

Aluminum Conductor. Steel Reinforced.
Trapezoidal Shaped Aluminum Strands. Bare.



APPLICATIONS

Shaped Wire Compact Concentric-Lay-Stranded Aluminum Conductor, Steel-Reinforced (ACSR/TW) is designed for use as a bare overhead conductor. There are two designs of ACSR/TW. One design gives an equal area of aluminum when compared to the standard ACSR conductor sizes. The other design gives an overall outside diameter equal to standard ACSR conductor sizes. Use of this conductor in the equal area design allows equal ampacity in a smaller diameter conductor when compared with standard ACSR conductor. Use of this conductor in the equal diameter design allows more ampacity in an equal diameter conductor when compared with standard ACSR conductor.

SPECIFICATIONS

Southwire ACSR/TW conductor meets or exceeds ASTM specification:

- B-779 Shaped Wire Compact Concentric-Lay-Stranded Aluminum Conductors, Steel-Reinforced (ACSR/TW).

CONSTRUCTION

Aluminum alloy 1350-H19 trapezoidal shaped wires, concentrically stranded about a steel core. Core wire for ACSR/TW is available with class A, B, or C galvanizing; "aluminized" aluminum coated (AZ); or aluminum-clad (AW¹). Additional corrosion protection is available through the application of grease to the core or infusion of the complete cable with grease.

¹ For aluminum-clad ACSR/TW, contact your Southwire representative.

ACSR/TW

ACSR/TW CONDUCTOR
AREA EQUAL TO STANDARD ACSR SIZES

Code Name	Conductor Size			Type Code	Stranding			Outside Diameter		Weight per 1000 ft.			Rated Strength (lbs.)	Resistance		Allowable Ampacities
	kcmil	Area (square ins.)			No. of Layers of Alum.	Alum.	Steel	Complete Conductor (ins.)	Steel Core (ins.)	Total	Alum.	Steel		Ohms/1000 ft.		
		Alum.	Total											DC @ 20°C	AC @ 75°C	
Merlin/TW	336.4	0.2642	0.2788	6	2	14	1x0.1367	0.630	0.1367	365.0	315.5	49.5	8560	0.0510	0.0625	508
Flicker/TW	477.0	0.3747	0.4233	13	2	18	7x0.0940	0.776	0.2820	612.8	448.4	164.4	17200	0.0357	0.0437	641
Hawk/TW	477.0	0.3746	0.4356	16	2	18	7x0.1053	0.789	0.3159	655.0	448.7	206.3	19400	0.0356	0.0435	645
Parakeet/TW	556.5	0.4371	0.4937	13	2	18	7x0.1015	0.835	0.3045	714.9	523.2	191.7	20000	0.0306	0.0375	706
Dove/TW	556.5	0.4371	0.5083	16	2	20	7x0.1138	0.852	0.3414	764.5	523.5	241.0	22600	0.0305	0.0374	711
Swift/TW	636.0	0.4995	0.5133	3	3	27	1x0.1329	0.850	0.1329	646.0	599.2	46.8	13500	0.0272	0.0335	750
Rook/TW	636.0	0.4995	0.5643	13	2	19	7x0.1085	0.890	0.3255	816.0	597.9	219.1	22900	0.0268	0.0329	766
Grosbeak/TW	636.0	0.4995	0.5808	16	2	20	7x0.1216	0.908	0.3648	873.5	598.4	275.1	25400	0.0267	0.0327	772
Tern/TW	795.0	0.6244	0.6675	7	2	17	7x0.0886	0.960	0.2658	892.0	745.9	146.1	21000	0.0215	0.0266	869
Puffin/TW	795.0	0.6244	0.6919	10	2	18	7x0.1108	0.980	0.3324	975.3	746.9	228.4	25900	0.0215	0.0264	876
Condor/TW	795.0	0.6244	0.7053	13	2	20	7x0.1203	0.993	0.3639	1021.0	747.2	273.8	28200	0.0214	0.0264	880
Drake/TW	795.0	0.6244	0.7261	16	2	20	7x0.1360	1.010	0.4080	1092.0	747.8	344.2	31800	0.0213	0.0263	887
Phoenix/TW	954.0	0.7493	0.7876	5	3	30	7x0.0837	1.044	0.2511	1032.0	901.6	130.4	23700	0.0181	0.0224	967
Rail/TW	954.0	0.7493	0.8011	7	3	32	7x0.0971	1.061	0.2913	1075.0	900.0	175.0	25900	0.0180	0.0224	973
Cardinal/TW	954.0	0.7493	0.8464	13	2	20	7x0.1329	1.084	0.3987	1226.0	897.3	328.7	33500	0.0178	0.0221	985
Snowbird/TW	1033.5	0.8117	0.8534	5	3	30	7x0.0871	1.089	0.2613	1115.0	973.8	141.2	25700	0.0167	0.0208	1017
Ortolan/TW	1033.5	0.8117	0.8678	7	3	32	7x0.1010	1.102	0.3030	1165.0	975.2	189.8	28100	0.0167	0.0207	1021
Curlew/TW	1033.5	0.8117	0.9169	13	2	20	7x0.1383	1.129	0.4149	1327.0	971.1	355.9	36300	0.0165	0.0204	1036

