

ACSS Application

Aluminum conductor steel supported (ACSS) cable is used for overhead transmission lines. ACSS is designed to operate continuously at higher temperatures up to 2500C without loss of strength, which allows for a significant increase in current carrying capacity over ACSR. ACSS is self-damping, sags less than ACSR under emergency electrical loadings, and its final sags are not affected by the long term creep of aluminum. These advantages make ACSS useful in new line applications where structures can be optimized due to the reduced conductor sag or where high emergency loads may be required; or in lines where Aeolian vibration is a problem. Existing lines can be re-conducted using ACSS to allow for increased current using the existing clearances and tensions.

ACSS Standards

- ASTM B 609: Standard Specification for Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes.
- ASTM B 498: Standard Specification for Zinc-Coated (Galvanized) Steel Core Wire for Aluminum Conductors, Steel Reinforced (ACSR).
- ASTM B 856: Standard Specification for Concentric-Lay-Stranded Aluminum Conductors, Coated Steel Supported (ACSS).

ACSS Data Sheet

Code Word	Size (kcmil)	Stranding (Al/St)	Diameter (in)				Weight (lbs/1000 ft)			Rated Strength (lbs)			Resistance (OHMS/1000ft)			Capacity @ 200°C (AMPS)
			Individual Wires		Steel Core	Comp Cable	Al	Steel	Total	Standard Strength	High* Strength	HS285** Strength	DC @ 20°C	AC @ 75°C		
			Al	Steel												
Partridge/ACSS	266.8	26/7	0.1013	0.0788	0.2363	0.642	251.3	115.5	366.8	8880	9730	11400	0.619	0.761	812	
Junco/ACSS	266.8	30/7	0.0943	0.0943	0.2829	0.660	251.9	165.5	417.4	11700	13000	15200	0.615	0.756	822	
Ostrich/ACSS	300.0	26/7	0.1074	0.0835	0.2506	0.680	282.6	129.9	412.5	10000	10900	12800	0.551	0.677	877	
Linnet/ACSS	336.4	26/7	0.1137	0.0885	0.2654	0.720	316.8	145.7	462.5	11200	12300	14400	0.491	0.604	945	
Oriole/ACSS	336.4	30/7	0.1059	0.1059	0.3177	0.741	317.6	208.7	526.3	14800	16300	19100	0.488	0.600	957	
Brant/ACSS	397.5	24/7	0.1287	0.0858	0.2574	0.772	374.4	137.0	511.4	11000	12100	14100	0.417	0.514	1047	
Ibis/ACSS	397.5	26/7	0.1236	0.0962	0.2885	0.783	374.4	172.1	546.5	13000	14200	16500	0.416	0.512	1054	
Lark/ACSS	397.5	30/7	0.1151	0.1151	0.3453	0.806	375.3	246.5	621.8	17500	19300	22600	0.413	0.508	1068	
Flicker/ACSS	477	24/7	0.1410	0.0940	0.2819	0.846	449.3	164.4	613.7	13000	14200	16400	0.348	0.429	1180	
Hawk/ACSS	477	26/7	0.1354	0.1053	0.3160	0.858	449.3	206.5	655.8	15600	17100	19800	0.346	0.427	1188	
Hen/ACSS	477	30/7	0.1261	0.1261	0.3783	0.883	450.4	295.9	746.3	21000	22700	26700	0.344	0.424	1204	
Parakeet/ACSS	556.5	24/7	0.1523	0.1015	0.3045	0.914	524.0	192.0	716.0	15200	16600	19100	0.298	0.368	1306	
Dove/ACSS	556.5	26/7	0.1463	0.1138	0.3413	0.927	524.2	240.9	765.1	18200	19900	23200	0.297	0.366	1315	
Eagle/ACSS	556.5	30/7	0.1362	0.1362	0.4086	0.953	525.4	345.2	870.6	24500	26500	31100	0.295	0.363	1331	
Peacock/ACSS	605	24/7	0.1588	0.1058	0.3175	0.953	569.8	208.5	778.3	16500	18100	20800	0.274	0.339	1379	
Squab/ACSS	605	26/7	0.1525	0.1186	0.3559	0.966	569.8	261.9	831.7	19700	21300	25200	0.273	0.337	1389	
Wood Duck/ACSS	605	30/7	0.1420	0.1420	0.4260	0.994	571.2	375.3	946.5	26000	28300	33300	0.271	0.334	1407	
Teal/ACSS	605	30/19	0.1420	0.0852	0.4260	0.994	571.2	367.4	938.6	26600	29300	34800	0.272	0.335	1406	
Rook/ACSS	636	24/7	0.1628	0.1085	0.3256	0.977	599.0	219.2	818.2	17300	19000	21900	0.261	0.322	1425	
Grosbeak/ACSS	636	26/7	0.1564	0.1216	0.3649	0.991	599.0	275.4	874.4	20700	22400	26000	0.260	0.321	1435	
Scoter/ACSS	636	30/7	0.1456	0.1456	0.4368	1.019	600.5	394.5	995.0	27400	29700	35000	0.258	0.318	1454	
Egret/ACSS	636	30/19	0.1456	0.0874	0.4368	1.019	600.5	386.3	986.8	28000	30900	36600	0.258	0.319	1453	
Flamingo/ACSS	666.6	24/7	0.1667	0.1111	0.3333	1.000	627.9	229.7	857.6	18200	19900	22900	0.249	0.308	1470	
Gannet/ACSS	666.6	26/7	0.1601	0.1245	0.3736	1.014	627.8	288.6	916.4	21700	23400	27300	0.248	0.306	1480	
Stilt/ACSS	715.5	24/7	0.1727	0.1151	0.3453	1.036	673.9	246.5	920.4	19500	21300	24600	0.232	0.287	1540	
Starling/ACSS	715.5	26/7	0.1659	0.1290	0.3871	1.051	673.9	309.8	983.7	23300	25200	29800	0.231	0.286	1550	
Redwing/ACSS	715.5	30/19	0.1544	0.0927	0.4633	1.081	675.6	434.6	1110.2	30800	34000	39800	0.230	0.284	1570	
Cuckoo/ACSS	795	24/7	0.1820	0.1213	0.3640	1.092	748.8	274.0	1022.8	21700	23300	26900	0.209	0.259	1650	

