

# Aluminum Conductor Steel Reinforced (ACSR) Cables

Alcan Cable manufactures a full line of ACSR cables which are used in overhead transmission and distribution line applications. Alcan offers various conductor designs and steel core coatings to address your application requirements.

## Product Construction

ACSR is a concentric-lay-stranded conductor consisting of a single core wire or a stranded steel central core with one or more layers of 1350 H19 stranded aluminum wires. Steel core wires are protected from corrosion by galvanizing, aluminum-clad alloy or zinc – 5% aluminum mischmetal alloy coating. Standard, High, Extra and Ultra High strength steel are also available. All ACSR cables are also available in a non-specular finish.

## Specifications

Alcan's ACSR cables meet or exceed industry requirements per ASTM specifications B230, B232, B498, and B500.

## Product Features

ACSR conductors provide dependable performance for many years under adverse weather conditions. The combination of the aluminum and steel in the conductor design offer both efficient conductivity and high tensile strength making ACSR cable the most economical solution for overhead power transmission and distribution projects.



## Aluminum Conductor Steel Reinforced

ASTM: B230, Specification for Aluminum 1350-H19 Wire for Electrical Purposes

B232, Specification for Concentric-Lay-Stranded Aluminum Conductors, Coated Steel Reinforced (ACSR)

B498, Specification for Zinc-Coated (Galvanized) Steel Core Wire for Aluminum Conductors Steel Reinforced (ACSR)

