

ACSR/AW Aluminum Conductor Steel Reinforced



A Viakable Company

Aluminum-Clad

Features

ACSR offers a variety of cable designs, due to the multiple combinations of aluminum and steel wires, which allows the selection of the right relation between mechanical strength and ampacity.

Application

For use as a bare overhead transmission cable and as a primary and secondary distribution cable.

Standards

ASTM B549

Specification for Concentric-Lay Stranded Aluminum Conductors, Aluminum-Clad Steel Reinforced (ACSR/AW).

ASTM B230

Specification for Aluminum-1350-H19 Wire for Electrical purposes.

ASTM B502

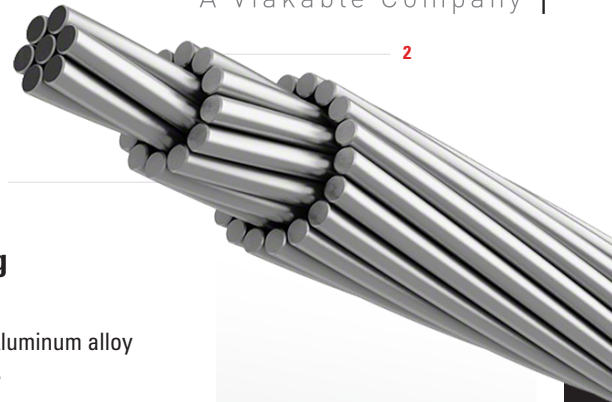
Specification for Aluminum-Clad Steel Core Wire For Aluminum Conductors, Aluminum-Clad Steel Reinforced.

Engineering Information

1. Conductor: Aluminum alloy 1350-H19 wires.

2. Steel Core: Aluminum-Clad Steel core wire.

Stranding: 1350-H19 aluminum wires concentrically stranded, consisting of one or more layers of wires helically wrapped around a solid or stranded Aluminum-Clad steel central core.



ALUMINUM
CONDUCTOR

Technical Data

ACSR/AW

Code Word	Size AWG or kcmil	Stranding Class	Diameter				Weight			Material Content		Rated Strength lb	Resistance		†Ampacity (amp)
			Aluminum Wires	Steel Wires	Steel Core	Complete Cable	Al	Steel	Total	Al	Steel		dc 20 °C	ac 75 °C	
Swan	4	6/1	0.0834	0.0834	0.083	0.250	39	16	55	72	28	1800	0.3902	0.4765	145
Sparrow	2	6/1	0.1052	0.1052	0.105	0.316	62	38	100	62	38	2800	0.2453	0.2994	194
Robin	1	6/1	0.1181	0.1181	0.118	0.354	78	31	109	72	28	3500	0.1943	0.2371	225
Raven	1/0	6/1	0.1327	0.1327	0.133	0.398	99	39	138	72	28	4300	0.1749	0.1882	260
Quail	2/0	6/1	0.1489	0.1489	0.149	0.447	124	50	174	71	29	5100	0.1223	0.1493	301
Pigeon	3/0	6/1	0.1672	0.1672	0.167	0.502	156	63	219	71	29	6300	0.0971	0.1186	348
Penguin	4/0	6/1	0.1878	0.1878	0.188	0.563	197	80	277	71	29	7700	0.0770	0.0940	402
Partridge	266.8	26/7	0.1013	0.0788	0.236	0.642	251	98	349	72	28	1088	0.0617	0.0754	465
Waxwing	266.8	18/1	0.1217	0.1217	0.122	0.609	250	33	283	88	12	6800	0.0636	0.0777	450
Ostrich	300	26/7	0.1074	0.0835	0.251	0.680	283	109	392	72	28	12100	0.0549	0.0671	500
Merlin	336.4	18/1	0.1367	0.1367	0.137	0.684	315	42	357	88	12	8500	0.0504	0.0618	520
Linnnet	336.4	26/7	0.1137	0.0885	0.265	0.720	317	123	440	72	28	13500	0.0490	0.0599	535
Oriole	336.4	30/7	0.1059	0.1059	0.318	0.741	318	177	495	64	36	16700	0.0480	0.0586	545
Ibis	397.5	26/7	0.1236	0.0962	0.289	0.783	374	146	520	72	28	15800	0.0414	0.0507	595
Lark	397.5	30/7	0.1151	0.1151	0.345	0.806	375	209	584	64	36	19600	0.0406	0.0496	605
Pelican	477	18/1	0.1628	0.1628	0.163	0.814	447	60	507	88	12	11500	0.0356	0.0434	650
Flicker	477	24/7	0.1410	0.0940	0.282	0.846	449	140	589	76	24	16700	0.0349	0.0427	660
Hawk	477	26/7	0.1354	0.1053	0.316	0.858	449	175	624	72	28	18900	0.0345	0.0423	670
Hen	477	30/7	0.1261	0.1261	0.378	0.883	450	251	701	64	36	23400	0.0338	0.0414	680