Drake/ACSS	795	26/7	0.1749	0.1360	0.4080	1.107	748.8	344.2	1093.0	25900	28000	32600	0209	0257	1662
Macaw/ACSS	795	42/7	0.1376	0.0764	0.2293	1.055	748.8	108.7	857.5	11800	12600	14300	0211	0262	1621
Tern/ACSS	795	45/7	0.1329	0.0886	0.2658	1.063	748.8	146.1	894.9	14200	15200	17400	0210	0263	1618
Condor/ACSS	795	54/7	0.1213	0.1213	0.3640	1.092	748.8	274.0	1022.8	21700	23300	26900	0209	0266	1618
Mallard/ACSS	795	30/19	0.1628	0.0977	0.4884	1.139	750.6	482.8	1233.4	34300	37900	44300	0207	0255	1683
Ruddy/ACSS	900	45/7	0.1414	0.0943	0.2828	1.131	847.7	165.4	1012.1	15800	17000	19200	0186	0233	1755
Canary/ACSS	900	54/7	0.1291	0.1291	0.3873	1.162	847.7	310.1	1157.8	24600	26400	30500	0184	0236	1756
Redbird/ACSS	954	24/7	0.1994	0.1329	0.3987	1.196	898.5	328.7	1227.2	26000	28000	32300	0174	0217	1859
Rail/ACSS	954	45/7	0.1456	0.0971	0.2912	1.165	898.5	175.3	1073.8	16700	18000	20400	0175	0220	1824
Towhee/ACSS	954	48/7	0.1410	0.1097	0.3290	1.175	898.5	223.7	1122.2	19700	21300	24300	0175	0218	1842
Cardinal/ACSS	954	54/7	0.1329	0.1329	0.3987	1.196	898.6	328.7	1227.2	26000	28000	32300	0174	0223	1825
Canvasback/ACSS	954	30/19	0.1783	0.1070	0.5350	1.248	900.7	579.4	1480.1	41100	45400	53100	0172	0214	1897
Snowbird/ACSS	1033.5	42/7	0.1569	0.0871	0.2614	1.203	973.4	141.3	1114.7	15400	16500	18500	0162	0204	1924
Ortolan/ACSS	1033.5	45/7	0.1515	0.1010	0.3031	1.212	973.4	190.0	1163.4	18100	19500	22000	0162	0204	1921
Curlew/ACSS	1033.5	54/7	0.1383	0.1383	0.4150	1.245	973.4	356.2	1329.6	28200	30300	35000	0161	0206	1924
Bluejay/ACSS	1113	45/7	0.1573	0.1048	0.3145	1.258	1048.3	204.5	1252.8	19500	21100	23800	0150	0190	2017
Finch/ACSS	1113	54/19	0.1436	0.0861	0.4307	1.292	1053.4	375.5	1428.9	30400	33200	38700	0150	0193	2015
Bunting/ACSS	1192.5	45/7	0.1628	0.1085	0.3256	1.302	1123.2	219.2	1342.4	21400	23500	25400	0140	0178	2110
Bittern/ACSS	1272	45/7	0.1681	0.1121	0.3363	1.345	1198.0	234.0	1432.0	22300	24000	27100	0131	0167	2201
Pheasant/ACSS	1272	54/19	0.1535	0.0921	0.4604	1.381	1203.9	429.2	1633.1	34100	37300	43000	0131	0169	2200
Dipper/ACSS	1351	45/7	0.1733	0.1155	0.3465	1.386	1272.5	248.3	1520.8	23700	25500	28800	0124	0158	2289
Martin/ACSS	1351	54/19	0.1582	0.0949	0.4745	1.424	1278.7	455.8	1734.5	36200	39600	45600	0123	0160	2288
Bobolink/ACSS	1431	45/7	0.1783	0.1189	0.3566	1.427	1347.8	263.0	1610.8	25100	27000	30500	0117	0150	2375
Plover/ACSS	1431	54/19	0.1628	0.0977	0.4884	1.465	1354.4	482.8	1837.2	38400	41900	48300	0117	0151	2375
Nuthatch/ACSS	1510	45/7	0.1832	0.1221	0.3664	1.465	1422.2	277.5	1699.7	26500	28100	31800	0111	0143	2459
Parrot/ACSS	1510	54/19	0.1672	0.1003	0.5017	1.505	1429.2	509.5	1938.7	40400	44200	51000	0110	0144	2460
Ratite/ACSS	1590	42/7	0.1946	0.1081	0.3243	1.492	1497.6	217.4	1715.0	23400	25000	27900	0105	0136	2543
Lapwing/ACSS	1590	45/7	0.1880	0.1253	0.3759	1.504	1497.6	292.2	1789.8	27900	29600	33500	0105	0136	2543
Falcon/ACSS	1590	54/19	0.1716	0.1030	0.5148	1.544	1504.9	536.5	2041.4	42600	46600	53700	0105	0137	2545
Chukar/ACSS	1780	34/19	0.1456	0.0873	0.4367	1.601	1684.7	386.1	2070.8	35400	38200	43900	0094	0122	2751
Mockingbird/ACSS	2034.5	72/7	0.1681	0.1121	0.3362	1.681	1925.6	233.7	2159.3	27200	28900	32000	0083	0110	2960
Roadrunner/ACSS	2057	76/19	0.1645	0.0768	0.3839	1.700	1946.9	298.3	2245.2	31700	33900	38300	0082	0108	2992
Bluebird/ACSS	2156	34/19	0.1602	0.0961	0.4806	1.762	2040.6	467.6	2508.2	42100	45500	51700	0078	0103	3106
Kiwi/ACSS	2167	72/7	0.1735	0.1157	0.3470	1.735	2051.0	248.9	2299.9	29000	30800	34100	0078	0104	3080
Thrasher/ACSS	2312	76/19	0.1744	0.0814	0.4070	1.802	2188.2	335.3	2523.5	35600	38100	43000	0073	0098	3218
Joree/ACSS	2515	76/19	0.1819	0.0849	0.4245	1.880	2380.4	364.7	2745.1	38700	41400	46800	0067	0092	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 Galvan coated steel core wire in accordance with ASTM B802.

