ACSR/TW

Aluminum Conductor, Steel Reinforced, Trapezoidal Wire

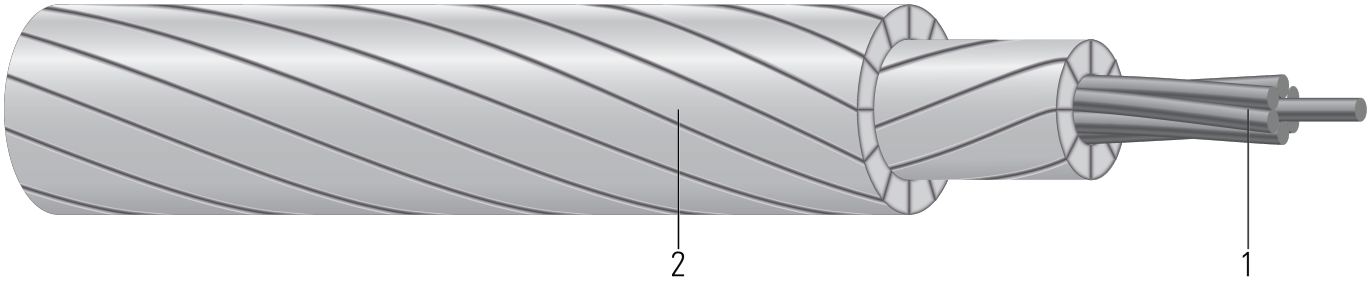


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Core:** Stranded standard strength steel core with Class A hot dipped zinc galvanization coating (also available in zinc-5% aluminum-mischmetal alloy coating)
2. **Stranding:** Hard-drawn aluminum (1350-H19) round wire shaped strands with 61.2% conductivity

APPLICATIONS AND FEATURES:

ACSR/TW (Aluminum Conductor, Steel Reinforced, Trapezoidal Wire) is a concentrically stranded conductor consisting of trapezoidal-shaped aluminum (1350-H19) wires surrounding a galvanized steel core. The trapezoidal wire design increases packing efficiency, allowing either greater aluminum content within a given conductor diameter for increased ampacity or a reduced conductor diameter for a given aluminum area, reducing wind and ice loading. ACSR/TW combines the high strength and proven performance of ACSR with enhanced electrical performance and line efficiency for overhead transmission and distribution applications.

Continuous operating temperature - 75°C
Emergency operating temperature - 100°C

SPECIFICATIONS:

- ASTM B230 Standard Specification for Aluminum 1350-H19 Wire for Electrical Purposes
- ASTM B498 Standard Specification for Zinc-Coated (Galvanized) Steel Core Wire for Use in Overhead Electrical Conductors
- ASTM B779 Standard Specification for Shaped Wire Compact Concentric-Lay-Stranded Aluminum Conductors, Steel-Reinforced (ACSR/TW)
- ASTM B802 Standard Specification for Zin-5% Aluminum-Mischmetal Alloy-Coated Steel Core Wire for Use in Overhead Electrical Conductors

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Area Equal to Standard ACSR Conductor - Weights, Measurements, Electrical and Engineering Data

