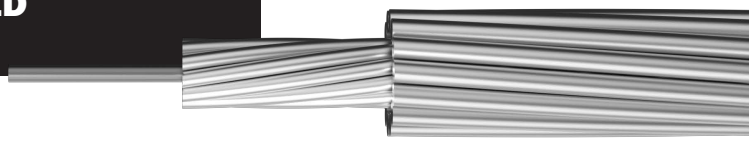
ACSS -- ALUMINUM CONDUCTOR STEEL SUPPORTED



APPLICATIONS

Bare ACSS conductors are intended for use as overhead transmission, primary or secondary distribution conductor. This conductor is designed to operate continuously at elevated temperatures, up to 250ºC, without loss of strength. Also, this conductor has less sag than ACSR during increased current loading. It is self-damping if pre stretched during installation, and the final sag values are not affected by the long-term creep of the aluminum wires. ACSS conductors are ideally suited in replacement applications where increased current loading where existing tensions and clearances are required, new applications resulting in a reduction in the number of supporting structures required, and installations where aeolian vibration is an issue.

CONSTRUCTION

Annealed aluminum alloy 1350 wires concentrically stranded over a steel wire core. The steel wire core is Class A Zinc coated (Code GA2).

STANDARDS

These conductors are manufactured and tested to meet or exceed the following standards:

- ASTM B230 – Aluminum 1350–H19 Wire for Electrical Purposes
- ASTM B231 – Concentric-Lay-Stranded Aluminum 1350 Conductors
- ASTM B498 – Zinc-Coated (Galvanized) Steel Core Wire for Use in Overhead Electrical Conductors
- ASTM B609 – Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes
- ASTM B856 – Concentric-Lay-Stranded Aluminum Conductors, Coated Steel Supported (ACSS)

			Wire Diameter		Diameter		Weight					
Code Word	Size (AWG or kcmil)	Stranding (Al/Stl)	Aluminum (in)	Steel (in)	Steel Core (in)	Overall (in)	Aluminum (lb/1000ft)	Steel (lb/1000ft)	Net (lb/1000ft)	Rated Strength (lbf)	DC Resistance @ 20 deg C (ohm/1000f)	Ampacity (A)
Partridge/ACSS	266.8	26/7	0.1013	0.0788	0.2364	0.642	251.3	115.6	366.9	8880	0.0633	463
Junco/ACSS	266.8	30/7	0.0943	0.0943	0.2829	0.660	251.3	165.5	416.8	11700	0.0615	468
Ostrich/ACSS	300	26/7	0.1074	0.0835	0.2505	0.680	282.5	129.8	412.3	10000	0.0551	498
Woodcock/ACSS	336.4	22/7	0.1237	0.0687	0.2061	0.701	317.1	87.8	404.9	7610	0.0495	529
Linnet/ACSS	336.4	26/7	0.1137	0.0884	0.2652	0.720	316.6	145.5	462.1	11200	0.0491	535
Oriole/ACSS	336.4	30/7	0.1059	0.1059	0.3177	0.741	317.7	208.7	526.4	14800	0.0488	541
Ptarmigan/ACSS	397.5	20/7	0.1410	0.0627	0.1881	0.752	374.5	73.2	447.7	7090	0.0421	584
Brant/ACSS	397.5	24/7	0.1287	0.0858	0.2574	0.772	374.4	137.0	511.4	11000	0.0417	591
Ibis/ACSS	397.5	26/7	0.1236	0.0961	0.2883	0.783	374.1	171.9	546.0	13000	0.0416	594
Lark/ACSS	397.5	30/7	0.1151	0.1151	0.3453	0.806	375.3	246.6	621.9	17500	0.0413	601
Tailorbird/ACSS	477	20/7	0.1544	0.0686	0.2058	0.824	449.1	87.6	536.7	8490	0.0351	655
Flicker/ACSS	477	24/7	0.1410	0.0940	0.2820	0.846	449.4	164.5	613.9	13000	0.0348	663
Hawk/ACSS	477	26/7	0.1354	0.1053	0.3159	0.858	449.0	206.4	655.4	15600	0.0346	667
Hen/ACSS	477	30/7	0.1261	0.1261	0.3783	0.883	450.4	296.0	746.4	21000	0.0344	674
Sapsucker/ACSS	556.5	22/7	0.1590	0.0883	0.2649	0.901	523.9	145.1	669.0	12600	0.0299	725
Parakeet/ACSS	556.5	24/7	0.1523	0.1015	0.3045	0.914	524.3	191.8	716.1	15200	0.0298	730
Dove/ACSS	556.5	26/7	0.1463	0.1138	0.3414	0.927	524.2	241.0	765.2	18200	0.0297	734
Eagle/ACSS	556.5	30/7	0.1362	0.1362	0.4086	0.953	525.5	345.3	870.8	24500	0.0295	743
Peacock/ACSS	605	24/7	0.1588	0.1059	0.3177	0.953	570.0	208.7	778.7	16500	0.0274	769
Squab/ACSS	605	26/7	0.1525	0.1186	0.3558	0.966	569.5	261.8	831.3	19700	0.0273	774
Wood Duck/ACSS	605	30/7	0.1420	0.1420	0.4260	0.994	571.2	375.3	946.5	26000	0.0271	783
Teal/ACSS	605	30/19	0.1420	0.0852	0.4260	0.994	571.2	367.5	938.7	26600	0.0272	782
Goldfinch/ACSS	636	22/7	0.1700	0.0944	0.2832	0.963	598.9	165.9	764.8	14100	0.0262	789