Rated strength for high strength core based on a Class A Galvan coated high strength steel core wire in accordance with B803.

* Designated by "/HS" (e.g. Drake/ACSS/HS)

** Designated by "/HS285" (e.g. Drake/ACSS/HS285)

ACSS/AW

Code Word	Size (kcmil)	Stranding (Al/St)	Diameter (in)				Weight 1000 ft (lb)			Per Rated Strength (lb)	Resistance OHMS/1000 ft		Capacity at 200°C (AMPS)
			Individual Wires		Steel Core	Complete Cable	Al	Steel	Total		DC @ 20°C	AC @ 75°C	
			Al	Steel									
			Al	Steel	Al	Steel	Total	DC @ 20°C	AC @ 75°C				
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	2819	846	449	139	589	12500	0339	0418	1195
Hawk/ACSS/AW	477	26/7	1354	1053	316	858	449	175	624	14900	0336	0413	1207
Hen/ACSS/AW	477	30/7	1261	1261	3783	883	450	251	701	20100	0329	0405	1231
Parakeet/ACSS/AW	556.5	24/7	1523	1015	3045	914	524	163	687	14600	0291	0359	1323
Dove/ACSS/AW	556.5	26/7	1463	1138	3413	927	524	204	728	17500	0288	0355	1336
Eagle/ACSS/AW	556.5	30/7	1362	1362	4086	953	525	293	818	22900	0282	0348	1362
Peacock/ACSS/AW	605	24/7	1588	1058	3175	953	570	177	746	15900	0267	033	1397
Squab/ACSS/AW	605	26/7	1525	1186	3559	966	570	222	792	19000	0265	0327	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	0852	426	994	571	311	883	25000	026	032	1438
Rook/ACSS/AW	636	24/7	1628	1085	3256	977	599	186	785	16700	0255	0314	1444
Grosbeak/ACSS/AW	636	26/7	1564	1216	3649	991	599	233	832	19900	0252	0311	1458
Scoter/ACSS/AW	636	30/7	1456	1456	4368	1.019	600	334	935	25100	0247	0305	1487
Egret/ACSS/AW	636	30/19	1456	0874	4368	1.019	600	327	928	26300	0247	0305	1486
Flamingo/ACSS/AW	666.6	24/7	1667	1111	3333	1	628	195	823	17500	0243	03	1489
Gannet/ACSS/AW	666.6	26/7	1601	1245	3736	1.014	628	245	872	20900	024	0297	1504
Stilt/ACSS/AW	715.5	24/7	1727	1151	3453	1.036	674	209	883	18800	0226	028	1559
Starling/ACSS/AW	715.5	26/7	1659	129	3871	1.051	674	263	936	22000	0224	0277	1576
Redwing/ACSS/AW	715.5	30/19	1544	0927	4633	1.081	676	368	1044	29500	022	0272	1605
Cuckoo/ACSS/AW	795	24/7	182	1213	364	1.092	749	232	981	20900	0204	0252	1671
Drake/ACSS/AW	795	26/7	1749	136	408	1.107	749	292	1040	24400	0202	025	1688
Macaw/ACSS/AW	795	42/7	1376	0764	2293	1.055	749	92	841	11400	0209	026	1630
Tern/ACSS/AW	795	45/7	1329	0886	2658	1.063	749	124	873	13500	0208	026	1620
Condor/ACSS/AW	795	54/7	1213	1213	364	1.092	749	232	981	15800	0204	026	1639
Mallard/ACSS/AW	795	30/19	1628	0977	4884	1.139	751	409	1160	32900	0198	0245	1721
Ruddy/ACSS/AW	900	45/7	1414	0943	2828	1.131	848	140	988	15300	0183	023	1767
Canary/ACSS/AW	900	54/7	1291	1291	3873	1.162	848	263	1111	23200	018	023	1779
Rail/ACSS/AW	954	45/7	1456	0971	2912	1.165	899	149	1047	16200	0173	0218	1836
Towhee/ACSS/AW	954	48/7	141	1097	329	1.175	899	190	1088	19000	0172	0214	1858
Cardinal/ACSS/AW	954	54/7	1329	1329	3987	1.196	899	279	1177	24600	017	0217	1848
Canvasback/ACSS/AW	954	30/19	1783	107	535	1.248	901	491	1392	39400	0165	0205	1939
Snowbird/ACSS/AW	1033.5	42/7	1569	0871	2614	1.203	973	120	1093	14800	0161	0202	1934

