ALUMTEK CORP.

ACSS



Manufacturer
Of
Overhead Conductors
&
Aluminum Profiles

www.alumtekcorp.com

ACSS

ALUMINUM CONDUCTOR STEEL-SUPPORTED CONCENTRIC-LAY-STRANDED

GENERALITIES

ACSS is a composite concentric-lay-stranded cable. The steel strands form the central core of the cable around which is stranded one or more layers of aluminum 1350-O wires.

ACSS conductors are manufactured in accordance with the requirements of the latest applicable issue of ASTM specification B856. The "O" temper of the aluminum, a fully annealed or soft temper, causes most or all of the mechanical load on ACSS to be carried by the steel.

The steel core may consist of 7, 19, 37 or more wires. Class A zinc coating is usually adequate for ordinary environments.

FEATURES AND BENEFITS

ACSS conductors are similar to conventional ACSR with some very important additional advantages. ACSS can operate continuously at high temperatures (200°C) without damage; it sags less under emergency electrical loadings than ACSR; it has self-damping properties and its final sags are not affected by long time creep of the aluminum.

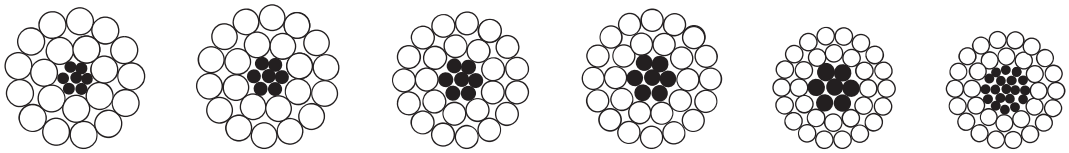
APPLICATIONS

Aluminum Conductor, Steel-Supported (ACSS) are used for overhead distribution and transmission lines. They are especially useful in reconductoring applications requiring increased current with existing tensions and clearances; new line applications where structures can be economized due to reduced sag; new line applications requiring high emergency loadings; lines where aeolian vibration is a problem.

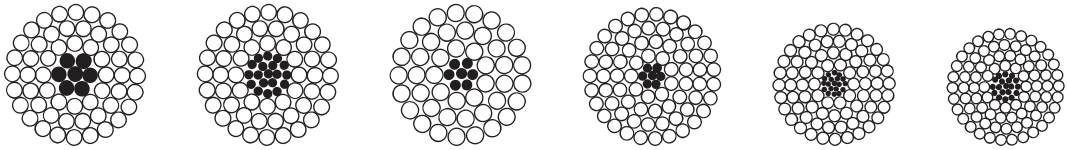
OPTIONS

- High-Strength Class A galvanized steel core (/HS).
- Extra-High-Strength Class A galvanized steel core (/EHS).
- Ultra-High-Strength Class A galvanized steel core (/UHS).
- Regular-Strength Class A zinc-5% aluminum misch-metal alloy-coated steel core (/MA).
- High-Strength Class A zinc-5% aluminum misch-metal alloy-coated steel core (/MS).
- Extra-High-Strength Class A zinc-5% aluminum misch-metal alloy-coated steel core (/EMS).
- Ultra-High-Strength Class A zinc-5% aluminum misch-metal alloy-coated steel core (/UMS).
- Aluminum-clad steel core (/AW).
- 250°C Operating Temperature rating utilizing either the zinc-5% aluminum misch-metal alloy-coated steel core wires, or the aluminum-clad steel core wires.

Contact Alumtek Corporation for conductor sizes & designs.



