01 43	2459
Parrot/ACS S	151 0	54/19	0.1 672	0.1 003	0.5 017	1.50 5	142 9.2	509 .5	193 8.7	4040 0	4420 0	5100 0	.01 10	.01 44	2460
Ratite/ACS S	159 0	42/7	0.1 946	0.1 081	0.3 243	1.49 2	149 7.6	217 .4	171 5.0	2340 0	2500 0	2790 0	.01 05	.01 36	2543
Lapwing/A CSS	159 0	45/7	0.1 880	0.1 253	0.3 759	1.50 4	149 7.6	292 .2	178 9.8	2790 0	2960 0	3350 0	.01 05	.01 36	2543
Falcon/AC SS	159 0	54/19	0.1 716	0.1 030	0.5 148	1.54 4	150 4.9	536 .5	204 1.4	4260 0	4660 0	5370 0	.01 05	.01 37	2545
Chukar/AC SS	178 0	84/19	0.1 456	0.0 873	0.4 367	1.60 1	168 4.7	386 .1	207 0.8	3540 0	3820 0	4390 0	.00 94	.01 22	2751
Mockingbir d/ACSS	203 4.5	72/7	0.1 681	0.11 21	0.3 362	1.68 1	192 5.6	233 .7	215 9.3	2720 0	2890 0	3200 0	.00 83	.01 10	2960
Roadrunner /ACSS	205 7	76/19	0.1 645	0.0 768	0.3 839	1.70 0	194 6.9	298 .3	224 5.2	3170 0	3390 0	3830 0	.00 82	.01 08	2992
Bluebird/A CSS	215 6	84/19	0.1 602	0.0 961	0.4 806	1.76 2	204 0.6	467 .6	250 8.2	4210 0	4550 0	5170 0	.00 78	.01 03	3106
Kiwi/ACSS	216 7	72/7	0.1 735	0.11 57	0.3 470	1.73 5	205 1.0	248 .9	229 9.9	2900 0	3080 0	3410 0	.00 78	.01 04	3080
Thrasher/A	231	76/19	0.1	0.0	0.4	1.80	218	335	252	3560	3810	4300	.00	.00	3218

CSS	2		744	814	070	2	8.2	.3	3.5	0	0	0	73	98	
Joree/ACS S	251 5	76/19	0.1 819	0.0 849	0.4 245	1.88 0	238 0.4	364 .7	274 5.1	3870 0	4140 0	4680 0	.00 67	.00 92	3390

Notes: Data Based on a nominal cable manufactured in accordance with ASTM B856. Resistance and Ampacity based on an aluminum conductivity of 63%, IACS at 20°C, and a steel conductivity of 8%, IACS at 20°C. Ampacity based on a 200°C conductor temperature, 25°C ambient temperature, 2ft/sec. wind, in sun, with an emissivity of 0.5 and a coefficient of solar absorption of 0.5, at sea level. Rated strength for standard strength core based on Class A Galfan coated steel core wire in accordance with ASTM B802. Rated strength for high strength core based on a Class A Galfan coated high strength steel core wire in accordance with B803. *Designated by "/>

ACSS/AW ASTM B 856

Code Word	Size (kcmil)	Stranding (Al/St)	Diameter (in)				Weight Per 1000 ft (lb)			Rated Strength (lb)	Resistance OHMS/1000 ft		Amp acity at 200° C (AMPS)
			Individual Wires		Steel Core	Complete Cable					DC @ 20° C	AC @ 75° C	
			Al	Steel			Al	Steel	Total				
Junco/ACSS/AW	266.8	30/7	.0943	.0943	.2829	.66	252	140	392	11200	.0589	.0723	841
Ostrich/ACSS/AW	300	26/7	.1074	.0835	.2506	.68	283	110	393	9360	.0534	.0656	891
Linnet/ACSS/AW	336.4	26/7	.1137	.0885	.2654	.72	317	123	440	10500	.0476	.0585	960
Oriole/ACSS/AW	336.4	30/7	.1059	.1059	.3177	.741	318	177	494	14200	.0467	.0573	979
Brant/ACSS/AW	397.5	24/7	.1287	.0858	.2574	.772	374	116	490	10400	.0407	.0501	1061
Ibis/ACSS/AW	397.5	26/7	.1236	.0962	.2885	.783	374	146	520	12400	.0403	.0496	1071
Lark/ACSS/AW	397.5	30/7	.1151	.1151	.3453	.806	375	209	584	16700	.0395	.0486	1092