	Curlew/ACSS/AW	1033.5	54/7	1383	1383	415	1.245	973	302	1275	26100	0157	0201	1948
	Bluejay/ACSS/AW	1113	45/7	1573	1048	3145	1.258	1048	173	1222	18900	0148	0088	2031
	Finch/ACSS/AW	1113	54/19	1436	0861	4307	1.292	1053	318	1372	28800	0146	0188	2040
	Bunting/ACSS/AW	1192.5	45/7	1628	1085	3256	1.302	1123	186	1309	20300	0138	0176	2124
	Grackle/ACSS/AW	1192.5	54/19	1486	0892	4458	1.337	1129	341	1470	30800	0137	0176	2135
	Bittern/ACSS/AW	1272	45/7	1681	1121	3362	1.345	1198	198	1396	21600	013	0165	2215
	Pheasant/ACSS/AW	1272	54/19	1535	0921	4604	1.381	1204	364	1568	32800	0128	0165	2227
	Dipper/ACSS/AW	1351	45/7	1733	1155	3465	1.386	1272	210	1483	23000	0122	0156	2304
	Martin/ACSS/AW	1351	54/19	1582	0949	4745	1.424	1279	386	1665	34900	012	0156	2307
	Bobolink/ACSS/AW	1431	45/7	1783	1189	3566	1.427	1348	223	1571	24300	0115	0148	2391
	Plover/ACSS/AW	1431	54/19	1628	0977	4884	1.465	1354	409	1764	36900	0114	0148	2405
	Nuthatch/ACSS/AW	1510	45/7	1832	1221	3664	1.465	1422	235	1657	25700	0109	0141	2476
	Parrot/ACSS/AW	1510	54/19	1672	1003	5017	1.505	1429	432	1861	38900	0108	0141	2491
	Lapwing/ACSS/AW	1590	45/7	188	1253	3759	1.504	1498	248	1745	27000	0104	0134	2560
	Falcon/ACSS/AW	1590	54/19	1716	103	5148	1.544	1505	455	1960	41100	0102	0134	2576
	Chukar/ACSS/AW	1780	84/19	1456	0873	4367	1.601	1685	327	2012	33600	0093	012	2772
	Mockingbird/ACSS/AW	2034.5	72/7	1681	1121	3362	1.681	1926	198	2124	26500	0082	0109	2972
	Roadrunner/ACSS/AW	2057	76/19	1645	0768	3839	1.7	1947	253	2200	30300	0081	0108	3007
	Bluebird/ACSS/AW	2156	84/19	1602	0961	4806	1.762	2041	396	2437	40700	0077	0102	3130
	Kiwi/ACSS/AW	2167	72/7	1735	1157	347	1.735	2051	211	2262	28200	0077	0104	3092
	Thrasher/ACSS/AW	2312	76/19	1744	0814	407	1.802	2188	284	2472	34100	0072	0097	3235
	Joree/ACSS/AW	2515	76/19	1819	0849	4245	1.88	2380	309	2689	37100	0066	0091	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

Shaped Wire Concentric-Lay Compact Aluminum Conductors Steel Supported (ACSS/TW) Area Equal to Standard ACSR Sizes

Code Word	Size (kcmil)	Type No.	Cross Sectional Area (in ²)		Stranding			Diameter (in)		Weight (lbs/1000 ft)			Rate (lbs)
			Aluminum	Total	No. of Aluminum Layers	No. of Aluminum Wires	No. & Diameter of Individual Steel Wire	Steel Core	Complete Cable	Alum.	Steel	Total	
Partridge/ACSS/TW	266.8	16	0.2094	0.2435	2	14	7 x 0.0788	0.2364	0.595	250.5	115.6	366.1	8,88
Linnet/ACSS/TW	336.4	16	0.2641	0.3070	2	16	7 x 0.0885	0.2655	0.667	316.1	145.8	461.9	11,2
Oriole/ACSS/TW	336.4	23	0.2642	0.3258	2	16	7 x 0.1059	0.3177	0.692	318.2	209.2	527.4	14,8
Flicker/ACSS/TW	477.0	13	0.3747	0.4233	2	18	7 x 0.0940	0.2820	0.776	447.8	164.5	612.3	13,0
Hawk/ACSS/TW	477.0	16	0.3746	0.4356	2	18	7 x 0.1054	0.3162	0.790	448.7	206.4	655.1	15,6
Hen/ACSS/TW	477.0	23	0.3747	0.4621	2	20	7 x 0.1261	0.3783	0.820	451.1	296.6	747.8	21,0
Parakeet/ACSS/TW	556.5	13	0.4371	0.4937	2	18	7 x 0.1015	0.3045	0.835	522.4	191.8	714.2	15,2
Dove/ACSS/TW	556.5	16	0.4371	0.5083	2	20	7 x 0.1138	0.3414	0.850	523.4	241.1	764.5	18,2