20/7 22/7 24/7 26/7 30/7 30/19



54/7 54/19 45/7 72/7 76/19 84/19

ACSS, ALUMINUM CONDUCTOR STEEL SUPPORTED - CONCENTRIC-LAY-STRANDED

Code Word (1)	Size		Type	Stranding		Cross Section		Nominal	Nominal Weight			RTS				Electrical Resistance (3)			Ampacity	% by Weight	
	AWG o Kcmil	mm²		No. x Dia. mm		mm²		O.D.	kg/km			MA	MS	EMS	UMS	Ohms/Km			A (4)		
				Alum.	Steel	Total	Alum.	mm.	Total	Alum.	Steel	kN (2)	kN (2)	kN (2)	kN (2)	DC@20C	DC@25C	DC@75C		Alum.	Steel
PARTRIDGE/ACSS	266.8	135	16	26x2.57	7x2.00	157	135	16,3	546	374	172	39,5	43,3	48,0	50,7	0,2032	0,2077	0,2500	825	68,39	31,61
JUNCO/ACSS	266.8	135	23	30x2.40	7x2.40	167	135	16,8	622	375	247	52,0	57,8	64,1	68,5	0,2019	0,2064	0,2484	835	60,29	39,71
OSTRICH/ACSS	300.0	152	16	26x2.73	7x2.12	177	152	17,3	613	420	193	44,3	48,5	53,8	56,9	0,1808	0,1850	0,2225	890	68,45	31,55
WIDGEON/ACSS	336.4	170	13	24x3.01	7x2.00	193	170	18,0	644	472	172	41,5	45,4	49,8	52,9	0,1618	0,1657	0,1992	955	73,21	26,79
LINNET/ACSS	336.4	170	16	26x2.89	7x2.25	198	170	18,3	688	472	216	49,8	54,3	60,0	64,1	0,1613	0,1650	0,1985	960	68,61	31,39
ORIOLE/ACSS	336.4	170	23	30x2.69	7x2.69	210	170	18,8	784	473	311	65,8	72,5	81,0	86,3	0,1601	0,1637	0,1972	975	60,34	39,66
STORK/ACSS	397.5	201	10	22x3.41	7x1.90	221	201	19,4	711	557	154	40,0	43,4	47,6	50,3	0,1376	0,1411	0,1696	1060	78,24	21,76
BRANT/ACSS	397.5	201	13	24x3.27	7x2.18	228	201	19,6	760	557	203	48,9	53,8	59,2	62,7	0,1370	0,1404	0,1686	1065	73,19	26,81
IBIS/ACSS	397.5	201	16	26x3.14	7x2.44	234	201	19,9	813	557	256	57,8	63,2	69,8	74,7	0,1365	0,1398	0,1680	1075	68,50	31,50
LARK/ACSS	397.5	201	23	30x2.92	7x2.92	248	201	20,5	926	558	368	77,8	85,8	95,6	101,9	0,1355	0,1388	0,1670	1090	60,29	39,71
TOUCAN/ACSS	477.0	242	10	22x3.74	7x2.08	265	242	21,2	854	668	186	48,0	52,0	56,9	60,0	0,1147	0,1178	0,1414	1195	78,22	21,78
FLICKER/ACSS	477.0	242	13	24x3.58	7x2.39	273	242	21,5	912	668	244	57,8	63,2	69,8	74,3	0,1141	0,1171	0,1408	1205	73,25	26,75
HAWK/ACSS	477.0	242	16	26x3.44	7x2.67	281	242	21,8	975	668	307	69,4	76,1	84,1	89,4	0,1137	0,1165	0,1401	1210	68,55	31,45
HEN/ACSS	477.0	242	23	30x3.20	7x3.20	298	242	22,4	1110	670	440	93,4	101,0	112,5	120,5	0,1129	0,1158	0,1391	1225	60,32	39,68
HERON/ACSS	500.0	253	23	30x3.28	7x3.28	312	253	23,0	1164	702	462	97,9	105,9	118,3	126,3	0,1077	0,1106	0,1329	1265	60,36	39,64
TODY/ACSS	556.5	282	7	20x4.24	7x1.88	301	282	22,6	932	780	152	44,1	47,6	51,6	54,3	0,0986	0,1014	0,1221	1315	83,71	16,29
SAPSUCKER/ACSS	556.5	282	10	22x4.04	7x2.24	309	282	22,9	996	780	216	56,0	60,5	66,3	70,3	0,0983	0,1011	0,1214	1325	78,33	21,67
PARAKEET/ACSS	556.5	282	13	24x3.87	7x2.58	319	282	23,2	1066	780	286	67,6	73,8	81,4	86,3	0,0978	0,1007	0,1207	1330	73,18	26,82
DOVE/ACSS	556.5	282	16	26x3.72	7x2.89	328	282	23,5	1139	780	359	81,0	88,5	98,3	104,5	0,0974	0,1001	0,1204	1340	68,50	31,50
EAGLE/ACSS	556.5	282	23	30x3.46	7x3.46	348	282	24,2	1295	781	514	109,0	117,9	131,7	140,6	0,0968	0,0994	0,1194	1360	60,34	39,66
PEACOCK/ACSS	605.0	306	13	24x4.03	7x2.69	346	307	24,2	1159	848	311	73,4	80,5	88,5	93,9	0,0900	0,0925	0,1112	1410	73,17	26,83
SQUAB/ACSS	605.0	306	16	26x3.87	7x3.01	356	306	24,5	1238	848	390	87,6	96,5	106,8	113,4	0,0897	0,0922	0,1109	1415	68,51	31,49
WOOD DUCK/ACSS	605.0	306	23	30x3.61	7x3.61	378	307	25,2	1408	850	558	115,6	125,9	140,6	150,3	0,0890	0,0915	0,1099	1435	60,36	39,64
TEAL/ACSS	605.0	306	23	30x3.61	19x2.16	376	307	25,2	1396	850	546	118,3	130,3	145,0	154,3	0,0891	0,0915	0,1099	1435	60,87	39,13
TURACOS/ACSS	636.0	322	7	20x4.53	7x2.01	344	322	24,2	1066	891	175	50,3	54,3	58,7	61,8	0,0863	0,0889	0,1070	1435	83,66	16,34
GOLDFINCH/ACSS	636.0	322	10	22x4.32	7x2.40	354	322	24,5	1139	891	248	62,7	68,1	74,7	79,2	0,0860	0,0886	0,1063	1445	78,30	21,70
ROOK/ACSS	636.0	322	13	24x4.14	7x2.76	364	322	24,8	1217	891	326	77,0	84,5	93,0	98,7	0,0856	0,0883	0,1060	1455	73,23	26,77
GROSBEAK/ACSS	636.0	322	16	26x3.97	7x3.09	375	322	25,1	1301	891	410	92,1	99,6	110,3	117,4	0,0853	0,0879	0,1053	1465	68,54	31,46
SCOTER/ACSS	636.0	322	23	30x3.70	7x3.70	397	322	25,9	1481	893	588	121,9	132,1	147,7	157,9	0,0847	0,0869	0,1047	1485	60,30	39,70
EGRET/ACSS	636.0	322	23	30x3.70	19x2.22	396	322	25,9	1469	893	576	124,5	137,4	152,6	162,8	0,0848	0,0873	0,1047	1485	60,79	39,21
FLAMINGO/ACSS	666.6	338	13	24x4.23	7x2.82	382	338	25,4	1277	935	342	81,0	88,5	97,4	103,6	0,0816	0,0843	0,1011	1500	73,19	26,81
GANNET/ACSS	666.6	338	16	26x4.07	7x3.16	393	338	25,8	1365	935	430	96,5	104,1	115,6	123,2	0,0814	0,0837	0,1007	1510	68,48	31,52
STILT/ACSS	715.5	362	13	24x4.39	7x2.92	410	363	26,3	1371	1003	368	86,7	94,7	104,5	111,2	0,0761	0,0787	0,0942	1570	73,18	26,82
STARLING/ACSS	715.5	362	16	26x4.21	7x3.28	422	363	26,7	1464	1003	461	103,6	112,1	124,1	132,1	0,0758	0,0781	0,0938	1585	68,50	31,50

(1) Code words as shown denote ACSS with Class A galvanized core. See the OPTIONS to find the appropriate code word modifier designation for alternative design options.
(2) Rated strength shown are applicable to ACSS conductors with steel core of GA or MA; HS or MS; EHS or EMS; UHS or UMS.
(3) Based on conductivity of 63.0% IACS @20°C for aluminum and 8% IACS @20°C for steel core.
(4) Based on conductor temp. rise of 175°C over 25°C ambient, 0.61 m/s crosswind, 0.5 coefficient of emissivity, no sun, @ 50 Hz.
(5) Weights shown are for conductor only. All weights and lengths are nominal. Normal shipping tolerances apply.