Stock Number	Code Word	Conductor Size	Type	Stranding	Cross-Sectional Area		Layers of Al	Diameter			Weight		Rated Breaking Strength			DC Resistance @ 20°C
					Al	Total		Steel Strand	Steel Core	Complete Conductor	Al	Total	Std	HS	UHS	
		kcmil	No.	Al/St	in²	in²		in	in	in	lb/ 1000ft	lb/ 1000ft	lb	lb	lb	Ω/mile
TBA	Partridge/TW	266.8	16	14/7	0.2095	0.2436	2	0.0788	0.2364	0.595	250.6	366.0	11,200	11,900	12,500	0.3357
TBA	Merlin/TW	336.4	6	14/1	0.2642	0.2789	2	0.1367	0.1367	0.630	315.3	364.9	8,560	8,840	9,120	0.2693
TBA	Linnet/TW	336.4	16	16/7	0.2642	0.3072	2	0.0884	0.2652	0.659	316.1	461.7	14,000	14,800	15,600	0.2662
TBA	Oriole/TW	336.4	23	16/7	0.2642	0.3259	2	0.1059	0.3177	0.692	317.6	526.5	17,100	18,300	19,500	0.2650
TBA	Ibis/TW	397.5	16	20/7	0.3122	0.3630	2	0.0961	0.2883	0.725	373.5	545.5	16,300	17,300	18,200	0.2253
TBA	Lark/TW	397.5	23	16/7	0.3122	0.3850	2	0.1151	0.3453	0.740	375.3	621.8	20,100	21,500	22,900	0.2243
TBA	Flicker/TW	477.0	13	18/7	0.3746	0.4232	2	0.0940	0.2820	0.776	447.7	612.2	17,200	18,100	19,000	0.1884
TBA	Hawk/TW	477.0	16	18/7	0.3746	0.4356	2	0.1053	0.3159	0.790	448.1	654.6	19,400	20,500	21,700	0.1877
TBA	Hen/TW	477.0	23	20/7	0.3746	0.4620	2	0.1261	0.3783	0.820	450.3	746.2	23,600	25,300	27,000	0.1869
TBA	Parakeet/TW	556.5	13	18/7	0.4371	0.4937	2	0.1015	0.3045	0.840	522.4	714.0	20,000	21,100	22,200	0.1615
TBA	Dove/TW	556.5	16	20/7	0.4371	0.5083	2	0.1138	0.3414	0.850	522.9	763.9	22,600	24,000	25,300	0.1609
TBA	Eagle/TW	556.5	23	20/7	0.4371	0.5391	2	0.1362	0.4086	0.870	525.5	870.8	27,600	29,500	31,500	0.1602
TBA	Squab/TW	605.0	16	20/7	0.4752	0.5525	2	0.1186	0.3558	0.885	568.5	830.2	24,600	26,100	27,500	0.1480
TBA	Teal/TW	605.0	23	20/19	0.4752	0.5835	2	0.0852	0.4260	0.916	571.3	938.7	30,000	32,000	34,000	0.1475
TBA	Swift/TW	636.0	3	27/1	0.4995	0.5134	3	0.1329	0.1329	0.850	598.4	645.3	13,500	13,800	14,100	0.1435
TBA	Rook/TW	636.0	13	20/7	0.4995	0.5642	2	0.1085	0.3255	0.893	597.0	816.0	22,900	24,100	25,400	0.1413
TBA	Grosbeak/TW	636.0	16	20/7	0.4995	0.5808	2	0.1216	0.3648	0.909	597.6	872.8	25,400	27,000	28,600	0.1408
TBA	Scoter/TW	636.0	23	22/7	0.4995	0.6160	2	0.1456	0.4368	0.942	600.5	994.9	30,400	33,200	35,400	0.1402
TBA	Egret/TW	636.0	23	22/19	0.4995	0.6135	2	0.0874	0.4370	0.942	600.5	987.2	31,500	33,700	35,800	0.1403
TBA	Starling/TW	715.5	16	20/7	0.5620	0.6535	2	0.1290	0.3870	0.958	672.3	982.1	28,600	30,400	32,100	0.1251
TBA	Redwing/TW	715.5	23	20/19	0.5620	0.6900	2	0.0926	0.4630	0.994	675.6	1110	34,800	37,200	39,600	0.1247
TBA	Tern/TW	795.0	7	20/7	0.6244	0.6676	2	0.0886	0.2658	0.960	745.2	891.5	22,100	22,900	23,800	0.1138
TBA	Puffin/TW	795.0	10	18/7	0.6244	0.6857	2	0.1056	0.3168	0.980	745.9	953.4	24,800	26,000	27,200	0.1134
TBA	Condor/TW	795.0	13	20/7	0.6244	0.7053	2	0.1213	0.3639	0.993	746.3	1020	28,200	29,800	31,300	0.1130
TBA	Drake/TW	795.0	16	20/7	0.6244	0.7261	2	0.1360	0.4080	1.010	747.0	1091	31,800	33,800	35,700	0.1126
TBA	Mallard/TW	795.0	23	22/19	0.6244	0.7668	2	0.0977	0.4885	1.050	750.6	1234	38,700	41,400	44,000	0.1122
TBA	Canary/TW	900.0	13	20/7	0.7069	0.7985	2	0.1291	0.3873	1.055	844.9	1155	31,600	33,400	35,100	0.0998
TBA	Phoenix/TW	954.0	5	30/7	0.7493	0.7878	3	0.0837	0.2511	1.044	897.7	1028	23,700	24,500	25,200	0.0954
TBA	Rail/TW	954.0	7	32/7	0.7493	0.8011	3	0.0971	0.2913	1.061	898.6	1074	25,900	26,900	27,900	0.0953
TBA	Cardinal/TW	954.0	13	20/7	0.7493	0.8464	2	0.1329	0.3987	1.080	895.5	1224	33,500	35,400	37,200	0.0942
TBA	Canvasback/ TW	954.0	23	24/19	0.7493	0.9201	2	0.1070	0.5350	1.149	900.8	1480	46,500	49,700	52,800	0.0935
TBA	Snowbird/TW	1033.5	5	30/7	0.8117	0.8535	3	0.0872	0.2616	1.089	972.5	1114	25,700	26,500	27,300	0.0881
TBA	Ortolan/TW	1033.5	7	34/7	0.8117	0.8678	3	0.1010	0.3030	1.102	973.4	1163	28,100	29,200	30,200	0.0879
TBA	Curlew/TW	1033.5	13	22/7	0.8117	0.9169	2	0.1383	0.4149	1.131	970.1	1326	36,300	38,300	40,300	0.0869
TBA	Avocet/TW	1113.0	5	30/7	0.8741	0.9190	3	0.0904	0.2712	1.130	1047	1199	27,500	28,400	29,200	0.0818
TBA	Bluejay/TW	1113.0	7	34/7	0.8741	0.9346	3	0.1049	0.3147	1.143	1048	1253	30,300	31,400	32,600	0.0817
TBA	Finch/TW	1113.0	13	38/19	0.8741	0.9850	3	0.0862	0.4310	1.190	1051	1427	39,100	41,200	43,200	0.0812
TBA	Oxbird/TW	1192.5	5	30/7	0.9366	0.9848	3	0.0936	0.2808	1.170	1122	1285	29,500	30,400	31,300	0.0763
TBA	Bunting/TW	1192.5	7	34/7	0.9366	1.0013	3	0.1085	0.3255	1.181	1123	1342	32,400	33,600	34,900	0.0762
TBA	Grackle/TW	1192.5	13	38/19	0.9366	1.0553	3	0.0892	0.4460	1.225	1126	1529	41,900	44,100	46,300	0.0758

