ACSS

Aluminum Conductor, Steel Supported

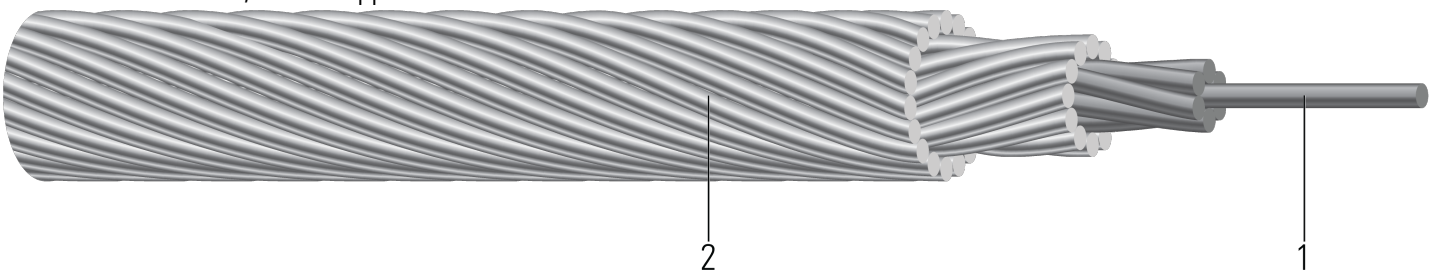

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Core:** Stranded standard-strength steel core with zinc-5% aluminum-mischmetal alloy coating for corrosion protection
2. **Stranding:** Annealed aluminum (1350-O) round wires with 63% conductivity

APPLICATIONS AND FEATURES:

ACSS (Aluminum Conductor, Steel Supported) is a concentrically stranded, high-temperature, low-sag overhead conductor consisting of one or more layers of fully annealed aluminum wires surrounding a mischmetal alloy coated steel core. The annealed aluminum provides electrical conductivity, while the steel core carries the conductor's mechanical load.

Southwire batch anneals the completed conductor after stranding, allowing the aluminum to be fully annealed while supporting tighter stranding and verification of finished conductor properties after heat exposure.

ACSS is used for overhead transmission and distribution applications requiring increased ampacity and reduced thermal sag compared with conventional ACSR. It is suitable for new-line construction and reconductoring projects where additional capacity is needed while maintaining existing structure, tension, or clearance requirements.

Continuous operating temperature - 250°C

SPECIFICATIONS:

- ASTM B500 Standard Specification for Metallic Coated or Aluminum-Clad Stranded Steel Core for Use in Overhead Electrical Conductors
- ASTM B609 Standard Specification for Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes
- ASTM B802 Standard Specification for Zinc-5% Aluminum-Mischmetal Alloy-Coated Steel Core Wire for Use in Overhead Electrical Conductors
- ASTM B856 Standard Specification for Concentric-Lay-Stranded Aluminum Conductors, Coated Steel Supported (ACSS)

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Weights, Measurements, Electrical and Engineering Data