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			Aluminum Wires	Steel Wires	Steel Core	Complete Cable	Al	Steel	Total	Al	Steel		dc 20 °C	ac 75 °C	
			in	in	in	in	lb/kft			%			Ω/kft		
Osprey	556.5	18/1	0.1758	0.1758	0.176	0.879	522	69	591	88	12	13200	0.0305	0.0375	715
Parakeet	556.5	24/7	0.1523	0.1015	0.305	0.914	524	163	687	76	24	19300	0.0299	0.0367	730
Dove	556.5	26/7	0.1463	0.1138	0.341	0.927	524	204	728	72	28	21900	0.0296	0.0363	735
Eagle	556.5	30/7	0.1362	0.1362	0.409	0.953	523	295	818	64	36	26800	0.0290	0.0355	750
Peacock	605	24/7	0.1588	0.1059	0.318	0.953	570	177	747	76	24	21000	0.0275	0.0338	770
Rook	636	24/7	0.1628	0.1085	0.326	0.977	599	186	785	76	24	22000	0.0262	0.0321	795
Grosbeak	636	26/7	0.1564	0.1216	0.365	0.991	599	233	832	72	28	24800	0.0259	0.0318	800
Egret	636	30/19	0.1456	0.0874	0.437	1.019	600	328	928	65	35	29900	0.0254	0.0312	815
Flamingo	666.6	24/7	0.1667	0.1111	0.333	1.000	628	195	823	76	24	23100	0.0249	0.0307	815
Starling	715.5	26/7	0.1659	0.1290	0.387	1.051	674	262	936	72	28	27500	0.0230	0.0283	865
Redwing	715.5	30/19	0.1544	0.0927	0.463	1.081	676	367	1043	65	35	33400	0.0226	0.0278	875
Drake	795	26/7	0.1749	0.1360	0.408	1.107	749	292	1041	72	28	30500	0.0207	0.0255	920
Mallard	795	30/19	0.1628	0.0977	0.489	1.140	752	408	1160	65	35	37100	0.0203	0.0250	935
Tern	795	45/7	0.1329	0.0886	0.266	1.063	749	123	872	86	14	21500	0.0213	0.0264	890
Condor	795	54/7	0.1213	0.1213	0.364	1.092	749	231	980	76	24	27800	0.0209	0.0258	910
Canary	900	54/7	0.1291	0.1291	0.387	1.162	848	263	1111	76	24	31000	0.0185	0.0229	980
Rail	954	45/7	0.1456	0.0971	0.291	1.165	900	147	1047	86	14	25400	0.0178	0.0221	995
Cardinal	954	54/7	0.1329	0.1329	0.399	1.196	898	279	1177	76	24	32900	0.0174	0.0216	1015
Ortolan	1033.5	45/7	0.1515	0.1010	0.303	1.212	973	161	1134	86	14	27100	0.0168	0.0204	1050
Curlew	1033.5	54/7	0.1383	0.1383	0.415	1.245	973	301	1274	76	24	35600	0.0161	0.0200	1070
Bluejay	1133	45/7	0.1573	0.1049	0.315	1.259	1050	172	1222	86	14	29300	0.0152	0.0191	1095
Finch	1113	54/19	0.1436	0.0861	0.431	1.292	1054	319	1373	77	23	37500	0.0150	0.0187	1115
Bunting	1192.5	45/7	0.1628	0.1085	0.326	1.302	1125	184	1309	86	14	31300	0.0142	0.0178	1145
Grackle	1192.5	54/19	0.1486	0.0892	0.446	1.338	1130	340	1470	77	23	40200	0.0140	0.0175	1165
Bittern	1272	45/7	0.1681	0.1121	0.336	1.345	1200	196	1396	86	14	33400	0.0134	0.0168	1190
Pheasant	1272	54/19	0.1535	0.0921	0.461	1.381	1204	364	1568	77	23	42400	0.0131	0.0165	1210
Dipper	1351.5	45/7	0.1733	0.1155	0.347	1.386	1273	210	1483	86	14	35500	0.0126	0.0159	1235
Martin	1351.5	54/19	0.1582	0.0949	0.475	1.424	1279	386	1665	77	23	45100	0.0124	0.0155	1255
Bobolink	1431	45/7	0.1783	0.1189	0.357	1.427	1348	222	1570	86	14	37600	0.0119	0.0150	1275
Plover	1431	54/19	0.1628	0.0977	0.489	1.465	1357	407	1764	77	23	47700	0.0117	0.0147	1300
Nuthatch	1510.5	45/7	0.1832	0.1221	0.366	1.465	1425	233	1658	86	14	39700	0.0112	0.0143	1320
Parrot	1510	54/19	0.1672	0.1003	0.502	1.505	1431	429	1860	77	23	50300	0.0110	0.0140	1345
Lapwing	1590	45/7	0.1880	0.1253	0.376	1.504	1505	241	1746	86	14	41800	0.0107	0.0137	1360
Falcon	1590	54/19	0.1716	0.1030	0.515	1.545	1507	453	1960	77	23	53000	0.0105	0.0133	1385

The above data are approximate and subject to normal manufacturing tolerances. Other sizes available upon request.
 Direct current resistance values are based on Table 4-17 from the *Aluminum Electrical Conductor Handbook*, Aluminum Association, 1989.

† Ampacities are based on the following:
Ampacities for Aluminum & ACSR Overhead Electrical Conductors, Aluminum Association, 1986.
835-1994 - IEEE Standard Power Cable Ampacity Tables, IEEE Standards Association.