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Stock Number	Code Word	Conductor Size	Type	Stranding	Cross-Sectional Area		Layers of Al	Diameter			Weight		Rated Breaking Strength			DC Resistance @ 20°C
					Al	Total		Steel Strand	Steel Core	Complete Conductor	Al	Total	Std	HS	UHS	
		kcmil	No.	Al/St	in²	in²		in	in	in	lb/ 1000ft	lb/ 1000ft	lb	lb	lb	Ω/mile
TBA	Scissortail/ TW	1272.0	5	30/7	0.9990	1.0504	3	0.0967	0.2901	1.203	1197	1371	31,400	32,400	33,400	0.0715
TBA	Bittern/TW	1272.0	7	38/7	0.9990	1.0681	3	0.1121	0.3363	1.224	1198	1432	34,600	35,900	37,200	0.0714
TBA	Pheasant/TW	1272.0	13	39/19	0.9990	1.1256	3	0.0921	0.4605	1.260	1201	1631	44,100	46,400	48,800	0.0711
TBA	Dipper/TW	1351.5	7	36/7	1.0615	1.1348	3	0.1155	0.3465	1.256	1273	1521	36,700	38,100	39,500	0.0672
TBA	Martin/TW	1351.5	13	42/19	1.0615	1.1959	3	0.0949	0.4745	1.300	1276	1732	46,800	49,300	51,800	0.0669
TBA	Bobolink/TW	1431.0	7	36/7	1.1239	1.2016	3	0.1189	0.3567	1.290	1348	1611	38,900	40,400	41,900	0.0635
TBA	Plover/TW	1431.0	13	40/19	1.1239	1.2663	3	0.0977	0.4885	1.337	1351	1834	49,600	52,200	54,900	0.0632
TBA	Lapwing/TW	1590.0	7	36/7	1.2488	1.3351	3	0.1253	0.3759	1.358	1498	1790	42,200	43,900	45,500	0.0572
TBA	Falcon/TW	1590.0	13	42/19	1.2488	1.4071	3	0.1030	0.5150	1.410	1501	2038	55,100	58,100	61,000	0.0569
TBA	Chukar/TW	1780.0	8	38/19	1.3980	1.5120	3	0.0874	0.4370	1.445	1674	2061	50,700	52,800	54,900	0.0509
TBA	Bluebird/TW	2156.0	8	64/19	1.6933	1.8311	4	0.0961	0.4805	1.608	2045	2512	61,100	63,700	66,200	0.0424