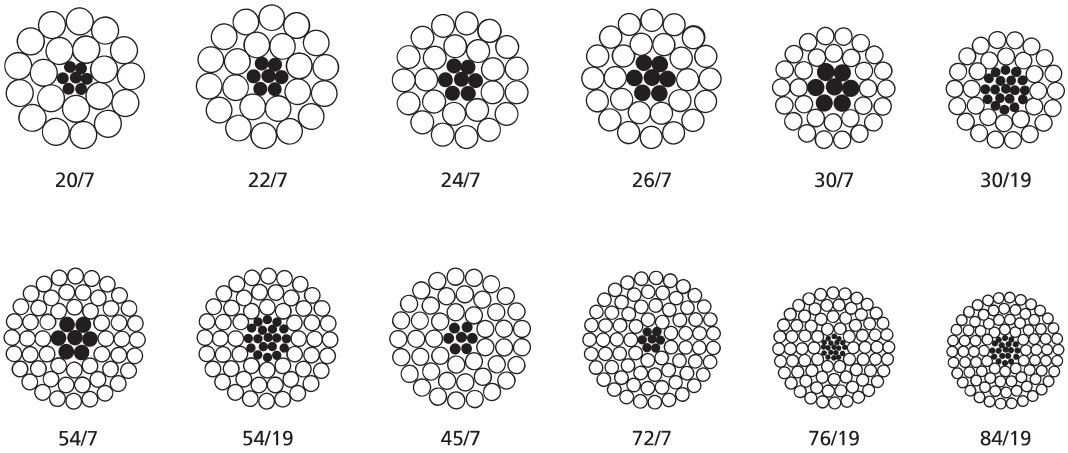
ACSS, ALUMINUM CONDUCTOR STEEL SUPPORTED - CONCENTRIC-LAY-STRANDED

Code Word (1)	Size		Type	Stranding		Cross Section		Nominal	Nominal Weight			RTS				Electrical Resistance (3)			Ampacity	% by Weight	
	AWG o Kcmil	mm²		No. x Dia. mm		mm²		O.D.	Kg/km			MA	MS	EMS	UMS	Ohms/Km			A (4)		
				Alum.	Steel	Total	Alum.	mm.	Total	Alum.	Steel	kN (2)	kN (2)	kN (2)	kN (2)	DC@20C	DC@25C	DC@75C		Alum.	Steel
REDWING/ACSS	715.5	362	23	30x3.92	19x2.35	445	362	27,5	1650	1005	645	137,0	151,2	168,6	179,7	0,0754	0,0778	0,0932	1605	60,87	39,13
MACAW/ACSS	795.0	403	5	42x3.50	7x1.94	424	403	26,8	1277	1115	162	52,5	56,0	60,5	63,2	0,0692	0,0719	0,0860	1650	87,30	12,70
TURBIT/ACSS	795.0	403	7	20x5.06	7x2.25	431	403	27,0	1332	1115	217	63,2	67,6	73,4	77,4	0,0690	0,0715	0,0860	1665	83,69	16,31
TERN/ACSS	795.0	403	7	45x3.38	7x2.25	431	403	27,0	1332	1115	217	63,2	67,6	73,4	77,4	0,0690	0,0715	0,0863	1655	83,69	16,31
PUFFIN/ACSS	795.0	403	10	22x4.83	7x2.68	442	403	27,4	1424	1115	309	78,7	85,4	93,4	99,2	0,0688	0,0712	0,0853	1675	78,27	21,73
CUCKOO/ACSS	795.0	403	13	24x4.62	7x3.08	455	403	27,7	1522	1115	407	96,5	103,6	114,3	121,4	0,0685	0,0709	0,0850	1685	73,22	26,78
CONDOR/ACSS	795.0	403	13	54x3.08	7x3.08	455	403	27,7	1521	1114	407	96,5	103,6	114,3	121,4	0,0685	0,0709	0,0876	1650	73,19	26,81
DRAKE/ACSS	795.0	403	16	26x4.44	7x3.45	469	403	28,1	1627	1115	512	115,2	124,5	137,9	147,2	0,0682	0,0705	0,0846	1695	68,53	31,47
MALLARD/ACSS	795.0	403	23	30x4.14	19x2.48	495	403	29,0	1837	1118	719	152,6	168,6	187,3	200,2	0,0678	0,0699	0,0840	1720	60,86	39,14
RUDDY/ACSS	900.0	456	7	45x3.59	7x2.40	487	456	28,7	1508	1261	247	70,3	75,6	82,3	86,7	0,0610	0,0637	0,0764	1795	83,61	16,39
CANARY/ACSS	900.0	456	13	54x3.28	7x3.28	515	456	29,5	1723	1262	461	109,4	117,4	129,4	137,9	0,0605	0,0630	0,0774	1795	73,23	26,77
PHOENIX/ACSS	954.0	483	5	42x3.83	7x2.13	508	483	29,3	1530	1336	194	63,2	67,6	72,5	76,1	0,0577	0,0604	0,0719	1870	87,35	12,65
CORNCRAKE/ACSS	954.0	483	7	20x5.55	7x2.47	517	483	29,6	1600	1338	262	74,3	80,1	87,2	91,6	0,0575	0,0600	0,0719	1875	83,63	16,37
RAIL/ACSS	954.0	483	7	45x3.70	7x2.47	517	483	29,6	1600	1338	262	74,3	80,1	87,2	91,6	0,0575	0,0600	0,0725	1865	83,63	16,37
TOWHEE/ACSS	954.0	483	9	48x3.58	7x2.79	526	484	29,8	1671	1338	333	87,6	94,7	103,6	109,4	0,0574	0,0600	0,0728	1860	80,05	19,95
REDBIRD/ACSS	954.0	483	13	24x5.06	7x3.38	546	484	30,4	1828	1338	490	115,6	124,5	137,4	145,9	0,0571	0,0594	0,0712	1900	73,21	26,79
CARDINAL/ACSS	954.0	483	13	54x3.38	7x3.38	546	483	30,4	1826	1336	490	115,6	124,5	137,4	145,9	0,0571	0,0594	0,0732	1865	73,19	26,81
CANVASBACK/ACSS	954.0	483	23	30x4.53	19x2.72	593	483	31,7	2204	1341	863	182,8	201,9	224,6	240,2	0,0565	0,0587	0,0702	1940	60,84	39,16
SNOWBIRD/ACSS	1033.5	524	5	42x3.99	7x2.21	551	524	30,6	1661	1450	211	68,5	72,9	78,7	82,3	0,0532	0,0561	0,0666	1970	87,28	12,72
ORTOLAN/ACSS	1033.5	524	7	45x3.85	7x2.57	560	523	30,8	1731	1448	283	80,5	86,7	94,3	99,2	0,0531	0,0558	0,0669	1965	83,66	16,34
WHOOPER/ACSS	1033.5	524	9	48x3.73	7x2.90	570	523	31,1	1808	1448	360	94,7	102,7	112,1	118,8	0,0530	0,0554	0,0673	1965	80,08	19,92
CURLEW/ACSS	1033.5	524	13	54x3.51	7x3.51	591	523	31,6	1978	1448	530	125,4	134,8	148,6	157,9	0,0527	0,0551	0,0676	1965	73,21	26,79
AVOCET/ACSS	1113.0	564	5	42x4.14	7x2.30	593	564	31,7	1786	1560	226	72,5	77,8	83,6	87,6	0,0494	0,0522	0,0620	2065	87,33	12,67
BLUEJAY/ACSS	1113.0	564	7	45x4.00	7x2.66	603	564	32,0	1866	1561	305	86,7	93,9	101,9	107,2	0,0493	0,0522	0,0623	2065	83,65	16,35
BULLFINCH/ACSS	1113.0	564	9	48x3.87	7x3.01	614	564	32,2	1950	1561	389	102,3	110,8	121,0	128,1	0,0492	0,0518	0,0627	2060	80,08	19,92
FINCH/ACSS	1113.0	564	13	54x3.65	19x2.19	636	564	32,8	2129	1569	560	135,2	147,7	162,4	172,1	0,0491	0,0515	0,0633	2060	73,71	26,29
OXBIRD/ACSS	1192.5	604	5	42x4.28	7x2.38	635	604	32,8	1914	1671	243	77,8	83,2	89,8	93,9	0,0461	0,0489	0,0581	2165	87,33	12,67