Flicker/ACSS/AW	477	24/7	.141	.094	.281 9	.846	449	139	589	12500	.033 9	.041 8	1195
Hawk/ACSS/AW	477	26/7	.135 4	.105 3	.316	.858	449	175	624	14900	.033 6	.041 3	1207
Hen/ACSS/AW	477	30/7	.126 1	.126 1	.378 3	.883	450	251	701	20100	.032 9	.040 5	1231
Parakeet/ACSS/AW	556.5	24/7	.152 3	.101 5	.304 5	.914	524	163	687	14600	.029 1	.035 9	1323
Dove/ACSS/AW	556.5	26/7	.146 3	.113 8	.341 3	.927	524	204	728	17500	.028 8	.035 5	1336
Eagle/ACSS/AW	556.5	30/7	.136 2	.136 2	.408 6	.953	525	293	818	22900	.028 2	.034 8	1362
Peacock/ACSS/AW	605	24/7	.158 8	.105 8	.317 5	.953	570	177	746	15900	.026 7	.033	1397
Squab/ACSS/AW	605	26/7	.152 5	.118 6	.355 9	.966	570	222	792	19000	.026 5	.032 7	1411
Wood Duck/ACSS/AW	605	30/7	.142	.142	.426	.994	571	318	889	24400	.026	.032	1439
Teal/ACSS/AW	605	30/19	.142	.085 2	.426	.994	571	311	883	25000	.026	.032	1438
Rook/ACSS/AW	636	24/7	.162 8	.108 5	.325 6	.977	599	186	785	16700	.025 5	.031 4	1444
Grosbeak/ACSS/AW	636	26/7	.156 4	.121 6	.364 9	.991	599	233	832	19900	.025 2	.031 1	1458
Scoter/ACSS/AW	636	30/7	.145 6	.145 6	.436 8	1.019	600	334	935	25100	.024 7	.030 5	1487
Egret/ACSS/AW	636	30/19	.145 6	.087 4	.436 8	1.019	600	327	928	26300	.024 7	.030 5	1486
Flamingo/ACSS/AW	666.6	24/7	.166 7	.111 1	.333 3	1	628	195	823	17500	.024 3	.03	1489

Gannet/ACSS/A W	666.6	26/7	.160 1	.124 5	.373 6	1.014	628	245	872	20900	.024	.029 7	1504
Stilt/ACSS/AW	715.5	24/7	.172 7	.115 1	.345 3	1.036	674	209	883	18800	.022 6	.028	1559
Starling/ACSS/A W	715.5	26/7	.165 9	.129	.387 1	1.051	674	263	936	22000	.022 4	.027 7	1576
Redwing/ACSS/A W	715.5	30/19	.154 4	.092 7	.463 3	1.081	676	368	104 4	29500	.022	.027 2	1605
Cuckoo/ACSS/A W	795	24/7	.182	.121 3	.364	1.092	749	232	981	20900	.020 4	.025 2	1671
Drake/ACSS/AW	795	26/7	.174 9	.136	.408	1.107	749	292	104 0	24400	.020 2	.025	1688
Macaw/ACSS/A W	795	42/7	.137 6	.076 4	.229 3	1.055	749	92	841	11400	.020 9	.026	1630
Tern/ACSS/AW	795	45/7	.132 9	.088 6	.265 8	1.063	749	124	873	13500	.020 8	.026	1620
Condor/ACSS/A W	795	54/7	.121 3	.121 3	.364	1.092	749	232	981	15800	.020 4	.026	1639
Mallard/ACSS/A W	795	30/19	.162 8	.097 7	.488 4	1.139	751	409	116 0	32900	.019 8	.024 5	1721
Ruddy/ACSS/AW	900	45/7	.141 4	.094 3	.282 8	1.131	848	140	988	15300	.018 3	.023	1767
Canary/ACSS/A W	900	54/7	.129 1	.129 1	.387 3	1.162	848	263	111 1	23200	.018	.023	1779
Rail/ACSS/AW	954	45/7	.145 6	.097 1	.291 2	1.165	899	149	104 7	16200	.017 3	.021 8	1836
Towhee/ACSS/A W	954	48/7	.141	.109 7	.329	1.175	899	190	108 8	19000	.017 2	.021 4	1858
Cardinal/ACSS/A W	954	54/7	.132 9	.132 9	.398 7	1.196	899	279	117 7	24600	.017	.021 7	1848