Stock Number	Code Word	Conductor Size	Stranding	Cross-Sectional Area		Layers of Al	Diameter				Weight		Rated Breaking Strength	DC Resistance @ 20°C
				Al	Total		Individual Strands		Steel Core	Complete Conductor	Al	Total		
							Al	St						
		kcmil	Al/St	in²	in²		in	in	in	in	lb/1000ft	lb/1000ft	lb	Ω/mile
TBA	SPOONBILL/ACSS	266.8	22/7	0.2095	0.2301	2	0.1101	0.0612	0.1836	0.624	251.2	320.9	6,030	0.3298
TBA	SCAUP/ACSS	266.8	24/7	0.2094	0.2366	2	0.1054	0.0703	0.2109	0.633	251.1	343.2	7,410	0.3286
TBA	PARTRIDGE/ACSS	266.8	26/7	0.2095	0.2436	2	0.1013	0.0788	0.2364	0.642	251.2	366.6	8,880	0.3271
TBA	JUNCO/ACSS	266.8	30/7	0.2095	0.2584	2	0.0943	0.0943	0.2829	0.660	251.9	417.5	11,700	0.3250
TBA	EIDER/ACSS	266.8	45/7	0.2095	0.2240	3	0.0770	0.0513	0.1539	0.616	251.2	300.3	4,750	0.3310
TBA	OSTRICH/ACSS	300.0	26/7	0.2355	0.2738	2	0.1074	0.0835	0.2505	0.680	282.4	412.1	9,970	0.2910
TBA	TROGON/ACSS	336.4	20/7	0.2642	0.2824	2	0.1297	0.0576	0.1728	0.692	316.8	378.4	5,990	0.2625
TBA	WOODCOCK/ACSS	336.4	22/7	0.2644	0.2903	2	0.1237	0.0687	0.2061	0.701	317.1	404.8	7,610	0.2613
TBA	WIDGEON/ACSS	336.4	24/7	0.2642	0.2984	2	0.1184	0.0789	0.2367	0.710	316.8	432.6	9,340	0.2605
TBA	LINNET/ACSS	336.4	26/7	0.2640	0.3070	2	0.1137	0.0884	0.2652	0.720	316.6	462.2	11,200	0.2596
TBA	ORIOLE/ACSS	336.4	30/7	0.2642	0.3259	2	0.1059	0.1059	0.3177	0.741	317.6	526.5	14,800	0.2577
TBA	PTARMIGAN/ACSS	397.5	20/7	0.3123	0.3339	2	0.1410	0.0627	0.1881	0.752	374.5	447.6	7,090	0.2221
TBA	STORK/ACSS	397.5	22/7	0.3121	0.3428	2	0.1344	0.0747	0.2241	0.762	374.3	478.2	8,990	0.2214
TBA	BRANT/ACSS	397.5	24/7	0.3122	0.3527	2	0.1287	0.0858	0.2574	0.772	374.4	511.5	11,000	0.2204
TBA	IBIS/ACSS	397.5	26/7	0.3120	0.3628	2	0.1236	0.0961	0.2883	0.783	374.2	546.2	13,000	0.2196
TBA	LARK/ACSS	397.5	30/7	0.3121	0.3849	2	0.1151	0.1151	0.3453	0.806	375.2	621.7	17,500	0.2181
TBA	TAILORBIRD/ACSS	477.0	20/7	0.3745	0.4004	2	0.1544	0.0686	0.2058	0.823	449.1	536.8	8,490	0.1852
TBA	TOUCAN/ACSS	477.0	22/7	0.3744	0.4112	2	0.1472	0.0818	0.2454	0.834	449.0	573.6	10,800	0.1845
TBA	FLICKER/ACSS	477.0	24/7	0.3747	0.4233	2	0.1410	0.0940	0.2820	0.846	449.4	613.9	13,000	0.1837
TBA	HAWK/ACSS	477.0	26/7	0.3744	0.4354	2	0.1354	0.1053	0.3159	0.858	449.0	655.5	15,600	0.1830
TBA	HEN/ACSS	477.0	30/7	0.3747	0.4621	2	0.1261	0.1261	0.3783	0.883	450.5	746.4	21,000	0.1817
TBA	HERON/ACSS	500.0	30/7	0.3927	0.4843	2	0.1291	0.1291	0.3873	0.904	472.1	782.2	22,000	0.1734
TBA	TODY/ACSS	556.5	20/7	0.4370	0.4672	2	0.1668	0.0741	0.2223	0.890	524.1	626.3	9,910	0.1587
TBA	SAPSUCKER/ACSS	556.5	22/7	0.4368	0.4797	2	0.1590	0.0883	0.2649	0.901	523.8	669.0	12,600	0.1582
TBA	PARAKEET/ACSS	556.5	24/7	0.4372	0.4938	2	0.1523	0.1015	0.3045	0.914	524.3	715.9	15,200	0.1574
TBA	DOVE/ACSS	556.5	26/7	0.4371	0.5083	2	0.1463	0.1138	0.3414	0.927	524.2	765.2	18,200	0.1568
TBA	EAGLE/ACSS	556.5	30/7	0.4371	0.5391	2	0.1362	0.1362	0.4086	0.953	525.5	870.8	24,500	0.1558
TBA	PEACOCK/ACSS	605.0	24/7	0.4753	0.5370	2	0.1588	0.1059	0.3177	0.953	570.0	778.9	16,500	0.1448
TBA	SQUAB/ACSS	605.0	26/7	0.4749	0.5522	2	0.1525	0.1186	0.3558	0.966	569.5	831.2	19,700	0.1443
TBA	WOOD DUCK/ACSS	605.0	30/7	0.4751	0.5860	2	0.1420	0.1420	0.4260	0.994	571.2	946.7	26,000	0.1433
TBA	TEAL/ACSS	605.0	30/19	0.4751	0.5834	2	0.1420	0.0852	0.4260	0.994	571.2	938.6	26,600	0.1434
TBA	DUCK/ACSS	605.0	54/7	0.4747	0.5362	3	0.1058	0.1058	0.3174	0.952	569.3	777.5	16,500	0.1450
TBA	TURACOS/ACSS	636.0	20/7	0.4994	0.5339	2	0.1783	0.0792	0.2376	0.951	598.9	715.7	11,300	0.1389