BUNTING/ACSS	1192.5	604	7	45x4.14	7x2.76	646	604	33,1	1997	1671	326	93,0	100,1	109,0	114,8	0,0460	0,0489	0,0584	2160	83,68	16,32
CORMORANT/ACSS	1192.5	604	9	48x4.00	7x3.11	657	604	33,4	2088	1671	417	109,4	116,5	127,7	135,2	0,0459	0,0486	0,0587	2155	80,04	19,96
GRACKLE/ACSS	1192.5	604	13	54x3.77	19x2.27	681	604	34,0	2280	1680	600	145,0	157,9	173,9	184,6	0,0459	0,0482	0,0591	2155	73,69	26,31
SCISSORTAIL/ACSS	1272.0	644	5	42x4.42	7x2.46	677	644	33,9	2042	1783	259	83,2	89,0	95,6	100,1	0,0432	0,0463	0,0548	2255	87,32	12,68
BITTERN/ACSS	1272.0	644	7	45x4.27	7x2.85	689	644	34,2	2131	1783	348	99,2	106,8	116,1	122,3	0,0432	0,0459	0,0548	2255	83,66	16,34
DIVER/ACSS	1272.0	644	9	48x4.14	7x3.22	701	645	34,5	2226	1783	443	116,5	124,5	136,1	144,1	0,0430	0,0456	0,0551	2250	80,08	19,92
PHEASANT/ACSS	1272.0	644	13	54x3.90	19x2.34	726	645	35,1	2430	1792	638	151,7	165,9	182,8	193,9	0,0430	0,0456	0,0554	2250	73,73	26,27
RINGDOVE/ACSS	1351.5	685	5	42x4.56	7x2.53	720	685	35,0	2174	1899	275	88,5	94,3	101,9	106,8	0,0408	0,0436	0,0518	2345	87,34	12,66
DIPPER/ACSS	1351.5	685	7	45x4.40	7x2.93	732	685	35,2	2268	1899	369	105,4	113,4	123,2	129,9	0,0407	0,0433	0,0518	2345	83,73	16,27
-none-	1351.5	685	9	48x4.26	7x3.31	745	685	35,5	2371	1899	472	124,1	132,1	144,6	153,0	0,0406	0,0433	0,0522	2340	80,10	19,90
MARTIN/ACSS	1351.5	685	13	54x4.02	19x2.41	772	685	36,2	2582	1903	679	161,0	176,1	193,9	205,9	0,0405	0,0430	0,0525	2340	73,72	26,28
POPINJAY/ACSS	1431.0	725	5	42x4.69	7x2.61	763	725	35,9	2302	2011	291	93,4	100,1	107,6	113,0	0,0385	0,0413	0,0489	2435	87,33	12,67
BOBOLINK/ACSS	1431.0	725	7	45x4.53	7x3.02	775	725	36,2	2402	2011	391	111,6	120,1	130,8	137,4	0,0384	0,0413	0,0492	2435	83,71	16,29
WAGTAIL/ACSS	1431.0	725	9	48x4.39	7x3.41	789	725	36,6	2512	2012	500	131,2	140,1	153,5	161,9	0,0383	0,0410	0,0492	2430	80,09	19,91
PLOVER/ACSS	1431.0	725	13	54x4.14	19x2.48	817	725	37,2	2735	2017	718	170,8	186,4	205,5	218,4	0,0382	0,0407	0,0495	2430	73,72	26,28
NUTHATCH/ACSS	1510.5	765	7	45x4.65	7x3.10	818	765	37,2	2530	2118	412	117,9	125,0	136,1	143,2	0,0363	0,0394	0,0469	2520	83,71	16,29
PARROT/ACSS	1510.5	765	13	54x4.25	19x2.55	862	765	38,2	2884	2127	757	179,7	196,6	216,6	230,0	0,0363	0,0387	0,0472	2520	73,74	26,26
RATITE/ACSS	1590.0	805	5	42x4.94	7x2.75	847	806	37,9	2552	2229	323	104,1	111,2	119,7	125,4	0,0346	0,0377	0,0446	2605	87,35	12,65
LAPWING/ACSS	1590.0	805	7	45x4.78	7x3.18	862	806	38,2	2664	2229	435	124,1	131,7	143,2	150,8	0,0345	0,0377	0,0446	2605	83,69	16,31
HORNBILL/ACSS	1590.0	805	9	48x4.62	7x3.60	877	806	38,5	2785	2229	556	143,2	153,0	167,7	177,9	0,0344	0,0374	0,0446	2605	80,06	19,94
FALCON/ACSS	1590.0	805	13	54x4.36	19x2.62	908	806	39,2	3039	2240	799	189,5	207,3	228,6	242,4	0,0344	0,0371	0,0449	2605	73,70	26,30
CHUKAR/ACSS	1780.0	902	8	84x3.70	19x2.22	976	902	40,7	3084	2508	576	157,5	169,9	185,0	195,3	0,0309	0,0341	0,0400	2820	81,32	18,68
SEAHAWK/ACSS	1869.0	947	3	68x4.21	7x2.34	977	947	40,7	2868	2633	235	95,6	101,0	107,2	111,2	0,0296	0,0335	0,0390	2870	91,80	8,20
MOCKINGBIRD/ ACSS	2034.5	1031	4	72x4.27	7x2.85	1075	1031	42,7	3215	2866	349	121,0	128,5	137,9	144,1	0,0272	0,0309	0,0361	3035	89,17	10,83
ROADRUNNER/ ACSS	2057.0	1042	5	76x4.18	19x1.95	1099	1042	43,2	3343	2898	445	141,0	150,8	162,4	170,4	0,0269	0,0305	0,0358	3070	86,69	13,31
BLUEBIRD/ACSS	2156.0	1092	8	84x4.07	19x2.44	1181	1092	44,8	3731	3036	695	187,3	202,4	220,6	233,1	0,0255	0,0289	0,0338	3185	81,37	18,63
KIWI/ACSS	2167.0	1098	4	72x4.41	7x2.94	1146	1098	44,1	3423	3052	371	129,0	137,0	146,8	153,5	0,0255	0,0295	0,0341	3160	89,17	10,83
THRASHER/ACSS	2312.0	1171	5	76x4.43	19x2.07	1235	1171	45,8	3755	3256	499	158,3	169,5	182,4	191,3	0,0239	0,0279	0,0322	3305	86,72	13,28
JOREE/ACSS	2515.0	1274	59	76x4.62	19x2.16	1344	1274	47,8	4085	3542	543	172,1	184,1	198,4	208,2	0,0220	0,0259	0,0302	3480	86,70	13,30