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Code Word	Size (AWG or kcmil)	Stranding (Al/Stl)	Wire Diameter		Diameter		Weight			Rated Strength (lbf)	DC Resistance @ 20 deg C (ohm/1000f)	Ampacity (A)
			Aluminum (in)	Steel (in)	Steel Core (in)	Overall (in)	Aluminum (lb/1000ft)	Steel (lb/1000ft)	Net (lb/1000ft)			
Rook/ACSS	636	24/7	0.1628	0.1085	0.3255	0.997	599.1	219.1	818.2	17300	0.0261	793
Grosbeak/ACSS	636	26/7	0.1564	0.1216	0.3648	0.991	599.0	275.2	874.2	20700	0.0260	798
Scoter/ACSS	636	30/7	0.1456	0.1456	0.4368	1.019	600.5	394.6	995.1	27400	0.0258	807
Egret/ACSS	636	30/19	0.1456	0.0874	0.4370	1.019	600.5	386.7	987.2	28000	0.0258	807
Flamingo/ACSS	666.6	24/7	0.1667	0.1111	0.3333	1.000	628.2	229.7	857.9	18200	0.0249	817
Gannet/ACSS	666.6	26/7	0.1601	0.1245	0.3735	1.104	627.7	288.5	916.2	21700	0.0248	822
Stilt/ACSS	715.5	24/7	0.1727	0.1151	0.3453	1.036	674.2	246.6	920.8	19500	0.0232	854
Starling/ACSS	715.5	26/7	0.1659	0.1290	0.3870	1.051	647.0	309.7	983.7	23000	0.0231	859
Redwing/ACSS	715.5	30/19	0.1544	0.0926	0.4630	1.081	675.3	434.1	1109.4	30800	0.0230	869
Puffin/ACSS	795	22/7	0.1901	0.1056	0.3168	1.077	748.8	207.6	956.4	17700	0.0210	906
Cuckoo/ACSS	795	24/7	0.1820	0.1213	0.3639	1.092	748.8	273.9	1022.7	21700	0.0209	912
Drake/ACSS	795	26/7	0.1749	0.1360	0.4080	1.108	749.1	344.3	1093.4	25900	0.0208	918
Macaw/ACSS	795	6/1	0.1376	0.0764	0.2292	1.055	749.0	108.6	857.6	11800	0.0211	895
Tern/ACSS	795	45/7	0.1329	0.0886	0.2658	1.063	748.6	146.1	894.7	14200	0.0210	898
Condor/ACSS	795	54/7	0.1213	0.1213	0.3639	1.092	748.4	273.9	1022.3	21700	0.0209	900
Mallard/ACSS	795	30/19	0.1628	0.0977	0.4885	1.140	750.7	483.3	1233.9	34300	0.0207	928
Ruddy/ACSS	900	45/7	0.1414	0.0943	0.2829	1.131	847.4	165.5	1012.9	15800	0.0186	970
Canary/ACSS	900	54/7	0.1291	0.1291	0.3873	1.162	847.7	310.2	1157.9	24600	0.0184	972
Corncrake/ACSS	954	20/7	0.2184	0.0971	0.2913	1.165	898.5	175.5	1074.0	16700	0.0175	1008
Redbird/ACSS	954	24/7	0.1994	0.1329	0.3987	1.196	898.8	328.7	1227.5	26000	0.0174	1021
Rail/ACSS	954	45/7	0.1456	0.0971	0.2913	1.165	898.5	175.5	1074.0	16700	0.0175	1006
Towhee/ACSS	954	48/7	0.1410	0.1097	0.3291	1.175	898.8	224.0	1122.8	19700	0.0175	1010
Cardinal/ACSS	954	54/7	0.1329	0.1329	0.3987	1.196	898.3	328.7	1227.0	26000	0.0174	1008
Canvasback/ACSS	954	30/19	0.1783	0.1070	0.5350	1.248	900.5	579.6	1480.1	41100	0.0172	1040
Snowbird/ACSS	1033.5	42/7	0.1569	0.0872	0.2616	1.203	973.9	141.5	1115.4	15400	0.0162	1052
Ortolan/ACSS	1033.5	45/7	0.1515	0.1010	0.3030	1.212	972.8	189.9	1162.7	18100	0.0162	1056
Curlew/ACSS	1033.5	54/7	0.1383	0.1383	0.4149	1.245	972.8	356.0	1328.8	28200	0.0161	1059
Moose/ACSS	1043.3	54/7	0.1390	0.1390	0.4170	1.251	982.7	359.6	1342.3	28500	0.0159	1066
Bluejay/ACSS	1113	45/7	0.1573	0.1049	0.3147	1.258	1048.7	204.8	1253.5	19500	0.0150	1105
Finch/ACSS	1113	54/19	0.1436	0.0862	0.4310	1.292	1053.9	376.1	1430.0	30400	0.0150	1106
Bunting/ACSS	1192.5	45/7	0.1628	0.1085	0.3255	1.302	1123.4	219.1	1342.5	21400	0.0140	1153
Grackle/ACSS	1192.5	54/19	0.1486	0.0892	0.4460	1.337	1128.6	402.8	1531.4	32600	0.0140	1154
Bittern/ACSS	1272	45/7	0.1681	0.1121	0.3363	1.345	1197.7	233.9	1431.6	22300	0.0131	1199
Diver/ACSS	1272	48/7	0.1628	0.1266	0.3798	1.357	1198.3	298.3	1496.6	26200	0.0131	1204
Pheasant/ACSS	1272	54/19	0.1535	0.0921	0.4605	1.381	1204.3	429.4	1633.7	34100	0.0131	1201
Dipper/ACSS	1351.5	45/7	0.1733	0.1155	0.3465	1.386	1272.9	248.3	1521.2	23700	0.0124	1243
Martin/ACSS	1351.5	54/19	0.1582	0.0949	0.4745	1.424	1279.1	455.9	1735.0	36200	0.0123	1246
Bobolink/ACSS	1431	45/7	0.1783	0.1189	0.3567	1.427	1347.5	263.1	1610.6	25100	0.0117	1287