Rook/ACSS/TW	636.0	13	0.4995	0.5643	2	20	7 x 0.1085	0.3255	0.893	597.0	219.2	816.2	17,3
Grosbeak/ACSS/TW	636.0	16	0.4995	0.5808	2	20	7 x 0.1216	0.3648	0.909	601.5	275.8	877.3	20,7
Scoter/ACSS/TW	636.0	23	0.4995	0.6160	2	22	7 x 0.1456	0.4368	0.942	600.5	394.7	995.2	27,4
Tern/ACSS/TW	795.0	7	0.6244	0.6675	2	17	7 x 0.0886	0.2658	0.960	745.2	146.1	891.3	14,2
Puffin/ACSS/TW	795.0	11	0.6244	0.6919	2	18	7 x 0.1056	0.3168	0.980	745.9	228.5	974.4	17,7
Condor/ACSS/TW	795.0	13	0.6244	0.7053	2	20	7 x 0.1213	0.3639	0.993	746.3	273.9	1020.0	21,7
Drake/ACSS/TW	795.0	16	0.6244	0.7261	2	20	7 x 0.1360	0.4080	1.010	747.0	344.3	1091.3	25,9
Canary/ACSS/TW	900.0	13	0.7069	0.7983	2	20	7 x 0.1291	0.3873	1.055	844.8	310.9	1155.7	24,6
Phoenix/ACSS/TW	954.0	5	0.7493	0.7876	3	30	7 x 0.0837	0.2511	1.044	897.7	130.4	1028.0	14,2
Rail/ACSS/TW	954.0	7	0.7493	0.8011	3	32	7 x 0.0971	0.2913	1.061	898.6	175.5	1074.1	16,7
Cardinal/ACSS/TW	954.0	13	0.7493	0.8464	2	20	7 x 0.1329	0.3987	1.080	895.5	328.8	1224.3	26,0
Snowbird/ACSS/TW	1033.5	5	0.8117	0.8534	3	30	7 x 0.0871	0.2613	1.089	972.5	141.2	1114.0	15,4
Ortolan/ACSS/TW	1033.5	7	0.8117	0.8678	3	32	7 x 0.1010	0.3030	1.102	972.5	189.9	1162.0	18,1
Curlew/ACSS/TW	1033.5	13	0.8117	0.9169	2	22	7 x 0.1383	0.4149	1.132	970.1	356.1	1326.2	28,2
Avocet/ACSS/TW	1113.0	5	0.8742	0.9191	3	30	7 x 0.0904	0.2712	1.129	1047.0	152.1	1199.0	16,3

Shaped Wire Concentric-Lay Compact Aluminum Conductors Steel Supported (ACSS/TW) Area Equal to Standard ACSR Sizes