(1) Code words as shown denote ACSS with Class A galvanized core. See the OPTIONS to find the appropriate code word modifier designation for alternative design options.
(2) Rated strength shown are applicable to ACSS conductors with steel core of GA or MA; HS or MS; EHS or EMS; UHS or UMS.
(3) Based on conductivity of 63.0% IACS @20°C for aluminum and 8% IACS @20°C for steel core.
(4) Based on conductor temp. rise of 175°C over 25°C ambient, 0.61 m/s crosswind, 0.5 coefficient of emissivity, no sun, @ 50 Hz.
(5) Weights shown are for conductor only. All weights and lengths are nominal. Normal shipping tolerances apply.

ACSS/AW

ACSS/AW BARE OVERHEAD ALUMINUM CONDUCTOR ALUMINUM-CLAD STEEL-SUPPORTED, CONCENTRIC-LAY-STRANDED



GENERALITIES

ACSS/AW is a composite concentric-lay-stranded cable. Aluminum-clad steel strands form the central core of the cable around which is stranded one or more layers of aluminum 1350-O wires. ACSS/AW conductors are manufactured in accordance with the latest applicable issue of ASTM B856.

The "O" temper of the aluminum, a fully annealed or soft temper, causes most or all of the mechanical load of ACSS/AW to be carried by the steel. The Aluminum-Clad steel core may consist of 7, 19, 37 or more wires. Numerous combinations of aluminum and steel strand and layers are possible.

The sizes and strandings listed on the following pages are those most frequently used for overhead lines.

APPLICATIONS

Aluminum Conductor, Steel-Supported with aluminum-clad steel wire (ACSS/AW) are used for overhead distribution and transmission lines where a high degree of corrosion resistance is required.

FEATURES AND BENEFITS

The AW core, which consists of a thick layer of aluminum (approx. 10% of the nominal wire \ radius) over steel, gives ACSS/AW conductors the advantages of standard ACSS along with light weight and good conductivity of aluminum with the high tensile strength and ruggedness of steel. The cross-sections above illustrate some common stranding.

OPTIONS

- High-Strength aluminum-clad steel core (/HSAW).
- Extra-High-Strength aluminum-clad steel core (/EHSAW).
- Ultra-High-Strength aluminum-clad steel core (/UHSAW).

Contact Alumtek Corporation for conductor sizes & designs.

