ACSS/AW

Aluminum Conductor, Aluminum-Clad Steel Supported

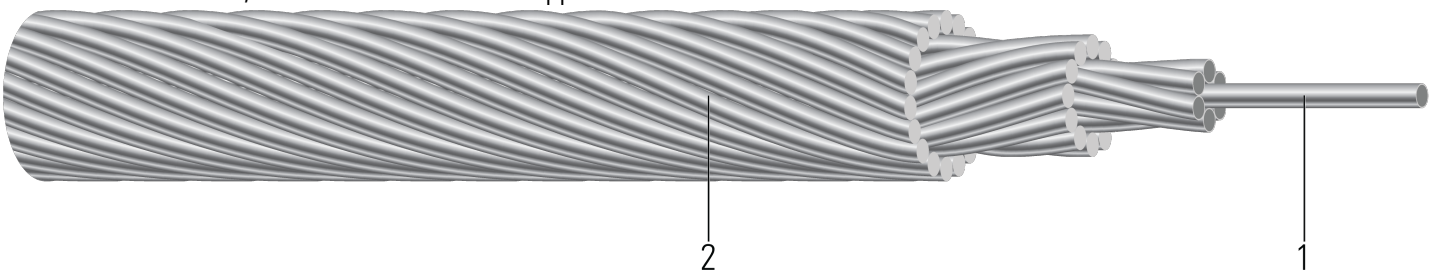


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Core:** Stranded aluminum-clad steel core, available in AW2 normal-strength and AW3 high-strength classes
2. **Stranding:** Annealed aluminum (1350-O) round wires with 63% conductivity

APPLICATIONS AND FEATURES:

ACSS/AW (Aluminum Conductor, Aluminum-Clad Steel Supported) is a concentrically stranded, high-temperature overhead conductor consisting of fully annealed aluminum wires surrounding an aluminum-clad steel core. The annealed aluminum provides electrical conductivity, while the aluminum-clad 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.

The aluminum cladding provides additional core conductivity and corrosion protection. ACSS/AW is suitable for overhead transmission and distribution applications requiring increased ampacity, controlled thermal sag, and enhanced corrosion performance. It can be used for new construction, reconductoring, coastal environments, and other applications where an aluminum-clad steel core is preferred.