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Diameter Equal to Standard ACSR Conductor - Weights, Measurements, Electrical and Engineering Data

Stock Number	Code Word	Conductor Size	Type	Stranding	ACSR with Equal Diameter			Cross-Sectional Area		Layers of Al	Diameter			Weight		Rated Breaking Strength			DC Resistance @ 20°C
					Code Word	Size	Stranding	Al	Total		Steel Strand	Steel Core	Complete Conductor	Al	Total	Std	HS	UHS	
		kcmil	No.	Al/St		kcmil	Al/St	in²	in²		in	in	in	lb/1000ft	lb/1000ft	lb	lb	lb	Ω/mile
TBA	Monongahela/TW	405.1	6	14/1	Merlin	336.4	18/1	0.3182	0.3363	2	0.1520	0.1520	0.680	379.7	440.7	10,200	10,700	11,000	0.2236
TBA	Calumet/TW	565.3	16	20/7	Hawk	477.0	26/7	0.4440	0.5162	2	0.1146	0.3438	0.860	531.2	775.6	22,900	24,300	25,700	0.1584
TBA	Mohawk/TW	571.7	13	18/7	Flicker	477.0	24/7	0.4490	0.5073	2	0.1030	0.3090	0.850	536.6	734.0	20,600	21,700	22,800	0.1572
TBA	Oswego/TW	664.8	16	20/7	Dove	556.5	26/7	0.5221	0.6072	2	0.1244	0.3732	0.927	624.6	912.7	26,600	28,200	29,900	0.1347
TBA	Mystic/TW	666.6	13	20/7	Parakeet	556.5	24/7	0.5235	0.5914	2	0.1111	0.3333	0.913	625.7	855.6	24,000	25,300	26,600	0.1348
TBA	Wabash/TW	762.8	16	20/7	Grosbeak	636.0	26/7	0.5991	0.6965	2	0.1331	0.3993	0.990	716.7	1046	30,500	32,400	34,200	0.1174
TBA	Maumee/TW	768.2	13	20/7	Rook	636.0	24/7	0.6033	0.6818	2	0.1195	0.3585	0.977	721.0	986.8	27,700	29,200	30,700	0.1170
TBA	Nechako/TW	768.9	3	27/1	Swift	636.0	36/1	0.6039	0.6220	3	0.1520	0.1520	0.930	723.5	784.5	16,400	16,900	17,200	0.1187
TBA	Fraser/TW	946.7	10	34/7	Puffin	795.0	22/7	0.7435	0.8167	3	0.1154	0.3462	1.077	892.5	1140	29,600	31,000	32,400	0.0957
TBA	Kettle/TW	957.2	7	32/7	Tern	795.0	45/7	0.7518	0.8038	3	0.0973	0.2919	1.060	901.6	1078	26,000	27,000	28,000	0.0949
TBA	Suwannee/TW	959.6	16	22/7	Drake	795.0	26/7	0.7537	0.8762	2	0.1493	0.4479	1.110	901.7	1316	37,200	40,100	42,500	0.0933
TBA	Columbia/TW	966.2	13	22/7	Condor	795.0	54/7	0.7589	0.8573	2	0.1338	0.4014	1.092	907.0	1240	34,300	36,200	38,100	0.0930
TBA	Genesee/TW	1158.0	7	34/7	Rail	954.0	45/7	0.9095	0.9734	3	0.1078	0.3234	1.165	1091	1307	31,600	32,900	34,100	0.0785
TBA	Hudson/TW	1158.4	13	24/7	Cardinal	954.0	54/7	0.9098	1.0281	2	0.1467	0.4401	1.196	1087	1488	39,600	42,500	44,700	0.0776
TBA	Cheyenne/TW	1168.1	5	30/7	Phoenix	954.0	42/7	0.9174	0.9645	3	0.0926	0.2778	1.155	1099	1259	28,800	29,800	30,700	0.0779
TBA	Yukon/TW	1233.6	13	38/19	Curlew	1033.5	54/7	0.9689	1.0925	3	0.0910	0.4550	1.245	1165	1584	42,900	45,200	47,500	0.0733