Canvasback/ACS S/AW	954	30/19	.178 3	.107	.535	1.248	901	491	139 2	39400	.016 5	.020 5	1939
Snowbird/ACSS/ AW	1033. 5	42/7	.156 9	.087 1	.261 4	1.203	973	120	109 3	14800	.016 1	.020 2	1934
Curlew/ACSS/A W	1033. 5	54/7	.138 3	.138 3	.415	1.245	973	302	127 5	26100	.015 7	.020 1	1948
Bluejay/ACSS/A W	1113	45/7	.157 3	.104 8	.314 5	1.258	104 8	173	122 2	18900	.014 8	.008 8	2031
Finch/ACSS/AW	1113	54/19	.143 6	.086 1	.430 7	1.292	105 3	318	137 2	28800	.014 6	.018 8	2040
Bunting/ACSS/A W	1192. 5	45/7	.162 8	.108 5	.325 6	1.302	112 3	186	130 9	20300	.013 8	.017 6	2124
Grackle/ACSS/A W	1192. 5	54/19	.148 6	.089 2	.445 8	1.337	112 9	341	147 0	30800	.013 7	.017 6	2135
Bittern/ACSS/AW	1272	45/7	.168 1	.112 1	.336 2	1.345	119 8	198	139 6	21600	.013	.016 5	2215
Pheasant/ACSS/ AW	1272	54/19	.153 5	.092 1	.460 4	1.381	120 4	364	156 8	32800	.012 8	.016 5	2227
Dipper/ACSS/AW	1351	45/7	.173 3	.115 5	.346 5	1.386	127 2	210	148 3	23000	.012 2	.015 6	2304
Martin/ACSS/AW	1351	54/19	.158 2	.094 9	.474 5	1.424	127 9	386	166 5	34900	.012	.015 6	2307
Bobolink/ACSS/A W	1431	45/7	.178 3	.118 9	.356 6	1.427	134 8	223	157 1	24300	.011 5	.014 8	2391
Plover/ACSS/AW	1431	54/19	.162 8	.097 7	.488 4	1.465	135 4	409	176 4	36900	.011 4	.014 8	2405
Nuthatch/ACSS/A W	1510	45/7	.183 2	.122 1	.366 4	1.465	142 2	235	165 7	25700	.010 9	.014 1	2476
Parrot/ACSS/AW	1510	54/19	.167 2	.100 3	.501 7	1.505	142 9	432	186 1	38900	.010 8	.014 1	2491

Lapwing/ACSS/AW	1590	45/7	.188	.125 3	.375 9	1.504	149 8	248	174 5	27000	.010 4	.013 4	2560
Falcon/ACSS/AW	1590	54/19	.171 6	.103	.514 8	1.544	150 5	455	196 0	41100	.010 2	.013 4	2576
Chukar/ACSS/AW	1780	84/19	.145 6	.087 3	.436 7	1.601	168 5	327	201 2	33600	.009 3	.012	2772
Mockingbird/ACS S/AW	2034. 5	72/7	.168 1	.112 1	.336 2	1.681	192 6	198	212 4	26500	.008 2	.010 9	2972
Roadrunner/ACS S/AW	2057	76/19	.164 5	.076 8	.383 9	1.7	194 7	253	220 0	30300	.008 1	.010 8	3007
Bluebird/ACSS/AW	2156	84/19	.160 2	.096 1	.480 6	1.762	204 1	396	243 7	40700	.007 7	.010 2	3130
Kiwi/ACSS/AW	2167	72/7	.173 5	.115 7	.347	1.735	205 1	211	226 2	28200	.007 7	.010 4	3092
Thrasher/ACSS/AW	2312	76/19	.174 4	.081 4	.407	1.802	218 8	284	247 2	34100	.007 2	.009 7	3235
Joree/ACSS/AW	2515	76/19	.181 9	.084 9	.424 5	1.88	238 0	309	268 9	37100	.006 6	.009 1	3407

Notes: Data based on a nominal cable manufactured in accordance with ASTM B 856. Resistance and ampacity based on an aluminum conductivity of 63% IACS at 20°C, and an aluminum-clad steel conductivity of 20.3% IACS at 20°C. Ampacity based on a 200°C conductor temperature, 25°C ambient temperature, 2 ft/sec wind, in sun, with emissivity of 0.5 and a coefficient of solar absorption of 0.5, at sea level.
(4) Rated strengths based on aluminum-clad steel core wire in accordance with ASTM B 502.