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 B502 Standard Specification for Aluminum-Clad Steel Core Wire for Use in Overhead Electrical Aluminum Conductors
- ASTM B609 Standard Specification for Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes
- 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		AW Core	Complete Conductor	Al	Total	AW2	AW3	
		kcmil	Al/AW	in²	in²		Al in	AW in	in	in	lb/1000ft	lb/1000ft	lb	lb	Ω/mile
TBA	PARTRIDGE/ ACSS/AW	266.8	26/7	0.2095	0.2436	2	0.1013	0.0788	0.2364	0.642	251.2	349.0	8,370	8,880	0.3170
TBA	JUNCO/ACSS/ AW	266.8	30/7	0.2095	0.2584	2	0.0943	0.0943	0.2829	0.660	251.9	392.2	11,200	11,700	0.3109
TBA	OSTRICH/ACSS/ AW	300.0	26/7	0.2355	0.2738	2	0.1074	0.0835	0.2505	0.680	282.4	392.3	9,400	9,970	0.2820
TBA	WIDGEON/ACSS/ AW	336.4	24/7	0.2642	0.2984	2	0.1184	0.0789	0.2367	0.710	316.8	414.9	8,830	9,340	0.2540
TBA	LINNET/ACSS/ AW	336.4	26/7	0.2640	0.3070	2	0.1137	0.0884	0.2652	0.720	316.6	440.0	10,500	11,200	0.2515
TBA	ORIOLE/ACSS/ AW	336.4	30/7	0.2642	0.3259	2	0.1059	0.1059	0.3177	0.741	317.6	494.6	14,200	14,800	0.2465
TBA	BRANT/ACSS/ AW	397.5	24/7	0.3122	0.3527	2	0.1287	0.0858	0.2574	0.772	374.4	490.6	10,400	11,000	0.2149
TBA	IBIS/ACSS/AW	397.5	26/7	0.3120	0.3628	2	0.1236	0.0961	0.2883	0.783	374.2	519.9	12,400	13,000	0.2129
TBA	LARK/ACSS/AW	397.5	30/7	0.3121	0.3849	2	0.1151	0.1151	0.3453	0.806	375.2	584.0	16,700	17,500	0.2087
TBA	TOUCAN/ACSS/ AW	477.0	22/7	0.3744	0.4112	2	0.1472	0.0818	0.2454	0.834	449.0	554.6	10,200	10,800	0.1810
TBA	FLICKER/ACSS/ AW	477.0	24/7	0.3747	0.4233	2	0.1410	0.0940	0.2820	0.846	449.4	588.8	12,500	13,000	0.1791
TBA	HAWK/ACSS/AW	477.0	26/7	0.3744	0.4354	2	0.1354	0.1053	0.3159	0.858	449.0	624.0	14,900	15,600	0.1774
TBA	HEN/ACSS/AW	477.0	30/7	0.3747	0.4621	2	0.1261	0.1261	0.3783	0.883	450.5	701.2	20,100	20,500	0.1738
TBA	HERON/ACSS/ AW	500.0	30/7	0.3927	0.4843	2	0.1291	0.1291	0.3873	0.904	472.1	734.9	20,600	21,500	0.1658
TBA	SAPSUCKER/ ACSS/AW	556.5	22/7	0.4368	0.4797	2	0.1590	0.0883	0.2649	0.901	523.8	646.9	11,900	12,600	0.1552
TBA	PARAKEET/ACSS/ AW	556.5	24/7	0.4372	0.4938	2	0.1523	0.1015	0.3045	0.914	524.3	686.7	14,600	15,200	0.1535
TBA	DOVE/ACSS/AW	556.5	26/7	0.4371	0.5083	2	0.1463	0.1138	0.3414	0.927	524.2	728.4	17,500	18,200	0.1519
TBA	EAGLE/ACSS/AW	556.5	30/7	0.4371	0.5391	2	0.1362	0.1362	0.4086	0.953	525.5	818.1	22,900	24,000	0.1490
TBA	PEACOCK/ACSS/ AW	605.0	24/7	0.4753	0.5370	2	0.1588	0.1059	0.3177	0.953	570.0	747.0	15,900	16,500	0.1412
TBA	SQUAB/ACSS/ AW	605.0	26/7	0.4749	0.5522	2	0.1525	0.1186	0.3558	0.966	569.5	791.2	19,000	19,700	0.1398
TBA	WOOD DUCK/ ACSS/AW	605.0	30/7	0.4751	0.5860	2	0.1420	0.1420	0.4260	0.994	571.2	889.3	24,400	25,500	0.1371
TBA	TEAL/ACSS/AW	605.0	30/19	0.4751	0.5834	2	0.1420	0.0852	0.4260	0.994	571.2	882.5	25,000	26,600	0.1373
TBA	DUCK/ACSS/AW	605.0	54/7	0.4747	0.5362	3	0.1058	0.1058	0.3174	0.952	569.3	745.7	15,900	16,500	0.1414
TBA	TURACOS/ACSS/ AW	636.0	20/7	0.4994	0.5339	2	0.1783	0.0792	0.2376	0.951	598.9	697.9	10,800	11,300	0.1370
TBA	GOLDFINCH/ ACSS/AW	636.0	22/7	0.4994	0.5484	2	0.1700	0.0944	0.2832	0.963	598.9	739.5	13,600	14,100	0.1357
TBA	ROOK/ACSS/AW	636.0	24/7	0.4996	0.5643	2	0.1628	0.1085	0.3255	0.977	599.1	784.7	16,700	17,300	0.1343