TBA	Nelson/TW	1257.1	7	36/7	Ortolan	1033.5	45/7	0.9873	1.0556	3	0.1115	0.3345	1.213	1184	1415	34,200	35,500	36,800	0.0723
TBA	Catawba/TW	1272.0	5	30/7	Snowbird	1033.5	42/7	0.9990	1.0504	3	0.0967	0.2901	1.203	1197	1371	31,400	32,400	33,400	0.0715
TBA	Thames/TW	1334.6	13	38/19	Finch	1113.0	54/19	1.0482	1.1812	3	0.0944	0.4720	1.290	1260	1711	46,300	48,700	51,200	0.0677
TBA	Mackenzie/TW	1359.7	7	38/7	Bluejay	1113.0	45/7	1.0679	1.1418	3	0.1159	0.3477	1.260	1281	1531	37,000	38,400	39,800	0.0668
TBA	Truckee/TW	1372.5	5	30/7	Avocet	1113.0	42/7	1.0780	1.1334	3	0.1004	0.3012	1.248	1292	1480	33,400	34,500	35,500	0.0663
TBA	Merrimack/TW	1433.6	13	39/19	Grackle	1192.5	54/19	1.1259	1.2686	3	0.0978	0.4890	1.340	1354	1838	49,700	52,300	55,000	0.0631
TBA	Miramichi/TW	1455.3	7	36/7	Bunting	1192.5	45/7	1.1430	1.2222	3	0.1200	0.3600	1.302	1371	1639	39,200	40,700	42,200	0.0624
TBA	St. Croix/TW	1467.8	5	33/7	Oxbird	1192.5	42/7	1.1528	1.2124	3	0.1041	0.3123	1.292	1381	1583	35,800	36,900	38,100	0.0620
TBA	Rio Grande/TW	1533.3	13	38/19	Pheasant	1272.0	54/19	1.2043	1.3571	3	0.1012	0.5060	1.380	1448	1966	53,200	56,000	58,900	0.0590
TBA	Potomac/TW	1557.4	7	36/7	Bittern	1272.0	45/7	1.2232	1.3079	3	0.1241	0.3723	1.350	1467	1754	41,900	43,600	45,200	0.0583
TBA	Platte/TW	1569.0	5	33/7	Scissortail	1272.0	42/7	1.2323	1.2957	3	0.1074	0.3222	1.334	1476	1691	38,200	39,400	40,600	0.0580
TBA	Pecos/TW	1622.0	13	39/19	Martin	1351.5	54/19	1.2739	1.4428	3	0.1064	0.5320	1.420	1531	2104	57,500	60,600	63,800	0.0557
TBA	Schuylkill/TW	1657.4	7	36/7	Dipper	1351.5	45/7	1.3017	1.3918	3	0.1280	0.3840	1.386	1561	1866	44,000	45,700	47,500	0.0548
TBA	James/TW	1730.6	13	39/19	Plover	1431.0	54/19	1.3592	1.5316	3	0.1075	0.5375	1.470	1634	2219	59,400	62,600	65,800	0.0522
TBA	Pee Dee/TW	1758.6	7	38/7	Bobolink	1431.0	45/7	1.3812	1.4768	3	0.1319	0.3957	1.430	1656	1980	46,700	48,600	50,400	0.0517
TBA	Cumberland/TW	1926.9	13	42/19	Falcon	1590.0	54/19	1.5134	1.7050	3	0.1133	0.5665	1.550	1819	2469	66,000	69,600	73,200	0.0469
TBA	Athabaska/TW	1949.6	7	44/7	Lapwing	1590.0	45/7	1.5312	1.6377	3	0.1392	0.4176	1.504	1836	2197	51,900	53,900	56,000	0.0466
TBA	Powder/TW	2153.8	8	64/19	Chukar	1780.0	84/19	1.6916	1.8294	4	0.0961	0.4805	1.596	2043	2510	61,100	63,600	66,200	0.0424
TBA	Santee/TW	2627.3	8	64/19	Bluebird	2156.0	84/19	2.0635	2.2318	4	0.1062	0.5310	1.761	2492	3063	74,500	77,600	80,800	0.0348

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