ACSS/AW BARE OVERHEAD ALUMINUM CONDUCTOR ALUMINUM-CLAD STEEL-SUPPORTED, CONCENTRIC-LAY-STRANDED

Code Word (1)	Size		Stranding				Cross Section	O.D.	Nominal Weight				RTS		Electrical Resistance			Ampacity	% BY WEIGHT	
	AWG o Kcmil	mm²	Aluminium		Steel		mm²		Kg/km				Conductor (2)	Core	Ohms/Km (3)			A (4)		
			N°	diameter (mm)	N°	diameter (mm)	Total	Alum.	mm.	Total	Alum.	AW	kN	kN	DC@20C	DC@25C	DC@75C		Alum.	Steel
PARTRIDGE/ACSS/AW	266,8	135,2	26	2,57	7	2,00	157	135	16,3	519	374	145	37	30	0,1969	0,2015	0,2425	840	71,92	28,08
JUNCO/ACSS/AW	266,8	135,2	30	2,40	7	2,40	167	135	16,8	583	375	208	50	42	0,1931	0,1978	0,2379	855	64,29	35,71
OSTRICH/ACSS/AW	300,0	152,0	26	2,73	7	2,12	177	152	17,3	583	420	163	42	33	0,1752	0,1795	0,2159	905	71,94	28,06
WIDGEON/ACSS/AW	336,4	170,4	24	3,01	7	2,00	193	170	18,0	618	472	146	39	30	0,1578	0,1618	0,1946	970	76,39	23,61
LINNET/ACSS/AW	336,4	170,4	26	2,89	7	2,25	198	170	18,3	655	472	183	47	37	0,1563	0,1601	0,1926	975	72,05	27,95
ORIOLE/ACSS/AW	336,4	170,4	30	2,69	7	2,69	210	170	18,8	737	473	264	63	53	0,1531	0,1568	0,1887	995	64,24	35,76
STORK/ACSS/AW	397,5	201,4	22	3,41	7	1,90	221	201	19,4	688	557	131	38	27	0,1349	0,1385	0,1663	1070	80,95	19,05
BRANT/ACSS/AW	397,5	201,4	24	3,27	7	2,18	228	201	19,6	729	557	172	46	35	0,1336	0,1368	0,1647	1080	76,33	23,67
IBIS/ACSS/AW	397,5	201,4	26	3,14	7	2,44	234	201	19,9	774	557	217	55	44	0,1323	0,1355	0,1631	1090	71,92	28,08
LARK/ACSS/AW	397,5	201,4	30	2,92	7	2,92	248	201	20,5	869	558	311	74	63	0,1296	0,1329	0,1598	1110	64,21	35,79
TOUCAN/ACSS/AW	477,0	241,6	22	3,74	7	2,08	265	242	21,2	826	668	158	45	32	0,1125	0,1155	0,1388	1205	80,90	19,10
FLICKER/ACSS/AW	477,0	241,6	24	3,58	7	2,39	273	242	21,5	875	668	207	56	42	0,1113	0,1142	0,1375	1220	76,36	23,64
HAWK/ACSS/AW	477,0	241,6	26	3,44	7	2,67	281	242	21,8	929	668	261	66	53	0,1102	0,1132	0,1358	1230	71,96	28,04
HEN/ACSS/AW	477,0	241,6	30	3,20	7	3,20	298	242	22,4	1043	670	373	89	76	0,1080	0,1109	0,1332	1255	64,19	35,81
HERON/ACSS/AW	500,0	253,3	30	3,28	7	3,28	312	253	23,0	1094	702	392	92	77	0,1031	0,1060	0,1273	1295	64,22	35,78
TODY/ACSS/AW	556,5	281,9	20	4,24	7	1,88	301	282	22,6	909	780	129	42	26	0,0973	0,1001	0,1204	1325	85,76	14,24
SAPSUCKER/ACSS/AW	556,5	281,9	22	4,04	7	2,24	309	282	22,9	963	780	183	53	37	0,0964	0,0991	0,1191	1335	80,99	19,01
PARAKEET/ACSS/AW	556,5	281,9	24	3,87	7	2,58	319	282	23,2	1021	780	241	65	49	0,0954	0,0981	0,1178	1350	76,38	23,62
DOVE/ACSS/AW	556,5	281,9	26	3,72	7	2,89	328	282	23,5	1083	780	303	78	62	0,0944	0,0971	0,1168	1360	71,98	28,02
EAGLE/ACSS/AW	556,5	281,9	30	3,46	7	3,46	348	282	24,2	1217	781	436	102	86	0,0926	0,0951	0,1145	1385	64,18	35,82
PEACOCK/ACSS/AW	605,0	306,5	24	4,03	7	2,69	346	307	24,2	1112	848	264	71	53	0,0877	0,0906	0,1086	1425	76,31	23,69
SQUAB/ACSS/AW	605,0	306,5	26	3,87	7	3,01	356	306	24,5	1179	848	331	85	67	0,0869	0,0896	0,1073	1440	71,97	28,03
WOOD DUCK/ACSS/AW	605,0	306,5	30	3,61	7	3,61	378	307	25,2	1323	850	473	109	91	0,0852	0,0876	0,1053	1465	64,23	35,77
TEAL/ACSS/AW	605,0	306,5	30	3,61	19	2,16	376	307	25,2	1313	850	463	111	94	0,0853	0,0879	0,1053	1465	64,74	35,26
TURACOS/ACSS/AW	636,0	322,2	20	4,53	7	2,01	344	322	24,2	1039	891	148	48	30	0,0851	0,0879	0,1053	1445	85,82	14,18
GOLDFINCH/ACSS/AW	636,0	322,2	22	4,32	7	2,40	354	322	24,5	1101	891	210	60	42	0,0843	0,0869	0,1043	1460	80,95	19,05
ROOK/ACSS/AW	636,0	322,2	24	4,14	7	2,76	364	322	24,8	1168	891	277	74	56	0,0835	0,0860	0,1034	1475	76,31	23,69
GROSBEAK/ACSS/AW	636,0	322,2	26	3,97	7	3,09	375	322	25,1	1238	891	347	89	71	0,0826	0,0853	0,1024	1485	72,00	28,00
SCOTER/ACSS/AW	636,0	322,2	30	3,70	7	3,70	397	322	25,9	1390	893	497	112	93	0,0810	0,0833	0,1001	1515	64,24	35,76
EGRET/ACSS/AW	636,0	322,2	30	3,70	19	2,22	396	322	25,9	1381	893	488	117	99	0,0812	0,0837	0,1004	1515	64,66	35,34
FLAMINGO/ACSS/AW	666,6	337,7	24	4,23	7	2,82	382	338	25,4	1225	935	290	78	59	0,0796	0,0824	0,0988	1520	76,31	23,69
GANNET/ACSS/AW	666,6	337,7	26	4,07	7	3,16	393	338	25,8	1298	935	363	93	74	0,0788	0,0814	0,0974	1535	72,02	27,98
STILT/ACSS/AW	715,5	362,5	24	4,39	7	2,92	410	363	26,3	1314	1003	311	84	63	0,0742	0,0768	0,0919	1590	76,33	23,67
STARLING/ACSS/AW	715,5	362,5	26	4,21	7	3,28	422	363	26,7	1393	1003	390	98	77	0,0734	0,0758	0,0909	1610	72,01	27,99
REDWING/ACSS/AW	715,5	362,5	30	3,92	19	2,35	445	362	27,5	1552	1005	547	131	111	0,0722	0,0745	0,0892	1635	64,72	35,28
MACAW/ACSS/AW	795,0	402,7	42	3,50	7	1,94	424	403	26,8	1252	1115	137	51	28	0,0685	0,0712	0,0850	1665	89,06	10,94
TURBIT/ACSS/AW	795,0	402,7	20	5,06	7	2,25	431	403	27,0	1299	1115	184	60	37	0,0681	0,0709	0,0846	1675	85,80	14,20
TERN/ACSS/AW	795,0	402,7	45	3,38	7	2,25	431	403	27,0	1299	1115	184	60	37	0,0681	0,0709	0,0853	1665	85,80	14,20
PUFFIN/ACSS/AW	795,0	402,7	22	4,83	7	2,68	442	403	27,4	1377	1115	262	76	53	0,0675	0,0699	0,0840	1690	80,97	19,03
CUCKOO/ACSS/AW	795,0	402,7	24	4,62	7	3,08	455	403	27,7	1460	1115	345	93	70	0,0668	0,0692	0,0830	1705	76,35	23,65
CONDOR/ACSS/AW	795,0	402,7	54	3,08	7	3,08	455	403	27,7	1458	1113	345	93	70	0,0668	0,0692	0,0853	1670	76,33	23,67
DRAKE/ACSS/AW	795,0	402,7	26	4,44	7	3,45	469	403	28,1	1549	1115	434	109	86	0,0661	0,0686	0,0820	1725	71,95	28,05
MALLARD/ACSS/AW	795,0	402,7	30	4,14	19	2,48	495	403	29,0	1726	1118	608	146	124	0,0649	0,0673	0,0804	1755	64,74	35,26
RUDDY/ACSS/AW	900,0	455,9	45	3,59	7	2,40	487	456	28,7	1469	1261	208	68	42	0,0602	0,0627	0,0755	1805	85,82	14,18