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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		AW Core	Complete Conductor	Al	Total	AW2	AW3	
		kcmil	Al/AW	in²	in²		Al in	AW in	in	in	lb/1000ft	lb/1000ft	lb	lb	Ω/mile
TBA	GROSBEAK/ACSS/AW	636.0	26/7	0.4995	0.5808	2	0.1564	0.1216	0.3648	0.990	599.0	832.2	19,900	20,300	0.1330
TBA	SCOTER/ACSS/AW	636.0	30/7	0.4995	0.6160	2	0.1456	0.1456	0.4368	1.019	600.5	934.7	25,100	26,800	0.1304
TBA	EGRET/ACSS/AW	636.0	30/19	0.4995	0.6135	2	0.1456	0.0874	0.4370	1.019	600.5	928.2	26,300	28,000	0.1306
TBA	GOOSE/ACSS/AW	636.0	54/7	0.4993	0.5640	3	0.1085	0.1085	0.3255	0.977	598.8	784.4	16,700	17,300	0.1344
TBA	FLAMINGO/ACSS/AW	666.6	24/7	0.5238	0.5917	2	0.1667	0.1111	0.3333	1.000	628.2	823.0	17,500	18,200	0.1281
TBA	GANNET/ACSS/AW	666.6	26/7	0.5234	0.6086	2	0.1601	0.1245	0.3735	1.014	627.7	872.1	20,900	21,300	0.1269
TBA	GULL/ACSS/AW	666.6	54/7	0.5235	0.5914	3	0.1111	0.1111	0.3333	1.000	627.8	822.6	17,500	18,200	0.1282
TBA	STILT/ACSS/AW	715.5	24/7	0.5622	0.6350	2	0.1727	0.1151	0.3453	1.036	674.2	883.0	18,800	19,500	0.1194
TBA	STARLING/ACSS/AW	715.5	26/7	0.5620	0.6535	2	0.1659	0.1290	0.3870	1.051	674.0	936.5	22,000	22,900	0.1182
TBA	REDWING/ACSS/AW	715.5	30/19	0.5617	0.6897	2	0.1544	0.0926	0.4630	1.081	675.3	1043	29,500	30,800	0.1162
TBA	CROW/ACSS/AW	715.5	54/7	0.5619	0.6347	3	0.1151	0.1151	0.3453	1.036	673.9	882.7	18,800	19,500	0.1194
TBA	TURBIT/ACSS/AW	795.0	20/7	0.6246	0.6678	2	0.1994	0.0886	0.2658	1.063	749.1	873.0	13,500	14,200	0.1095
TBA	PUFFIN/ACSS/AW	795.0	22/7	0.6244	0.6857	2	0.1901	0.1056	0.3168	1.077	748.8	924.6	17,100	17,700	0.1086
TBA	CUCKOO/ACSS/AW	795.0	24/7	0.6244	0.7053	2	0.1820	0.1213	0.3639	1.092	748.8	980.9	20,900	21,300	0.1075
TBA	DRAKE/ACSS/AW	795.0	26/7	0.6247	0.7264	2	0.1749	0.1360	0.4080	1.108	749.2	1041	24,400	25,400	0.1063
TBA	SKIMMER/ACSS/AW	795.0	30/7	0.6245	0.7702	2	0.1628	0.1628	0.4884	1.140	750.8	1169	29,900	33,500	0.1043
TBA	MALLARD/ACSS/AW	795.0	30/19	0.6245	0.7669	2	0.1628	0.0977	0.4885	1.140	750.8	1160	32,900	34,300	0.1045
TBA	TERN/ACSS/AW	795.0	45/7	0.6242	0.6674	3	0.1329	0.0886	0.2658	1.063	748.6	872.5	13,500	14,200	0.1096
TBA	CONDOR/ACSS/AW	795.0	54/7	0.6240	0.7049	3	0.1213	0.1213	0.3639	1.092	748.3	980.4	20,900	21,300	0.1075
TBA	RUDDY/ACSS/AW	900.0	45/7	0.7066	0.7555	3	0.1414	0.0943	0.2829	1.131	847.4	987.7	15,300	15,800	0.0968
TBA	CANARY/ACSS/AW	900.0	54/7	0.7069	0.7985	3	0.1291	0.1291	0.3873	1.162	847.7	1111	23,200	24,100	0.0949
TBA	CORNCRAKE/ACSS/AW	954.0	20/7	0.7492	0.8010	2	0.2184	0.0971	0.2913	1.165	898.5	1047	16,200	16,700	0.0913
TBA	REDBIRD/ACSS/AW	954.0	24/7	0.7495	0.8466	2	0.1994	0.1329	0.3987	1.196	898.8	1177	24,600	25,500	0.0895
TBA	MERGANSER/ACSS/AW	954.0	30/7	0.7491	0.9239	2	0.1783	0.1783	0.5349	1.248	900.5	1402	35,000	40,200	0.0869
TBA	CANVASBACK/ACSS/AW	954.0	30/19	0.7491	0.9199	2	0.1783	0.1070	0.5350	1.248	900.5	1391	39,400	41,100	0.0871
TBA	PHOENIX/ACSS/AW	954.0	42/7	0.7491	0.7876	3	0.1507	0.0837	0.2511	1.155	898.4	1009	13,600	14,200	0.0919
TBA	RAIL/ACSS/AW	954.0	45/7	0.7492	0.8010	3	0.1456	0.0971	0.2913	1.165	898.5	1047	16,200	16,700	0.0913
TBA	TOWHEE/ACSS/AW	954.0	48/7	0.7495	0.8157	3	0.1410	0.1097	0.3291	1.175	898.8	1089	19,000	19,700	0.0907

