POWER KABEL INC.

ACSS/AW - Aluminum Conductor Steel Supported/AW Core

APPLICATIONS & FEATURES

ACSS/AW is used for overhead distribution and transmission lines. It is designed to operate continuously at elevated temperatures up to 250˚C without loss of strength; it sags less under emergency electrical loadings than ACSR/AW; it is self-damping if pre- stretched during installation; and its final sags are not affected by long term creep of applications requiring increased current with existing tensions and clearances, new line applications where structures can be economized because of reduced conductor sag, new line applications requiring high emergency loadings, and lines where aeolian vibration is a problem. ACSS/AW offers strength characteristics similar to ACSS, along with slightly greater ampacity and resistance to corrosion due to the aluminum-cladding of the steel core wires.

INDUSTRY COMPLIANCES

ASTM B-609 Aluminum 1350 round wire, annealed intermediate tempers for electrical purposes
ASTM B-502 Aluminum-clad steel core wire for aluminum conductors, alumi-clad steel reinforced, either AW2 (normal strength) or AW3 (high strength)
ASTM B-856 Concentric-lay stranded aluminum conductors, coated steel supported (ACSS)

CONSTRUCTION

ACSS/AW is a composite concentric-lay-stranded conductor. Aluminum-clad steel strands, either AW2 (normal strength) or AW3 (high strength), form the central core of the conductor with one or more layers of aluminum 1350-0 wire stranded around it. The aluminum-clad steel core carries most or all of the mechanical load of the conductor due to the "0" (fully annealed or soft) temper aluminum. The steel core wires are protected from corrosion by an aluminum coating.