ACSS/TW ASTM B 857

Shaped Wire Concentric-Lay Compact Aluminum Conductors Steel Supported (ACSS/TW) Diameter Equal to Standard ACSR Sizes															
Code Word	Size (kcmil)	Type No.	Cross Sectional Area (in ²)		Stranding			Diameter (in)		Weight (lbs/1000 ft)			Rated Breaking Strength (lbs)		
			Aluminum	Total	No of Layers of Aluminum	No. of Aluminum Wires	No. & Diameter Individual Steel Wire	Steel Core	Complete Cable	Alum.	Steel	Total	Standard Strength	High Strength	HS-285
Mohawk/ACSS/TW	571.7	13	0.449	0.507 4	2	18	7 x 0.103	0.30 9	0.85	537	19 7.5	734. 5	15600	1710 0	1970 0

							0								
Calumet/ ACSS/TW	565.3	16	0.4439	0.516 2	2	20	7 x 0.114 6	0.34 38	0.86	531. 2	24 4.5	775. 7	18400	2020 0	2350 0
Mystic/AC SS/TW	666.6	13	0.5236	0.591 4	2	20	7 x 0.124 4	0.37 32	0.913	630. 4	23 0.3	860. 7	18200	1990 0	2290 0
Oswego/A CSS/TW	664.8	16	0.5221	0.607 2	2	20	7 x 0.124 4	0.37 32	0.927	628. 7	28 8.7	917. 4	21700	2340 0	2720 0
Maumee/ ACSS/TW	768.2	13	0.6034	0.681 9	2	20	7 x 0.119 5	0.35 85	0.977	721. 1	26 5.9	987	21000	2300 0	2650 0
Wabash/A CSS/TW	762.8	16	0.5992	0.696 6	2	20	7 x 0.133 1	0.39 93	0.99	716. 7	32 9.8	104 6.5	24900	2680 0	3120 0
Kettle/AC SS/TW	957.2	7	0.7518	0.803 8	3	32	7 x 0.097 3	0.29 19	1.06	901. 6	17 6.2	107 8	16800	1810 0	2040 0
Fraser/AC SS/TW	946.7	10	0.7436	0.816 8	3	35	7 x 0.115 4	0.34 62	1.077	892. 6	24 7.9	114 1	21100	2290 0	2620 0
Columbia/ ACSS/TW	966.2	13	0.7589	0.857 3	2	21	7 x 0.133 8	0.40 14	1.092	906. 9	33 3.2	124 0	26400	2830 0	3280 0
Suwanne e/ACSS/T W	959.6	16	0.7537	0.876 2	2	22	7 x 0.149 3	0.44 79	1.11	901. 6	41 5	131 6.6	30700	3310 0	3860 0
Cheyenne /ACSS/T W	1168.1	5	0.9175	0.964 6	3	30	7 x 0.092 6	0.27 78	1.155	109 9	15 9.6	125 9	17200	1830 0	2050 0
Genesee/ ACSS/TW	1158	7	0.9095	0.973 3	3	34	7 x 0.107 8	0.32 34	1.165	109 2	21 6	130 8	20500	2210 0	2500 0
Hudson/A CSS/TW	1158.4	13	0.9098	1.028 1	2	24	7 x 0.146 7	0.44 01	1.196	108 7.3	40 0.7	148 8	31100	3350 0	3880 0
Catawba/ ACSS/TW	1272	5	0.9991	1.050 5	3	30	7 x 0.096 7	0.29 01	1.203	119 7	17 4	137 1	18700	2000 0	2230 0
Nelson/A CSS/TW	1257.1	7	0.9874	1.055 7	3	35	7 x 0.111 5	0.33 45	1.213	118 4	23 1.4	141 5	22100	2380 0	2690 0
Yukon/AC SS/TW	1233.6	13	0.9689	1.092 5	3	38	19 x 0.091	0.45 5	1.245	116 6.7	41 9.3	158 6	33200	3630 0	4190 0