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				Al	Total		Individual Strands		AW Core	Complete Conductor	Al	Total	AW2	AW3	
		kcmil	Al/AW	in²	in²		in	in	in	in	lb/1000ft	lb/1000ft	lb	lb	Ω/mile
TBA	CARDINAL/ACSS/AW	954.0	54/7	0.7491	0.8462	3	0.1329	0.1329	0.3987	1.196	898.4	1177	24,600	25,500	0.0896
TBA	SNOWBIRD/ACSS/AW	1033.5	42/7	0.8121	0.8539	3	0.1569	0.0872	0.2616	1.203	973.9	1094	14,800	15,400	0.0847
TBA	ORTOLAN/ACSS/AW	1033.5	45/7	0.8112	0.8673	3	0.1515	0.1010	0.3030	1.212	972.8	1134	17,600	18,100	0.0843
TBA	WHOOPER/ACSS/AW	1033.5	48/7	0.8113	0.8829	3	0.1467	0.1141	0.3423	1.223	973.0	1178	20,600	21,300	0.0838
TBA	CURLEW/ACSS/AW	1033.5	54/7	0.8112	0.9164	3	0.1383	0.1383	0.4149	1.245	972.8	1275	26,100	27,700	0.0827
TBA	AVOCET/ACSS/AW	1113.0	42/7	0.8743	0.9192	3	0.1628	0.0904	0.2712	1.248	1049	1178	15,900	16,300	0.0787
TBA	BLUEJAY/ACSS/AW	1113.0	45/7	0.8745	0.9350	3	0.1573	0.1049	0.3147	1.259	1049	1223	18,900	19,500	0.0782
TBA	BULLFINCH/ACSS/AW	1113.0	48/7	0.8744	0.9516	3	0.1523	0.1185	0.3555	1.269	1049	1271	22,200	23,000	0.0778
TBA	FINCH/ACSS/AW	1113.0	54/19	0.8746	0.9855	3	0.1436	0.0862	0.4310	1.293	1054	1373	28,800	30,400	0.0772
TBA	OXBIRD/ACSS/AW	1192.5	42/7	0.9366	0.9848	3	0.1685	0.0936	0.2808	1.292	1123	1261	17,000	17,500	0.0735
TBA	BUNTING/ACSS/AW	1192.5	45/7	0.9367	1.0014	3	0.1628	0.1085	0.3255	1.302	1123	1309	20,300	20,900	0.0730
TBA	CORMORANT/ACSS/AW	1192.5	48/7	0.9364	1.0190	3	0.1576	0.1226	0.3678	1.313	1123	1360	23,800	24,200	0.0726
TBA	GRACKLE/ACSS/AW	1192.5	54/19	0.9365	1.0552	3	0.1486	0.0892	0.4460	1.338	1129	1470	30,800	32,600	0.0721
TBA	SCISSORTAIL/ACSS/AW	1272.0	42/7	0.9987	1.0501	3	0.1740	0.0967	0.2901	1.334	1198	1345	18,200	18,700	0.0689
TBA	BITTERN/ACSS/AW	1272.0	45/7	0.9987	1.0678	3	0.1681	0.1121	0.3363	1.345	1198	1396	21,600	22,300	0.0685
TBA	DIVER/ACSS/AW	1272.0	48/7	0.9992	1.0873	3	0.1628	0.1266	0.3798	1.357	1198	1451	25,300	25,800	0.0681
TBA	PHEASANT/ACSS/AW	1272.0	54/19	0.9993	1.1259	3	0.1535	0.0921	0.4605	1.382	1204	1568	32,800	34,100	0.0675
TBA	RINGDOVE/ACSS/AW	1351.5	42/7	1.0617	1.1163	3	0.1794	0.0997	0.2991	1.376	1273	1430	19,300	19,900	0.0648
TBA	DIPPER/ACSS/AW	1351.5	45/7	1.0614	1.1347	3	0.1733	0.1155	0.3465	1.386	1273	1483	23,000	23,700	0.0645
TBA	MARTIN/ACSS/AW	1351.5	54/19	1.0614	1.1958	3	0.1582	0.0949	0.4745	1.424	1279	1665	34,900	36,200	0.0636
TBA	POPINJAY/ACSS/AW	1431.0	42/7	1.1241	1.1820	3	0.1846	0.1026	0.3078	1.415	1348	1514	20,500	21,000	0.0612
TBA	BOBOLINK/ACSS/AW	1431.0	45/7	1.1236	1.2013	3	0.1783	0.1189	0.3567	1.427	1347	1570	24,300	25,100	0.0609
TBA	WAGTAIL/ACSS/AW	1431.0	48/7	1.1244	1.2236	3	0.1727	0.1343	0.4029	1.439	1348	1633	28,000	29,000	0.0605
TBA	PLOVER/ACSS/AW	1431.0	54/19	1.1241	1.2665	3	0.1628	0.0977	0.4885	1.465	1355	1764	36,900	38,400	0.0600
TBA	NUTHATCH/ACSS/AW	1510.5	45/7	1.1862	1.2682	3	0.1832	0.1221	0.3663	1.466	1423	1658	25,700	26,100	0.0577
TBA	PARROT/ACSS/AW	1510.5	54/19	1.1856	1.3357	3	0.1672	0.1003	0.5015	1.505	1429	1860	38,900	40,400	0.0569