Code Word	Size (kcmil)	Cross Sectional Area (in ²)		Stranding			Diameter (in)		Weight (lbs/1000 ft)			Rated B (lbs)
		Aluminum	Total	No. of Layers	No. of Aluminum Wires	No. & Diameter Individual Steel Wire	Steel Core	Complete Cable	Alum.	Steel	Total	Standard Strength
Bluejay/ACSS/TW	1113.0	0.8742	0.9347	3	33	7 x 0.1049	0.3147	1.143	1048.0	204.8	1253.0	19,500
Finch/ACSS/TW	1113.0	0.8743	0.9852	3	38	19 x 0.0862	0.4310	1.185	1051.0	376.1	1427.0	30,400
Oxbird/ACSS/TW	1192.5	0.9366	0.9848	3	30	7 x 0.0936	0.2808	1.170	1122.9	163.1	1286.0	17,500
Bunting/ACSS/TW	1192.5	0.9366	1.0013	3	34	7 x 0.1085	0.3255	1.181	1123.2	219.6	1342.8	20,900
Grackle/ACSS/TW	1192.5	0.9366	1.0554	3	38	19 x 0.0892	0.4460	1.225	1127.8	402.9	1530.7	32,600
Scissortail/ACSS/TW	1272.0	0.9991	1.0505	3	30	7 x 0.0967	0.2901	1.203	1197.0	174.0	1371.0	18,700
Bittern/ACSS/TW	1272.0	0.9990	1.0681	3	38	7 x 0.1121	0.3363	1.224	1197.6	234.9	1432.5	22,300
Pheasant/ACSS/TW	1272.0	0.9990	1.1256	3	39	19 x 0.0921	0.4605	1.260	1201.0	429.5	1630.5	34,100
Dipper/ACSS/TW	1351.5	1.0615	1.1348	3	35	7 x 0.1155	0.3465	1.256	1273.0	248.3	1521.0	23,700
Martin/ACSS/TW	1351.5	1.0615	1.1959	3	42	19 x 0.0949	0.4745	1.300	1276.1	456.0	1732.1	36,200
Bobolink/ACSS/TW	1431.0	1.1236	1.2017	3	36	7 x 0.1189	0.3567	1.291	1347.0	263.1	1611.0	25,100
Plover/ACSS/TW	1431.0	1.1239	1.2664	3	44	19 x 0.0977	0.4885	1.337	1351.0	483.2	1834.0	38,400
Lapwing/ACSS/TW	1590.0	1.2488	1.3351	3	36	7 x 0.1253	0.3759	1.358	1497.6	292.3	1789.9	27,900
Falcon/ACSS/TW	1590.0	1.2488	1.4071	3	42	19 x 0.1030	0.5150	1.410	1502.8	537.2	2040.0	42,600
Chukar/ACSS/TW	1780.0	1.3986	1.5126	3	38	19 x 0.0874	0.4370	1.445	1680.6	386.8	2067.4	35,300
Bluebird/ACSS/TW	2156.0	1.6933	1.8309	4	64	19 x 0.0961	0.4805	1.608	2045.0	467.5	2512.5	42,100

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 emissivity 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 Galvan coated steel core wire in accordance with ASTM B 802.