CODE WORD	AWG	STRANDING	DIAMETER				POUNDS PER 1000 FT			RATED STRENGHT (LBS)
			INDIVIDUAL WIRES		STEEL CORE	COMPLETE CORE	ALUM	STEEL	TOTAL	
			ALUM	STEEL						
Junco/ACSS/AW	266.8	30/7	.0943	.0943	.2829	.6600	252	140	392	11200
Ostrich/ACSS/AW	300.0	26/7	.1074	.0835	.2506	.6800	283	110	393	9360
Linnet/ACSS/AW	336.4	26/7	.1137	.0885	.2654	.7200	317	123	440	10500
Oriole/ACSS/AW	336.4	30/7	.1059	.1059	.3177	.7410	318	177	494	14200
Brant/ACSS/AW	397.5	24/7	.1287	.0858	.2574	.7720	374	116	490	10400
Ibis/ACSS/AW	397.5	26/7	.1236	.0962	.2885	.783	374	146	520	12400
Lark/ACSS/AW	397.5	30/7	.1151	.1151	.3453	.8060	375	209	584	16700
Flicker/ACSS/AW	477.0	24/7	.1410	.0940	.2819	.8460	449	139	589	12500
Hawk/ACSS/AW	477.0	26/7	.1354	.1053	.316	.8580	449	175	624	14900
Hen/ACSS/AW	477	30/7	0.1261	0.1261	0.3783	0.883	450	251	701	20100
Parakeet/ACSS/AW	556.5	24/7	0.1523	0.1015	0.3045	0.914	524	163	687	14600
Dove/ACSS/AW	556.5	26/7	0.1463	0.1138	0.3413	0.927	524	204	728	17500
Eagle/ACSS/AW	556.5	30/7	0.1362	0.1362	0.4086	0.953	525	293	818	22900
Peacock/ACSS/AW	605	24/7	0.1588	0.1058	0.3175	0.953	570	177	746	15900
Squab/ACSS/AW	605	26/7	0.1525	0.1186	0.3559	0.966	570	222	792	19000
Wood Duck/ACSS/AW	605	30/7	0.142	0.142	0.426	0.994	571	318	889	24400
Teal/ACSS/AW	605	30/19	0.142	0.0852	0.426	0.994	571	311	883	25000
Rook/ACSS/AW	636	24/7	0.1628	0.1085	0.3256	0.977	599	186	785	16700
Grosbeak/ACSS/AW	636	26/7	0.1564	0.1216	0.3649	0.991	599	233	832	19900
Scoter/ACSS/AW	636	30/7	0.1456	0.1456	0.4368	1.019	600	334	935	25100
Egret/ACSS/AW	636	30/19	0.1456	0.0874	0.4368	1.019	600	327	928	26300
Flamingo/ACSS/AW	666.6	24/7	0.1667	0.1111	0.3333	1.00	628	195	823	17500
Gannet/ACSS/AW	666.6	26/7	0.1601	0.1245	0.3736	1.014	628	245	872	20900
Stilt/ACSS/AW	715.5	24/7	0.1727	0.1151	0.3453	1.036	674	209	883	18800
Starling/ACSS/AW	715.5	26/7	0.1659	0.129	0.3871	1.051	674	263	936	22000
Redwing/ACSS/AW	715.5	30/19	0.1544	0.0927	0.4633	1.081	676	368	1044	29500
Cuckoo/ACSS/AW	795	24/7	0.182	0.1213	0.364	1.092	749	232	981	20900
Drake/ACSS/AW	795	26/7	0.1749	0.136	0.408	1.107	749	292	1040	24400
Macaw/ACSS/AW	795	42/7	0.1376	0.0764	0.2293	1.055	749	92	841	11400
Tern/ACSS/AW	795	45/7	0.1329	0.0886	0.2658	1.063	749	124	873	13500
Condor/ACSS/AW	795	54/7	0.1213	0.1213	0.364	1.092	749	232	981	15800
Mallard/ACSS/AW	795	30/19	0.1628	0.0977	0.4884	1.139	751	409	1160	32900
Ruddy/ACSS/AW	900	45/7	0.1414	0.0943	0.2828	1.131	848	140	988	15300
Canary/ACSS/AW	900	54/7	0.1291	0.1291	0.3873	1.162	848	263	1111	23200
Rail/ACSS/AW	954	45/7	0.1456	0.0971	0.2912	1.165	899	149	1047	16200
Towhee/ACSS/AW	954	48/7	0.141	0.1097	0.329	1.175	899	190	1088	19000
Cardinal/ACSS/AW	954	54/7	0.1329	0.1329	0.3987	1.196	899	279	1177	24600
Canvasback/ACSS/AW	954	30/19	0.1783	0.107	0.535	1.248	901	491	1392	39400
Snowbird/ACSS/AW	1033.5	42/7	0.1569	0.0871	0.2614	1.203	973	120	1093	14800
Curlew/ACSS/AW	1033.5	54/7	0.1383	0.1383	0.415	1.245	973	302	1275	26100
Bluejay/ACSS/AW	1113	45/7	0.1573	0.1048	0.3145	1.258	1048	173	1222	18900
Finch/ACSS/AW	1113	54/19	0.1436	0.0861	0.4307	1.292	1053	318	1372	28800
Bunting/ACSS/AW	1192.5	45/7	0.1628	0.1085	0.3256	1.302	1123	186	1309	20300
Grackle/ACSS/AW	1192.5	54/19	0.1486	0.0892	0.4458	1.337	1129	341	1470	30800
Bittern/ACSS/AW	1272	45/7	0.1681	0.1121	0.3362	1.345	1198	198	1396	21600
Pheasant/ACSS/AW	1272	54/19	0.1535	0.0921	0.4604	1.381	1204	364	1568	32800
Dipper/ACSS/AW	1351	45/7	0.1733	0.1155	0.3465	1.386	1272	210	1483	23000
Martin/ACSS/AW	1351	54/19	0.1582	0.0949	0.4745	1.424	1279	386	1665	34900
Bobolink/ACSS/AW	1431	45/7	0.1783	0.1189	0.3566	1.427	1348	223	1571	24300
Plover/ACSS/AW	1431	54/19	0.1628	0.0977	0.4884	1.465	1354	409	1764	36900
Nuthatch/ACSS/AW	1510	45/7	0.1832	0.1221	0.3664	1.465	1422	235	1657	25700
Parrot/ACSS/AW	1510	54/19	0.1672	0.1003	0.5017	1.505	1429	432	1861	38900
Lapwing/ACSS/AW	1590	45/7	0.188	0.1253	0.3759	1.504	1498	248	1745	27000
Falcon/ACSS/AW	1590	54/19	0.1716	0.103	0.5148	1.544	1505	455	1960	41100
Chukar/ACSS/AW	1780	84/19	0.1456	0.0873	0.4367	1.601	1685	327	2012	33600
Mockingbird/ACSS/AW	2034.5	72/7	0.1681	0.1121	0.3362	1.681	1926	198	2124	26500
Roadrunner/ACSS/AW	2057	76/19	0.1645	0.0768	0.3839	1.7	1947	253	2200	30300
Bluebird/ACSS/AW	2156	84/19	0.1602	0.0961	0.4806	1.762	2041	396	2437	40700
Kiwi/ACSS/AW	2167	72/7	0.1735	0.1157	0.347	1.735	2051	211	2262	28200
Thrasher/ACSS/AW	2312	76/19	0.1744	0.0814	0.407	1.802	2188	284	2472	34100
Joree/ACSS/AW	2515	76/19	0.1819	0.0849	0.4245	1.88	2380	309	2689	37100

+Data based on a nominal cable manufactured in accordance with ASTM B 856.

++Resistance and ampacity based on an aluminum conductivity of 63% IACS at 20°C, and an aluminum-clad steel conductivity of 20.3%

+++Ampacity based on a 200°C conductor temperature, 25°C ambient temperature, 2ft/sec wind, in sun, with emissivity of 0.5 and a coefficient of solar absorption of 0.5 at sea level.

++++Rate strengths based on aluminum-clad steel core wire in accordance with ASTM B 502.