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				Al	Total		Individual Strands		AW Core	Complete Conductor	Al	Total	AW2	AW3	
		kcmil	Al/AW	in²	in²		in	in	in	in	lb/ 1000ft	lb/ 1000ft	lb	lb	Ω/mile
TBA	RATITE/ACSS/AW	1590.0	42/7	1.2492	1.3134	3	0.1946	0.1081	0.3243	1.492	1498	1682	22,700	23,400	0.0551
TBA	LAPWING/ACSS/ AW	1590.0	45/7	1.2492	1.3355	3	0.1880	0.1253	0.3759	1.504	1498	1746	27,000	27,500	0.0548
TBA	HORNBILL/ACSS/ AW	1590.0	48/7	1.2487	1.3589	3	0.1820	0.1416	0.4248	1.517	1498	1814	30,600	31,700	0.0545
TBA	FALCON/ACSS/ AW	1590.0	54/19	1.2489	1.4072	3	0.1716	0.1030	0.5150	1.545	1505	1960	41,100	42,600	0.0540
TBA	CHUKAR/ACSS/ AW	1780.0	84/19	1.3986	1.5126	4	0.1456	0.0874	0.4370	1.602	1685	2013	33,600	35,400	0.0490
TBA	WOODPECKER/ ACSS/AW	1843.0	72/7	1.4476	1.5102	4	0.1600	0.1067	0.3201	1.600	1745	1925	24,000	24,600	0.0479
TBA	SEAHAWK/ ACSS/AW	1869.0	68/7	1.4681	1.5147	4	0.1658	0.0921	0.2763	1.603	1769	1903	21,100	21,500	0.0474
TBA	MOCKINGBIRD/ ACSS/AW	2034.5	72/7	1.5979	1.6670	4	0.1681	0.1121	0.3363	1.681	1926	2124	26,500	27,200	0.0434
TBA	BLUEBIRD/ACSS/ AW	2156.0	84/19	1.6931	1.8309	4	0.1602	0.0961	0.4805	1.762	2040	2436	40,700	42,100	0.0404
TBA	KIWI/ACSS/AW	2167.0	72/7	1.7022	1.7758	4	0.1735	0.1157	0.3471	1.735	2051	2262	28,200	29,000	0.0407
TBA	THRASHER/ ACSS/AW	2312.0	76/19	1.8155	1.9144	4	0.1744	0.0814	0.4070	1.802	2188	2472	34,100	35,600	0.0380
TBA	JOREE/ACSS/AW	2515.0	76/19	1.9750	2.0826	4	0.1819	0.0849	0.4245	1.880	2380	2689	37,100	38,700	0.0350

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