Rated strength for high strength core based on Class A Galvan 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.

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 Break (lbs)		
			Aluminum	Total	No. of Layers Aluminum	No. of Aluminum Wires	No. of Individual Steel Wire	Steel Core	Complete Cable	Alum.	Steel	Total	Standard Strength	High Stre	
Mohawk/ACSS/TW	571.7	13	0.4490	0.5074	2	18	7	x	0.3090	0.850	537.0	197.5	734.5	15,600	17,100
Calumet/ACSS/TW	565.3	16	0.4439	0.5162	2	20	7	x	0.3438	0.860	531.2	244.5	775.7	18,400	20,200
Mystic/ACSS/TW	666.6	13	0.5236	0.5914	2	20	7	x	0.3732	0.913	630.4	230.3	860.7	18,200	19,900
Oswego/ACSS/TW	664.8	16	0.5221	0.6072	2	20	7	x	0.3732	0.927	628.7	288.7	917.4	21,700	23,400
Maumee/ACSS/TW	768.2	13	0.6034	0.6819	2	20	7	x	0.3585	0.977	721.1	265.9	987.0	21,000	23,000
Wabash/ACSS/TW	762.8	16	0.5992	0.6966	2	20	7	x	0.3993	0.990	716.7	329.8	1046.5	24,900	26,800
Kettle/ACSS/TW	957.2	7	0.7518	0.8038	3	32	7	x	0.2919	1.060	901.6	176.2	1078.0	16,800	18,100
Fraser/ACSS/TW	946.7	10	0.7436	0.8168	3	35	7	x	0.3462	1.077	892.6	247.9	1141.0	21,100	22,900
Columbia/ACSS/TW	966.2	13	0.7589	0.8573	2	21	7	x	0.4014	1.092	906.9	333.2	1240.0	26,400	28,300
Suwannee/ACSS/TW	959.6	16	0.7537	0.8762	2	22	7	x	0.4479	1.110	901.6	415.0	1316.6	30,700	33,100
Cheyenne/ACSS/TW	1168.1	5	0.9175	0.9646	3	30	7	x	0.2778	1.155	1099.0	159.6	1259.0	17,200	18,300
Genesee/ACSS/TW	1158.0	7	0.9095	0.9733	3	34	7	x	0.3234	1.165	1092.0	216.0	1308.0	20,500	22,100
Hudson/ACSS/TW	1158.4	13	0.9098	1.0281	2	24	7	x	0.4401	1.196	1087.3	400.7	1488.0	31,100	33,500
Catawba/ACSS/TW	1272.0	5	0.9991	1.0505	3	30	7	x	0.2901	1.203	1197.0	174.0	1371.0	18,700	20,000
Nelson/ACSS/TW	1257.1	7	0.9874	1.0557	3	35	7	x	0.3345	1.213	1184.0	231.4	1415.0	22,100	23,800
Yukon/ACSS/TW	1233.6	13	0.9689	1.0925	3	38	19	x	0.4550	1.245	1166.7	419.3	1586.0	33,200	36,300
Truckee/ACSS/TW	1372.5	5	1.0780	1.1334	3	30	7	x	0.3012	1.248	1292.0	187.6	1479.0	20,200	21,500