ACSR/TW

ACSR/TW CONDUCTOR
AREA EQUAL TO STANDARD ACSR SIZES

Code Name	Conductor Size			Type Code	Stranding			Outside Diameter		Weight per 1000 ft.			Rated Strength (lbs.)	Resistance		Allowable Ampacities
	kcmil	Area (square ins.)			No. of Layers of Alum.	Alum.	Steel	Complete Conductor (ins.)	Steel Core (ins.)	Total	Alum.	Steel		Ohms/1000 ft.		
		Alum.	Total											DC @ 20°C	AC @ 75°C	
Avocet/TW	1113.0	0.8742	0.9191	5	3	30	7x0.0904	1.129	0.2712	1201.0	1048.9	152.1	27500	0.0155	0.0193	1063
Bluejay/TW	1113.0	0.8742	0.9347	7	3	33	7x0.1049	1.143	0.3147	1257.0	1052.2	204.8	30300	0.0155	0.0193	1069
Finch/TW	1113.0	0.8742	0.9851	13	3	38	19x0.0862	1.185	0.4310	1429.0	1052.6	376.4	39100	0.0154	0.0191	1084
Oxbird/TW	1192.5	0.9366	0.9848	5	2	30	7x0.0936	1.167	0.2808	1286.0	1123.0	163.0	29500	0.0144	0.0180	1111
Bunting/TW	1192.5	0.9366	1.0013	7	3	34	7x0.1085	1.181	0.3255	1343.0	1124.0	219.0	32400	0.0144	0.0181	1114
Grackle/TW	1192.5	0.9366	1.0554	13	3	38	19x0.0892	1.225	0.4460	1530.0	1127.0	403.0	41900	0.0144	0.0179	1130
Scissortail/TW	1272.0	0.9991	1.0505	5	3	30	7x0.0967	1.203	0.2901	1372.0	1198.0	174.0	31400	0.0135	0.0170	1152
Bittern/TW	1272.0	0.9990	1.0681	7	3	35	7x0.1121	1.220	0.3363	1433.0	1198.0	234.0	34600	0.0135	0.0170	1159
Pheasant/TW	1272.0	0.9990	1.1256	13	3	39	19x0.9210	1.264	0.4605	1632.0	1202.0	430.0	44100	0.0135	0.0168	1176
Dipper/TW	1351.0	1.0615	1.1348	7	3	35	7x0.1155	1.256	0.3465	1522.0	1274.0	248.0	36700	0.0127	0.0160	1202
Martin/TW	1351.0	1.0615	1.1959	13	3	42	19x0.0949	1.300	0.4745	1734.0	1278.0	456.0	46800	0.0127	0.0159	1219
Bobolink/TW	1431.0	1.1236	1.2017	7	3	36	7x0.1189	1.291	0.3567	1613.0	1350.0	263.0	38900	0.0120	0.0152	1243
Plover/TW	1431.0	1.1239	1.2664	13	3	44	19x0.0977	1.337	0.4885	1836.0	1353.0	483.0	49600	0.0120	0.0150	1262
Lapwing/TW	1590.0	1.2488	1.3351	7	3	36	7x0.1253	1.358	0.3759	1791.0	1499.0	292.0	42200	0.0183	0.0138	1323
Falcon/TW	1590.0	1.2488	1.4071	13	3	42	19x0.1030	1.408	0.5150	2040.0	1503.0	537.0	55100	0.0108	0.0136	1345
Chukar/TW	1780.0	1.3986	1.5120	8	3	37	19x0.0874	1.445	0.4370	2063.0	1676.0	387.0	50700	0.0096	0.0124	1420
Bluebird/TW	2156.0	1.0934	1.8312	8	4	64	19x0.0961	1.608	0.4805	2515.0	2047.0	468.0	61100	0.0080	0.0105	1586