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Stock # 678698 | SPEC 80110

Stock Number	Code Word	Conductor Size	Stranding	Cross-Sectional Area		Layers of Al	Diameter				Weight		Rated Breaking Strength	DC Resistance @ 20°C
				Al	Total		Individual Strands		Steel Core	Complete Conductor	Al	Total		
							Al	St						
		kcmil	Al/St	in²	in²		in	in	in	in	lb/ 1000ft	lb/ 1000ft	lb	Ω/mile
TBA	GOLDFINCH/ ACSS	636.0	22/7	0.4994	0.5484	2	0.1700	0.0944	0.2832	0.963	598.9	764.8	14,100	0.1384
TBA	ROOK/ACSS	636.0	24/7	0.4996	0.5643	2	0.1628	0.1085	0.3255	0.977	599.1	818.1	17,300	0.1377
TBA	GROSBEAK/ ACSS	636.0	26/7	0.4995	0.5808	2	0.1564	0.1216	0.3648	0.990	599.0	874.2	20,700	0.1372
TBA	SCOTER/ACSS	636.0	30/7	0.4995	0.6160	2	0.1456	0.1456	0.4368	1.019	600.5	994.9	27,400	0.1363
TBA	EGRET/ACSS	636.0	30/19	0.4995	0.6135	2	0.1456	0.0874	0.4370	1.019	600.5	987.2	28,000	0.1364
TBA	GOOSE/ACSS	636.0	54/7	0.4993	0.5640	3	0.1085	0.1085	0.3255	0.977	598.8	817.8	17,300	0.1378
TBA	FLAMINGO/ ACSS	666.6	24/7	0.5238	0.5917	2	0.1667	0.1111	0.3333	1.000	628.2	858.1	18,200	0.1314
TBA	GANNET/ACSS	666.6	26/7	0.5234	0.6086	2	0.1601	0.1245	0.3735	1.014	627.7	916.1	21,700	0.1309
TBA	GULL/ACSS	666.6	54/7	0.5235	0.5914	3	0.1111	0.1111	0.3333	1.000	627.8	857.7	18,200	0.1315
TBA	STILT/ACSS	715.5	24/7	0.5622	0.6350	2	0.1727	0.1151	0.3453	1.036	674.2	920.7	19,500	0.1224
TBA	STARLING/ACSS	715.5	26/7	0.5620	0.6535	2	0.1659	0.1290	0.3870	1.051	674.0	983.8	23,300	0.1219
TBA	REDWING/ACSS	715.5	30/19	0.5617	0.6897	2	0.1544	0.0926	0.4630	1.081	675.3	1110	30,800	0.1213
TBA	CROW/ACSS	715.5	54/7	0.5619	0.6347	3	0.1151	0.1151	0.3453	1.036	673.9	920.4	19,500	0.1225
TBA	TURBIT/ACSS	795.0	20/7	0.6246	0.6678	2	0.1994	0.0886	0.2658	1.063	749.1	895.4	14,200	0.1110
TBA	PUFFIN/ACSS	795.0	22/7	0.6244	0.6857	2	0.1901	0.1056	0.3168	1.077	748.8	956.3	17,700	0.1107
TBA	CUCKOO/ACSS	795.0	24/7	0.6244	0.7053	2	0.1820	0.1213	0.3639	1.092	748.8	1023	21,700	0.1102