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Plover/ACSS	1431	54/19	0.1628	0.0977	0.4885	1.465	1354.6	483.2	1837.8	38400	0.0116	1290
Nuthatch/ACSS	1510.5	45/7	0.1832	0.1221	0.3663	1.466	1422.5	277.5	1700.0	26500	0.0111	1329
Parrot/ACSS	1510.5	54/19	0.1672	0.1003	0.5015	1.505	1428.8	509.2	1938.0	40400	0.0110	1333
Ratite/ACSS	1590	42/7	0.1946	0.1081	0.3243	1.492	1498.1	217.5	1715.6	23400	0.0105	1364
Lapwing/ACSS	1590	45/7	0.1880	0.1253	0.3759	1.504	1498.1	292.2	1790.3	27900	0.0105	1370
Falcon/ACSS	1590	54/19	0.1716	0.1030	0.5150	1.544	1505.0	537.0	2042.0	42600	0.0105	1375
Chukar/ACSS	1780	84/19	0.1456	0.0874	0.4370	1.602	1685.4	386.7	2072.1	35400	0.0094	2751
Mockingbird/ACSS	2034	72/7	0.1681	0.1121	0.3363	1.681	1925.7	233.9	2159.6	27200	0.0083	2960
Roadrunner/ACSS	2057	76/19	0.1645	0.0768	0.3840	1.700	1946.5	298.6	2245.1	31700	0.0082	2992
Bluebird/ACSS	2156	84/19	0.1602	0.0961	0.4805	1.762	2040.4	467.5	2507.9	42100	0.0078	3106
Kiwi/ACSS	2167	72/7	0.1735	0.1157	0.3471	1.735	2051.4	249.2	2300.6	29000	0.0078	3080
Thrasher/ACSS	2312	76/19	0.1744	0.0814	0.4070	1.802	2187.9	335.4	2523.3	35600	0.0073	3218
Joree/ACSS	2515	76/19	0.1819	0.0849	0.4245	1.880	2380.1	364.9	2745.0	38700	0.0067	3390

NOTES

1) Dimensions and weights are subject to standard manufacturing tolerances and are subject to change without notice.

2) Resistance is calculated using metal conductivity of 63% IACS for EC (1350) at 20°C and 8% IACS for steel at 20°C.

3) Ampacities are based on 75°C conductor temperature, 25°C ambient, 2 ft/s wind, full sun, an emissivity of 0.5 and a coefficient of solar absorption of 0.5, at sea level.

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