							0								
Truckee/A CSS/TW	1372.5	5	1.078	1.133 4	3	30	7 x 0.100 4	0.30 12	1.248	129 2	18 7.6	147 9	20200	2150 0	2400 0
Mackenzi e/ACSS/T W	1359.7	7	1.0679	1.141 8	3	36	7 x 0.115 9	0.34 77	1.259	128 1	25 0	153 1	23900	2570 0	2900 0
Thames/A CSS/TW	1334.6	13	1.048	1.180 9	3	38	19 x 0.094 4	0.47 2	1.29	126 0.1	45 1.2	171 1.3	35800	3910 0	4510 0
St. Croix/AC SS/TW	1467.8	5	1.1529	1.212 4	3	33	7 x 0.104 1	0.31 23	1.292	138 1	20 1.7	158 3	21600	2310 0	2580 0
Miramichi/ ACSS/TW	1455.3	7	1.143	1.222 2	3	36	7 x 0.120 0	0.36	1.302	137 2	26 8	164 0	25600	2710 0	3070 0
Merrimac k/ACSS/T W	1433.6	13	1.125	1.267 7	3	39	19 x 0.097 8	0.48 9	1.34	135 5.8	48 4.3	184 0.1	38400	4200 0	4840 0
Platte/AC SS/TW	1569	5	1.2323	1.295 7	3	33	7 x 0.107 4	0.32 22	1.334	147 8	21 5	169 3	23100	2460 0	2750 0
Potomac/ ACSS/TW	1557.4	7	1.2232	1.307 9	3	36	7 x 0.124 1	0.37 23	1.35	146 6.9	28 8.1	175 5	27300	2900 0	3280 0
Rio Grande/A CSS/TW	1533.3	13	1.2043	1.357 1	3	38	19 x 0.101 2	0.50 6	1.38	144 9	51 9	196 8	41200	4500 0	5190 0
Schuylkill/ ACSS/TW	1657.4	7	1.302	1.392	3	36	7 x 0.128 0	0.38 4	1.386	156 3	30 5	186 8	29100	3090 0	3490 0
Pecos/AC SS/TW	1622	13	1.2739	1.442 9	3	39	19 x 0.106 4	0.53 2	1.42	153 3.7	57 3.2	210 6.9	45000	4930 0	5690 0
Pee Dee/ACS S/TW	1758.6	7	1.381	1.477	3	38	7 x 0.131 9	0.39 57	1.427	165 6.4	32 3.9	198 0.3	30900	3280 0	3710 0
James/AC SS/TW	1730.6	13	1.359	1.531 4	3	34	19 x 0.107 5	0.53 75	1.47	163 6	58 5	222 1	46400	5080 0	5850 0
Athabask a/ACSS/T W	1949.6	7	1.5312	1.637 7	3	44	7 x 0.139 2	0.41 76	1.504	183 6	36 0.7	219 7	34300	3650 0	4130 0
Cumberla nd/ACSS/	1926.9	13	1.5134	1.704 9	3	42	19 x 0.113	0.56 65	1.55	182 1	65 0	247 1	51600	5640 0	6500 0

TW							3								
Powder/A CSS/TW	2153.8	8	1.6912	1.829	4	64	19 x 0.096 1	0.48 05	1.602	204 2.5	39 6.1	243 8.6	42100	4550 0	5170 0
Santee/A CSS/TW	2627.3	8	2.063	2.226 8	4	64	19 x 0.106 2	0.53 1	1.761	249 1.5	57 1.1	306 2.6	51300	5560 0	6310 0

Data based on a nominal cable manufactured in accordance with ASTM B 857.

Resistance and ampacity based on an aluminum conductivity of 63% IACS at 20°C and a steel conductivity of 8% IACS at 20°C.

Ampacity based on referenced conductor temperature, 25°C ambient temperature, 2 ft/sec wind, in sun, with an emmisivity of 0.5 and a coefficient of solar absorption of 0.5, at sea level.

Rated breaking strength for standard core based on Class A Galfan coated steel core wire in accordance with ASTM B 802.

Rated strength for high strength core based on Class A Galfan coated high strength steel core wire in accordance with ASTM B 803.

The final design of a shaped wire compact conductor is contingent upon several factors such as: layer diameter, wire width and wire thickness. The actual configuration of a given size may vary between manufacturers. This may result in a slight variation in the number of wires, number of layers and dimensions of individual wires from that shown in the chart.