Mackenzie/ACSS/TW	1359.77	1.0679	1.14183	36	7	0.1004	0.3477	1.259	1281.0	250.0	1531.0	23,900	25,700
Thames/ACSS/TW	1334.613	1.0480	1.18093	38	19	0.0944	0.4720	1.290	1260.1	451.2	1711.3	35,800	39,100
St. Croix/ACSS/TW	1467.85	1.1529	1.21243	33	7	0.1041	0.3123	1.292	1381.0	201.7	1583.0	21,600	23,100
Miramichi/ACSS/TW	1455.37	1.1430	1.22223	36	7	0.1200	0.3600	1.302	1372.0	268.0	1640.0	25,600	27,100

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/1000ft)			Rated Breaking (lbs)		
			Aluminum	Total	No. of Layers	No. of Aluminum Wires	No. & Diameter of Individual Steel Wire	Steel Core	Complete Cable	Alum.	Steel	Total	Standard Strength	High Strength	
Merrimack/ACSS/TW	1433.613		1.1250	1.2677	3	39	19	0.0978	0.4890	1.340	1355.8	484.3	1840.1	38,400	42,000
Platte/ACSS/TW	1569.05		1.2323	1.2957	3	33	7	0.1074	0.3222	1.334	1478	215.0	1693	23,100	24,600
Potomac/ACSS/TW	1557.47		1.2232	1.3079	3	36	7	0.1241	0.3723	1.350	1466.9	288.1	1755	27,300	29,000
Rio Grande/ACSS/TW	1533.313		1.2043	1.3571	3	38	19	0.1012	0.5060	1.380	1449.0	519.0	1968.0	41,200	45,000
Schuylkill/ACSS/TW	1657.47		1.3020	1.3920	3	36	7	0.1280	0.3840	1.386	1563	305.0	1868	29,100	30,900
Pecos/ACSS/TW	1622.013		1.2739	1.4429	3	39	19	0.1064	0.5320	1.420	1533.7	573.2	2106.9	45,000	49,300
Pee Dee/ACSS/TW	1758.67		1.3810	1.4770	3	38	7	0.1319	0.3957	1.427	1656.4	323.9	1980.3	30,900	32,800
James/ACSS/TW	1730.613		1.3590	1.5314	3	34	19	0.1075	0.5375	1.470	1636	585.0	2221	46,400	50,800
Athabaska/ACSS/TW	1949.67		1.5312	1.6377	3	44	7	0.1392	0.4176	1.504	1836	360.7	2197	34,300	36,500
Cumberland/ACSS/TW	1926.913		1.5134	1.7049	3	42	19	0.1133	0.5665	1.550	1821	650.0	2471	51,600	56,400
Powder/ACSS/TW	2153.88		1.6912	1.8290	4	64	19	0.0961	0.4805	1.602	2042.5	396.1	2438.6	42,100	45,500
Santee/ACSS/TW	2627.38		2.0630	2.2268	4	64	19	0.1062	0.5310	1.761	2491.5	571.1	3062.6	51,300	55,600

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 emmissivity 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 Galvan coated steel core wire in accordance with ASTM B 802.

Rated strength for high strength core based on Class A Galvan 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.