+Ampacity calculated assuming: ambient 25°C, conductor 75°C, wind 2 ft./ sec., sun.

ACSR/TW

ACSR/TW CONDUCTOR DIAMETERS EQUAL TO STANDARD ACSR SIZES																
Code Name	Conductor Size			Type Code	Stranding			Outside Diameter		Weight per 1000 ft.			Rated Strength (lbs.)	Resistance		Allowable Ampacities
	kcmil	Area (square ins.)			No. of Layers of Alum.	Alum.	Steel	Complete Conductor (ins.)	Steel Core (ins.)	Total	Alum.	Steel		Ohms/1000 ft.		
		Alum.	Total											DC @ 20°C	AC @ 75°C	
Monongahela/TW	405.1	0.3181	0.3362	6	2	14	1x0.1520	0.68	0.152	441	379.8	61.2	10200	0.0423	0.0519	569
Mohawk/TW	571.7	0.449	0.5074	13	2	18	7x0.1030	0.846	0.309	734.7	537.3	197.4	20700	0.0298	0.0365	718
Calumet/TW	565.3	0.4439	0.5165	16	2	18	7x0.1147	0.858	0.3438	714.8	523.1	191.7	22900	0.03	0.0368	718
Mystic/TW	666.6	0.5236	0.5914	13	2	20	7x0.1111	0.913	0.333	856.3	626.6	229.7	24000	0.0255	0.0314	790
Oswego/TW	664.8	0.5221	0.6072	16	2	20	7x0.1244	0.927	0.3732	913.4	625.4	288	26600	0.0255	0.0313	794
Nechako/TW	768.9	0.6039	0.622	3	3	27	1x0.1520	0.93	0.152	781.9	720.7	61.2	16400	0.0255	0.0278	843
Maumee/TW	768.2	0.6034	0.6819	13	2	20	7x0.1195	0.977	0.3585	987.8	722.1	265.7	27700	0.0222	0.0273	862
Wabash/TW	762.8	0.5992	0.6966	16	2	20	7x0.1331	0.99	0.3993	1047	717	330	30500	0.0222	0.0274	863
Kettle/TW	957.2	0.7518	0.8038	7	3	32	7x0.0973	1.06	0.2919	1079	902.8	176.2	26000	0.018	0.0223	974
Fraser/TW	946.7	0.7436	0.8168	10	3	35	7x0.1154	1.077	0.3462	1142	894	248	29600	0.018	0.0223	978
Columbia/TW	966.2	0.7589	0.8573	13	2	21	7x0.1338	1.092	0.4014	1241	908	333	34000	0.0176	0.0218	993
Suwannee/TW	959.6	0.7537	0.8762	16	2	22	7x0.1493	1.108	0.4479	1318	903	415	37000	0.0177	0.0218	996
Cheyenne/TW	1168.1	0.9175	0.9646	5	3	30	7x0.0926	1.155	0.2778	1260	1100.4	159.6	28900	0.0148	0.0185	1095
Genesee/TW	1158	0.9095	0.9733	7	3	33	7x0.1078	1.165	0.3234	1308	1092	216	31600	0.0149	0.0186	1095
Hudson/TW	1158.4	0.9098	1.0281	13	2	26	7x0.1467	1.196	0.4401	1489	1089	400	39600	0.0147	0.0183	1111
Catawba/TW	1272	0.9991	1.0505	5	3	30	7x0.0967	1.203	0.2901	1372	1198	174	31400	0.0135	0.017	1152
Nelson/TW	1257.1	0.9874	1.0557	7	3	35	7x0.1115	1.213	0.3345	1417	1185.7	231.3	34200	0.0137	0.0172	1150
Yukon/TW	1233.6	0.9689	1.0925	13	3	38	19x0.0910	1.245	0.455	1586	1166.5	419.5	42900	0.0139	0.0173	1154