### Physical Properties

CODE WORD	SIZE AWG or kcmil	STRANDING Number & Diameter (In.)		Nominal Diameter (In.)		Rated Strength (Lbs.)	WEIGHT (Lbs./1000 Ft.)			PERCENT OF TOTAL WEIGHT	
		Aluminum	Steel	Complete Conductor	Steel Core		Total	Aluminum	Steel	Aluminum	Steel
TURKEY	6	6 x 0.0661	1 x 0.0661	0.198	0.0661	1190	36.0	24.4	11.6	67.8	32.2
SWAN	4	6 x 0.0834	1 x 0.0834	0.250	0.0834	1860	57.4	39.0	18.4	67.9	32.1
SWANATE	4	7 x 0.0772	1 x 0.1029	0.257	0.1029	2360	67.0	39.0	28.0	58.2	41.8
SPARROW	2	6 x 0.1052	1 x 0.1052	0.316	0.1052	2850	91.2	61.9	29.3	67.9	32.1
SPARATE	2	7 x 0.0974	1 x 0.1299	0.325	0.1299	3640	106.6	61.9	44.7	58.1	41.9
ROBIN	1	6 x 0.1181	1 x 0.1181	0.354	0.1181	3550	115.0	78.1	36.9	67.9	32.1
RAVEN	1/0	6 x 0.1327	1 x 0.1327	0.398	0.1327	4380	145.2	98.6	46.6	67.9	32.1
QUAIL	2/0	6 x 0.1489	1 x 0.1489	0.447	0.1489	5300	182.8	124.1	58.7	67.9	32.1
PIGEON	3/0	6 x 0.1672	1 x 0.1672	0.502	0.1672	6620	230.5	156.4	74.1	67.9	32.1
PENGUIN	4/0	6 x 0.1878	1 x 0.1878	0.563	0.1878	8350	290.8	197.4	93.4	67.9	32.1
WAXWING	266.8	18 x 0.1217	1 x 0.1217	0.509	0.1217	6880	289.1	249.9	39.2	86.4	13.6
PARTRIDGE	266.8	26 x 0.1013	7 x 0.0788	0.642	0.236	11300	366.9	251.3	115.6	68.5	31.5
MERLIN	336.4	18 x 0.1367	1 x 0.1367	0.684	0.1367	8700	364.8	315.3	49.5	86.4	13.6
LINNET	336.4	26 x 0.1137	7 x 0.0884	0.720	0.265	14100	462.0	316.5	145.5	68.5	31.5
ORIOLE	336.4	30 x 0.1059	7 x 0.1059	0.741	0.318	17300	526.4	317.7	208.7	60.4	39.6
CHICKADEE	397.5	18 x 0.1486	1 x 0.1486	0.743	0.1486	9900	431.0	372.5	58.5	86.4	13.6
IBIS	397.5	26 x 0.1236	7 x 0.0961	0.783	0.288	16300	546.0	374.1	171.9	68.5	31.5
LARK	397.5	30 x 0.1151	7 x 0.1151	0.806	0.345	20300	621.8	375.2	246.6	60.4	39.6
PELICAN	477	18 x 0.1628	1 x 0.1628	0.814	0.1628	11800	517.3	447.1	70.2	86.4	13.6
FLICKER	477	24 x 0.1410	7 x 0.0940	0.846	0.282	17200	613.9	449.4	164.5	73.2	26.8
HAWK	477	26 x 0.1354	7 x 0.1053	0.858	0.316	19500	655.3	448.9	206.4	68.5	31.5
HEN	477	30 x 0.1261	7 x 0.1261	0.883	0.378	23800	746.4	450.4	296.0	60.4	39.6
OSPREY	556.5	18 x 0.1758	1 x 0.1758	0.879	0.1758	13700	603.3	521.4	81.9	86.4	13.6
PARAKEET	556.5	24 x 0.1523	7 x 0.1015	0.914	0.304	19800	716.1	524.3	191.8	73.2	26.8
DOVE	556.5	26 x 0.1463	7 x 0.1138	0.927	0.341	22600	765.2	524.2	241.0	68.5	31.5
EAGLE	556.5	30 x 0.1362	7 x 0.1362	0.953	0.409	27800	870.7	525.4	345.3	60.4	39.6
PEACOCK	605	24 x 0.1588	7 x 0.1059	0.953	0.318	21600	778.8	570.1	208.7	73.2	26.8
SWIFT	636	36 x 0.1329	1 x 0.1329	0.930	0.1329	13800	642.8	596.0	46.8	92.7	7.3
KINGBIRD	636	18 x 0.1880	1 x 0.1880	0.940	0.1880	15700	689.9	596.3	93.6	86.4	13.6
ROOK	636	24 x 0.1628	7 x 0.1085	0.977	0.326	22600	818.2	599.1	219.1	73.2	26.8
GROSBEAK	636	26 x 0.1564	7 x 0.1216	0.990	0.365	25200	874.2	599.0	275.2	68.5	31.5
EGRET	636	30 x 0.1456	19 x 0.0874	1.019	0.437	31500	987.2	600.5	386.7	60.8	39.2
FLAMINGO	666.6	24 x 0.1667	7 x 0.1111	1.000	0.333	23700	857.9	628.2	229.7	73.2	26.8
STARLING	715.5	26 x 0.1659	7 x 0.1290	1.051	0.387	28400	983.7	674.0	309.7	68.5	31.5
REDWING	715.5	30 x 0.1544	19 x 0.0926	1.081	0.463	34600	1109.3	675.3	434.0	60.8	39.2
COOT	795	36 x 0.1486	1 x 0.1486	1.040	0.1486	16800	803.6	745.1	58.5	92.7	7.3
TERN	795	45 x 0.1329	7 x 0.0886	1.063	0.266	22100	895	749	146	83.7	16.3
CUCKOO	795	24 x 0.1820	7 x 0.1213	1.092	0.364	27900	1023	749	274.0	73.2	26.8
CONDOR	795	54 x 0.1213	7 x 0.1213	1.092	0.364	28200	1022	748	274.0	73.2	26.8
DRAKE	795	26 x 0.1749	7 x 0.1360	1.108	0.408	31500	1093	749	344	68.5	31.5