TBA	DRAKE/ACSS	795.0	26/7	0.6247	0.7264	2	0.1749	0.1360	0.4080	1.108	749.2	1094	25,900	0.1097
TBA	SKIMMER/ACSS	795.0	30/7	0.6245	0.7702	2	0.1628	0.1628	0.4884	1.140	750.8	1244	34,200	0.1090
TBA	MALLARD/ACSS	795.0	30/19	0.6245	0.7669	2	0.1628	0.0977	0.4885	1.140	750.8	1234	34,300	0.1091
TBA	MACAW/ACSS	795.0	42/7	0.6246	0.6567	3	0.1376	0.0764	0.2292	1.055	749.1	858	11,800	0.1113
TBA	TERN/ACSS	795.0	45/7	0.6242	0.6674	3	0.1329	0.0886	0.2658	1.063	748.6	895	14,200	0.1111
TBA	CONDOR/ACSS	795.0	54/7	0.6240	0.7049	3	0.1213	0.1213	0.3639	1.092	748.3	1022	21,700	0.1103
TBA	RUDDY/ACSS	900.0	45/7	0.7066	0.7555	3	0.1414	0.0943	0.2829	1.131	847.4	1013	15,800	0.0981
TBA	CANARY/ACSS	900.0	54/7	0.7069	0.7985	3	0.1291	0.1291	0.3873	1.162	847.7	1158	24,600	0.0974
TBA	CORNCRAKE/ ACSS	954.0	20/7	0.7492	0.8010	2	0.2184	0.0971	0.2913	1.165	898.5	1074	16,700	0.0926
TBA	REDBIRD/ACSS	954.0	24/7	0.7495	0.8466	2	0.1994	0.1329	0.3987	1.196	898.8	1228	26,000	0.0918
TBA	MERGANSER/ ACSS	954.0	30/7	0.7491	0.9239	2	0.1783	0.1783	0.5349	1.248	900.5	1492	41,100	0.0909
TBA	CANVASBACK/ ACSS	954.0	30/19	0.7491	0.9199	2	0.1783	0.1070	0.5350	1.248	900.5	1480	41,100	0.0909
TBA	PHOENIX/ACSS	954.0	42/7	0.7491	0.7876	3	0.1507	0.0837	0.2511	1.155	898.4	1029	14,200	0.0928
TBA	RAIL/ACSS	954.0	45/7	0.7492	0.8010	3	0.1456	0.0971	0.2913	1.165	898.5	1074	16,700	0.0926
TBA	TOWHEE/ACSS	954.0	48/7	0.7495	0.8157	3	0.1410	0.1097	0.3291	1.175	898.8	1123	19,700	0.0923
TBA	CARDINAL/ ACSS	954.0	54/7	0.7491	0.8462	3	0.1329	0.1329	0.3987	1.196	898.4	1227	26,000	0.0919
TBA	SNOWBIRD/ ACSS	1033.5	42/7	0.8121	0.8539	3	0.1569	0.0872	0.2616	1.203	973.9	1115	15,400	0.0856
TBA	ORTOLAN/ACSS	1033.5	45/7	0.8112	0.8673	3	0.1515	0.1010	0.3030	1.212	972.8	1163	18,100	0.0855
TBA	WHOOPER/ACSS	1033.5	48/7	0.8113	0.8829	3	0.1467	0.1141	0.3423	1.223	973.0	1215	21,300	0.0853
TBA	CURLEW/ACSS	1033.5	54/7	0.8112	0.9164	3	0.1383	0.1383	0.4149	1.245	972.8	1329	28,200	0.0848
TBA	AVOCET/ACSS	1113.0	42/7	0.8743	0.9192	3	0.1628	0.0904	0.2712	1.248	1049	1201	16,300	0.0795