ACSR/TW CONDUCTOR DIAMETERS EQUAL TO STANDARD ACSR SIZES																
Code Name	Conductor Size			Type Code	Stranding			Outside Diameter		Weight per 1000 ft.			Rated Strength (lbs.)	Resistance		Allowable Ampacities
	kcmil	Area (square ins.)			No. of Layers of Alum.	Alum.	Steel	Complete Conductor (ins.)	Steel Core (ins.)	Total	Alum.	Steel		Ohms/1000 ft.		
		Alum.	Total											DC @ 20°C	AC @ 75°C	
Truckee/TW	1372.5	1.078	1.1334	5	3	30	7x0.1004	1.248	0.3012	1481	1293.4	187.6	33400	0.0126	0.0159	1206
Mackenzie/TW	1359.7	1.0679	1.1418	7	3	36	7x0.1559	1.259	0.3477	1530	1280	250	36900	0.0127	0.0159	1206
Thames/TW	1334.6	1.348	1.1809	13	3	39	19x0.0944	1.29	0.472	1713	1261.6	451.4	46300	0.0128	0.016	1210
St. Croix/TW	1467.8	1.1529	1.2124	5	3	33	7x0.1041	1.292	0.3123	1585	1383	202	35800	0.0117	0.0149	1256
Miramichi/TW	1455.3	1.143	1.2222	7	3	36	7x0.1200	1.302	0.36	1640	1372	268	39200	0.0118	0.015	1256
Merrimack/TW	1433.6	1.125	1.2677	13	3	39	19x0.0978	1.34	0.489	1840	1356	434	49700	0.0119	0.015	1264
Platte/TW	1569	1.2323	1.2957	5	3	33	7x0.1074	1.334	0.3222	1693	1478	215	38200	0.011	0.014	1306
Potomac/TW	1557.4	1.2232	1.3079	7	3	36	7x0.1241	1.345	0.3723	1755	1468	287	41900	0.0111	0.014	1307
Rio Grande/TW	1533.3	1.2043	1.3571	13	3	39	19x0.1012	1.382	0.506	1968	1449	519	53200	0.0112	0.0141	1316
Schuykill/TW	1657.4	1.302	1.392	7	3	36	7x0.128	1.386	0.384	1868	1563	305	44000	0.0104	0.0133	1356
Pecos/TW	1622	1.2739	1.4429	13	3	39	19x0.1064	1.424	0.532	2107	1533	574	57500	0.0106	0.0133	1363
Pee Dee/TW	1758.6	1.381	1.477	7	3	37	7x0.1319	1.427	0.3957	1982	1658	324	46700	0.0098	0.0126	1404
James/TW	1730.6	1.359	1.5314	13	3	34	19x0.1075	1.47	0.5375	2221	1636	585	59400	0.0099	0.0126	1415
Athabaska/TW	1949.6	1.5312	1.6377	7	3	44	7x0.1392	1.504	0.4176	2199	1838	361	51900	0.0088	0.0115	1491
Cumberland/TW	1926.9	1.5134	1.7049	13	3	42	19x0.1133	1.545	0.5665	2471	1821	650	65300	0.0089	0.0114	1507
Powder/TW	2153.8	1.6912	1.829	8	4	64	19x0.0961	1.602	0.4805	2498	2030	468	61100	0.008	0.0105	1584
Santee/TW	2627.3	2.063	2.2268	8	4	64	19x0.1062	1.762	0.531	3048	2477	571	74500	0.0066	0.0089	1768

+Ampacity calculated assuming: ambient 250C, conductor 75°C, wind 2 ft./ sec., sun.