(1) Code words as shown denote ACSS with Class A galvanized core. See the OPTIONS to find the appropriate code word modifier designation for alternative design options.
(2) Rated strength shown are applicable to ACSS conductors with steel core of GA or MA; HS or MS; EHS or EMS; UHS or UMS.
(3) Based on conductivity of 63.0% IACS @20°C for aluminum and 8% IACS @20°C for steel core.
(4) Based on conductor temp. rise of 175°C over 25°C ambient, 0.61 m/s crosswind, 0.5 coefficient of emissivity, no sun, @ 50 Hz.

ACSS/AW BARE OVERHEAD ALUMINUM CONDUCTOR ALUMINUM-CLAD STEEL-SUPPORTED, CONCENTRIC-LAY-STRANDED

Code Word (1)	Size		Stranding				Cross Section		O.D.	Nominal Weight			RTS		Electrical Resistance			Ampacity	% BY WEIGHT	
	AWG o Kcmil	mm²	Aluminium		Steel		mm²			Kg/km			Conductor (2)	Core	Ohms/Km (3)			A (4)		
			N°	diameter (mm)	N°	diameter (mm)	Total	Alum.	mm.	Total	Alum.	AW	kN	kN	DC@20C	DC@25C	DC@75C		Alum.	Steel
CANARY/ACSS/AW	900,0	455,9	54	3,28	7	3,28	515	456	29,5	1653	1262	391	103	77	0,0590	0,0614	0,0755	1815	76,33	23,67
PHOENIX/ACSS/AW	954,0	483,3	42	3,83	7	2,13	508	483	29,3	1500	1336	164	60	33	0,0571	0,0597	0,0712	1875	89,09	10,91
CORNCRAKE/ACSS/AW	954,0	483,3	20	5,55	7	2,47	517	483	29,6	1560	1338	222	72	45	0,0567	0,0594	0,0709	1890	85,78	14,22
RAIL/ACSS/AW	954,0	483,3	45	3,70	7	2,47	517	483	29,6	1560	1338	222	72	45	0,0567	0,0594	0,0715	1880	85,78	14,22
TOWHEE/ACSS/AW	954,0	483,3	48	3,58	7	2,79	526	484	29,8	1621	1338	283	85	57	0,0564	0,0591	0,0715	1880	82,55	17,45
REDBIRD/ACSS/AW	954,0	483,3	24	5,06	7	3,38	546	484	30,4	1753	1338	415	109	82	0,0556	0,0581	0,0696	1925	76,32	23,68
CARDINAL/ACSS/AW	954,0	483,3	54	3,38	7	3,38	546	483	30,4	1752	1337	415	109	82	0,0557	0,0581	0,0715	1885	76,30	23,70
CANVASBACK/ACSS/AW	954,0	483,3	30	4,53	19	2,72	593	483	31,7	2072	1341	731	175	148	0,0541	0,0561	0,0673	1980	64,73	35,27
SNOWBIRD/ACSS/AW	1033,5	523,6	42	3,99	7	2,21	551	524	30,6	1628	1450	178	66	36	0,0527	0,0554	0,0659	1980	89,03	10,97
ORTOLAN/ACSS/AW	1033,5	523,6	45	3,85	7	2,57	560	523	30,8	1688	1448	240	78	49	0,0524	0,0551	0,0663	1980	85,80	14,20
WHOOPER/ACSS/AW	1033,5	523,6	48	3,73	7	2,90	570	523	31,1	1753	1448	305	92	62	0,0521	0,0548	0,0663	1980	82,60	17,40
CURLEW/ACSS/AW	1033,5	523,6	54	3,51	7	3,51	591	523	31,6	1898	1448	450	116	87	0,0514	0,0538	0,0659	1990	76,31	23,69
AVOCET/ACSS/AW	1113,0	563,8	42	4,14	7	2,30	593	564	31,7	1752	1560	192	71	39	0,0489	0,0518	0,0617	2075	89,04	10,96
BLUEJAY/ACSS/AW	1113,0	563,8	45	4,00	7	2,66	603	564	32,0	1820	1561	259	84	52	0,0486	0,0515	0,0617	2080	85,77	14,23
BULLFINCH/ACSS/AW	1113,0	563,8	48	3,87	7	3,01	614	564	32,2	1890	1561	329	99	67	0,0483	0,0509	0,0617	2080	82,60	17,40
FINCH/ACSS/AW	1113,0	563,8	54	3,65	19	2,19	636	564	32,8	2043	1569	474	128	96	0,0480	0,0505	0,0617	2085	76,77	23,23
OXBIRD/ACSS/AW	1192,5	604,1	42	4,28	7	2,38	635	604	32,8	1877	1671	206	76	42	0,0457	0,0486	0,0577	2175	89,06	10,94
BUNTING/ACSS/AW	1192,5	604,1	45	4,14	7	2,76	646	604	33,1	1948	1671	277	90	56	0,0454	0,0482	0,0577	2175	85,79	14,21
CORMORANT/ACSS/AW	1192,5	604,1	48	4,00	7	3,11	657	604	33,4	2024	1671	353	106	72	0,0451	0,0479	0,0577	2175	82,57	17,43
GRACKLE/ACSS/AW	1192,5	604,1	54	3,77	19	2,27	681	604	34,0	2188	1680	508	137	103	0,0448	0,0472	0,0577	2180	76,80	23,20
SCISSORTAIL/ACSS/AW	1272,0	644,4	42	4,42	7	2,46	677	644	33,9	2002	1783	219	81	45	0,0428	0,0456	0,0541	2265	89,07	10,93