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Stock Number	Code Word	Conductor Size	Stranding	Cross-Sectional Area		Layers of Al	Diameter				Weight		Rated Breaking Strength	DC Resistance @ 20°C
				Al	Total		Individual Strands		Steel Core	Complete Conductor	Al	Total		
							Al	St						
		kcmil	Al/St	in²	in²		in	in	in	in	lb/ 1000ft	lb/ 1000ft	lb	Ω/mile
TBA	BLUEJAY/ACSS	1113.0	45/7	0.8745	0.9350	3	0.1573	0.1049	0.3147	1.259	1049	1254	19,500	0.0793
TBA	BULLFINCH/ ACSS	1113.0	48/7	0.8744	0.9516	3	0.1523	0.1185	0.3555	1.269	1049	1310	23,000	0.0791
TBA	FINCH/ACSS	1113.0	54/19	0.8746	0.9855	3	0.1436	0.0862	0.4310	1.293	1054	1430	30,400	0.0791
TBA	OXBIRD/ACSS	1192.5	42/7	0.9366	0.9848	3	0.1685	0.0936	0.2808	1.292	1123	1286	17,500	0.0742
TBA	BUNTING/ACSS	1192.5	45/7	0.9367	1.0014	3	0.1628	0.1085	0.3255	1.302	1123	1342	20,900	0.0740
TBA	CORMORANT/ ACSS	1192.5	48/7	0.9364	1.0190	3	0.1576	0.1226	0.3678	1.313	1123	1403	24,600	0.0739
TBA	GRACKLE/ACSS	1192.5	54/19	0.9365	1.0552	3	0.1486	0.0892	0.4460	1.338	1129	1532	32,600	0.0739
TBA	SCISSORTAIL/ ACSS	1272.0	42/7	0.9987	1.0501	3	0.1740	0.0967	0.2901	1.334	1198	1372	18,700	0.0696
TBA	BITTERN/ACSS	1272.0	45/7	0.9987	1.0678	3	0.1681	0.1121	0.3363	1.345	1198	1432	22,300	0.0694
TBA	DIVER/ACSS	1272.0	48/7	0.9992	1.0873	3	0.1628	0.1266	0.3798	1.357	1198	1496	26,200	0.0692
TBA	PHEASANT/ ACSS	1272.0	54/19	0.9993	1.1259	3	0.1535	0.0921	0.4605	1.382	1204	1634	34,100	0.0692
TBA	RINGDOVE/ ACSS	1351.5	42/7	1.0617	1.1163	3	0.1794	0.0997	0.2991	1.376	1273	1458	19,900	0.0655
TBA	DIPPER/ACSS	1351.5	45/7	1.0614	1.1347	3	0.1733	0.1155	0.3465	1.386	1273	1521	23,700	0.0653
TBA	MARTIN/ACSS	1351.5	54/19	1.0614	1.1958	3	0.1582	0.0949	0.4745	1.424	1279	1735	36,200	0.0652
TBA	POPINJAY/ACSS	1431.0	42/7	1.1241	1.1820	3	0.1846	0.1026	0.3078	1.415	1348	1544	21,000	0.0618
TBA	BOBOLINK/ACSS	1431.0	45/7	1.1236	1.2013	3	0.1783	0.1189	0.3567	1.427	1347	1610	25,100	0.0617
TBA	WAGTAIL/ACSS	1431.0	48/7	1.1244	1.2236	3	0.1727	0.1343	0.4029	1.439	1348	1684	29,500	0.0615
TBA	PLOVER/ACSS	1431.0	54/19	1.1241	1.2665	3	0.1628	0.0977	0.4885	1.465	1355	1838	38,400	0.0615
TBA	NUTHATCH/ ACSS	1510.5	45/7	1.1862	1.2682	3	0.1832	0.1221	0.3663	1.466	1423	1701	26,500	0.0585
TBA	PARROT/ACSS	1510.5	54/19	1.1856	1.3357	3	0.1672	0.1003	0.5015	1.505	1429	1938	40,400	0.0583
TBA	RATITE/ACSS	1590.0	42/7	1.2492	1.3134	3	0.1946	0.1081	0.3243	1.492	1498	1715	23,400	0.0556
TBA	LAPWING/ACSS	1590.0	45/7	1.2492	1.3355	3	0.1880	0.1253	0.3759	1.504	1498	1790	27,900	0.0555
TBA	HORNBILL/ACSS	1590.0	48/7	1.2487	1.3589	3	0.1820	0.1416	0.4248	1.517	1498	1871	32,200	0.0554
TBA	FALCON/ACSS	1590.0	54/19	1.2489	1.4072	3	0.1716	0.1030	0.5150	1.545	1505	2042	42,600	0.0554
TBA	CHUKAR/ACSS	1780.0	84/19	1.3986	1.5126	4	0.1456	0.0874	0.4370	1.602	1685	2072	35,400	0.0497
TBA	WOODPECKER/ ACSS	1843.0	72/7	1.4476	1.5102	4	0.1600	0.1067	0.3201	1.600	1745	1957	24,600	0.0483
TBA	SEAHAWK/ACSS	1869.0	68/7	1.4681	1.5147	4	0.1658	0.0921	0.2763	1.603	1769	1927	21,500	0.0477
TBA	MOCKINGBIRD/ ACSS	2034.5	72/7	1.5979	1.6670	4	0.1681	0.1121	0.3363	1.681	1926	2160	27,200	0.0438
TBA	ROADRUNNER/ ACSS	2057.0	76/19	1.6152	1.7032	4	0.1645	0.0768	0.3840	1.700	1946	2245	31,700	0.0432
TBA	BLUEBIRD/ACSS	2156.0	84/19	1.6931	1.8309	4	0.1602	0.0961	0.4805	1.762	2040	2507	42,100	0.0411
TBA	KIWI/ACSS	2167.0	72/7	1.7022	1.7758	4	0.1735	0.1157	0.3471	1.735	2051	2300	29,000	0.0411
TBA	THRASHER/ ACSS	2312.0	76/19	1.8155	1.9144	4	0.1744	0.0814	0.4070	1.802	2188	2524	35,600	0.0385
TBA	JOREE/ACSS	2515.0	76/19	1.9750	2.0826	4	0.1819	0.0849	0.4245	1.880	2380	2745	38,700	0.0354

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