BITTERN/ACSS/AW	1272,0	644,4	45	4,27	7	2,85	689	644	34,2	2078	1783	295	96	60	0,0426	0,0453	0,0541	2270	85,82	14,18
DIVER/ACSS/AW	1272,0	644,4	48	4,14	7	3,22	701	645	34,5	2159	1783	376	113	76	0,0423	0,0449	0,0541	2270	82,56	17,44
PHEASANT/ACSS/AW	1272,0	644,4	54	3,90	19	2,34	726	645	35,1	2334	1792	542	146	110	0,0420	0,0446	0,0545	2275	76,79	23,21
RINGDOVE/ACSS/AW	1351,5	684,7	42	4,56	7	2,53	720	685	35,0	2128	1895	233	86	47	0,0403	0,0433	0,0512	2360	89,02	10,98
DIPPER/ACSS/AW	1351,5	684,7	45	4,40	7	2,93	732	685	35,2	2207	1895	312	102	64	0,0401	0,0430	0,0512	2360	85,84	14,16
-none-	1351,5	684,7	48	4,26	7	3,31	745	685	35,5	2295	1895	400	118	79	0,0398	0,0427	0,0512	2360	82,56	17,44
MARTIN/ACSS/AW	1351,5	684,7	54	4,02	19	2,41	772	685	36,2	2478	1903	575	155	117	0,0395	0,0420	0,0512	2370	76,82	23,18
POPINJAY/ACSS/AW	1431,0	724,9	42	4,69	7	2,61	763	725	35,9	2253	2006	247	91	50	0,0380	0,0410	0,0486	2445	89,04	10,96
BOBOLINK/ACSS/AW	1431,0	724,9	45	4,53	7	3,02	775	725	36,2	2337	2005	332	108	67	0,0378	0,0407	0,0486	2450	85,80	14,20
WAGTAIL/ACSS/AW	1431,0	724,9	48	4,39	7	3,41	789	725	36,6	2429	2006	423	125	84	0,0376	0,0404	0,0486	2450	82,60	17,40
PLOVER/ACSS/AW	1431,0	724,9	54	4,14	19	2,48	817	725	37,2	2625	2017	608	164	124	0,0373	0,0400	0,0486	2460	76,81	23,19
NUTHATCH/ACSS/AW	1510,5	765,2	45	4,65	7	3,10	818	765	37,2	2468	2118	350	114	71	0,0358	0,0387	0,0463	2535	85,83	14,17
PARROT/ACSS/AW	1510,5	765,2	54	4,25	19	2,55	862	765	38,2	2768	2127	641	173	130	0,0354	0,0381	0,0463	2550	76,83	23,17
RATITE/ACSS/AW	1590,0	805,5	42	4,94	7	2,75	847	806	37,9	2503	2229	274	101	56	0,0342	0,0374	0,0440	2620	89,06	10,94
LAPWING/ACSS/AW	1590,0	805,5	45	4,78	7	3,18	862	806	38,2	2598	2229	369	120	75	0,0340	0,0371	0,0440	2625	85,80	14,20
HORNBILL/ACSS/AW	1590,0	805,5	48	4,62	7	3,60	877	806	38,5	2700	2229	471	136	91	0,0338	0,0367	0,0440	2625	82,58	17,42
FALCON/ACSS/AW	1590,0	805,5	54	4,36	19	2,62	908	806	39,2	2917	2240	677	183	137	0,0336	0,0364	0,0440	2635	76,79	23,21
CHUKAR/ACSS/AW	1780,0	901,7	84	3,70	19	2,22	976	902	40,7	2996	2508	488	149	99	0,0304	0,0335	0,0394	2840	83,71	16,29
SEAHAWK/ACSS/AW	1869,0	946,8	68	4,21	7	2,34	977	947	40,7	2832	2633	199	94	40	0,0295	0,0331	0,0387	2875	92,96	7,04
MOCKINGBIRD/ACSS/AW	2034,5	1030,6	72	4,27	7	2,85	1075	1031	42,7	3161	2866	295	118	60	0,0270	0,0308	0,0358	3050	90,68	9,32
ROADRUNNER/ACSS/AW	2057,0	1042,0	76	4,18	19	1,95	1099	1042	43,2	3274	2898	376	135	76	0,0266	0,0302	0,0354	3085	88,50	11,50
BLUEBIRD/ACSS/AW	2156,0	1092,2	84	4,07	19	2,44	1181	1092	44,8	3625	3036	589	181	120	0,0251	0,0285	0,0335	3210	83,74	16,26
KIWI/ACSS/AW	2167,0	1097,8	72	4,41	7	2,94	1146	1098	44,1	3366	3052	314	125	64	0,0253	0,0292	0,0341	3170	90,67	9,33
THRASHER/ACSS/AW	2312,0	1171,2	76	4,43	19	2,07	1235	1171	45,8	3679	3256	423	152	86	0,0236	0,0276	0,0318	3320	88,51	11,49
JOREE/ACSS/AW	2515,0	1274,1	76	4,62	19	2,16	1344	1274	47,8	4002	3542	460	165	93	0,0217	0,0259	0,0299	3500	88,51	11,49

(1) Code words as shown denote ACSS with Class A galvanized core. See the OPTIONS to find the appropriate code word modifier designation for alternative design options
(2) Rated strength shown are applicable to ACSS conductors with steel core of GA or MA; HS or MS; EHS or EMS; UHS or UMS.
(3) Based on conductivity of 63.0% IACS @20°C for aluminum and 8% IACS @20°C for steel core.
(4) Based on conductor temp. rise of 175°C over 25°C ambient, 0.61 m/s crosswind, 0.5 coefficient of emissivity, no sun, @ 50 Hz.