MALLARD	795	30 x 0.1628	19 x 0.0977	1.140	0.489	38400	1233.9	750.7	483.2	60.8	39.2
RUDDY	900	45 x 0.1414	7 x 0.0943	1.131	0.283	24400	1013	848	165	83.7	16.3
CANARY	900	54 x 0.1291	7 x 0.1291	1.162	0.387	31900	1158	848	310	73.2	26.8
CORNCRAKE	954	20 x 0.2184	7 x 0.0971	1.165	0.291	25600	1074	899	175	83.7	16.3
REDBIRD	954	24 x 0.1994	7 x 0.1329	1.196	0.399	33500	1228	899	329	73.2	26.8
TOWHEE	954	48 x 0.1410	7 x 0.1097	1.175	0.329	28500	1123	899	224	80.1	19.9
RAIL	954	45 x 0.1456	7 x 0.0971	1.165	0.291	25900	1075	899	176	83.7	16.3
CARDINAL	954	54 x 0.1329	7 x 0.1329	1.196	0.399	33800	1227.1	898.4	328.7	73.2	26.8
ORTOLAN	1033.5	45 x 0.1515	7 x 0.1010	1.212	0.303	27700	1163	973	190	83.7	16.3
CURLEW	1033.5	54 x 0.1383	7 x 0.1383	1.245	0.415	36600	1329	973	356	73.2	26.8
BLUEJAY	1113.0	45 x 0.1573	7 x 0.1049	1.259	0.315	29800	1254	1049	205	83.7	16.3
FINCH	1113.0	54 x 0.1436	19 x 0.0862	1.293	0.431	39100	1430	1054	376	73.7	26.3
BUNTING	1192.5	45 x 0.1628	7 x 0.1085	1.302	0.326	32000	1342	1123	219	83.7	16.3
GRACKLE	1192.5	54 x 0.1486	19 x 0.0892	1.338	0.446	41900	1531	1128	403	73.7	26.3
SKYLARK	1272.0	36 x 0.1880	1 x 0.1880	1.316	0.1880	26400	1286	1192	94	92.7	7.3
BITTERN	1272.0	45 x 0.1681	7 x 0.1121	1.345	0.336	34100	1432	1198	234	83.7	16.3
PHEASANT	1272.0	54 x 0.1535	19 x 0.0921	1.382	0.461	43600	1634	1205	429	73.7	26.3
DIPPER	1351.5	45 x 0.1733	7 x 0.1155	1.386	0.347	36200	1521	1273	248	83.7	16.3
MARTIN	1351.5	54 x 0.1582	19 x 0.0949	1.424	0.475	46300	1735	1279	456	73.7	26.3
BOBOLINK	1431.0	45 x 0.1783	7 x 0.1189	1.427	0.357	38300	1611	1348	263	83.7	16.3
PLOVER	1431.0	54 x 0.1628	19 x 0.0977	1.465	0.489	49100	1838	1355	483	73.7	26.3
LAPWING	1590.0	45 x 0.1880	7 x 0.1253	1.504	0.376	42200	1790	1498	292	83.8	16.3
FALCON	1590.0	54 x 0.1716	19 x 0.1030	1.545	0.515	54500	2042	1505	537	73.7	26.3
CHUKAR	1780.0	84 x 0.1456	19 x 0.0874	1.602	0.437	51000	2072	1685	387	81.3	18.7
MOCKINGBIRD	2034.5	72 x 0.1681	7 x 0.1122	1.681	0.337	46800	2163	1929	234	89.2	18.7
BLUEBIRD	2156.0	84 x 0.1602	19 x 0.0961	1.762	0.481	60300	2508	2040	468	81.3	18.7
KIWI	2167.0	72 x 0.1735	7 x 0.1157	1.735	0.347	49800	2301	2052	249	89.2	10.8
THRASHER	2312.0	76 x 0.1744	19 x 0.0814	1.802	0.407	56700	2523	2188	335	86.7	13.3
JOREA	2515.0	76 x 0.1819	19 x 0.0850	1.880	0.425	61700	2749	2383	366	86.7	13.3
High Strength ACSR											
GROUSE	80.0	8 x 0.1000	1 x 0.1670	0.367	0.1670	5200	148.8	74.9	73.9	50.3	49.7
PETREL	101.8	12 x 0.0921	7 x 0.0921	0.461	0.276	10400	253.8	95.9	157.9	37.8	62.2
MINORCA	110.8	12 x 0.0961	7 x 0.0961	0.481	0.288	11300	276.3	104.4	171.9	37.8	62.2
LEGHORN	134.6	12 x 0.1059	7 x 0.1059	0.530	0.318	13600	335.5	126.8	208.7	37.8	62.2
GUINEA	159.0	12 x 0.1151	7 x 0.1151	0.576	0.345	16000	396.3	149.7	246.6	37.8	62.2
DOTTEREL	176.9	12 x 0.1214	7 x 0.1214	0.607	0.364	17300	440.9	166.6	274.3	37.8	62.2
DORKING	190.8	12 x 0.1261	7 x 0.1261	0.631	0.378	18700	475.7	179.7	296.0	37.8	62.2
COCKHIN	211.3	12 x 0.1327	7 x 0.1327	0.664	0.398	20700	526.8	199.0	327.8	37.8	62.2
BRAHMA	203.2	16 x 0.1127	19 x 0.0977	0.714	0.489	28400	674.6	191.4	483.2	28.4	71.6

## Aluminum Conductor Steel Reinforced

## Electrical Properties

CODE WORD	SIZE & STRANDING		RESISTANCE				60 HZ REACTANCE 1 FOOT EQUIVALENT SPACING			
	AWG or kcmil	Aluminum/ Steel	DC (Ohms/1000 Ft.) @20°	AC-60-HZ(Ohms/1000 Ft.)			Capacitive (Megohms-1000 Ft.)	Inductive (Ohms/1000 Ft.)		
				@25° C	@50° C	@75° C		@25° C	@50° C	@75° C
TURKEY	6	6/1	0.6419	0.6553	0.750	0.8159	0.7513	0.1201	0.1390	0.1439
SWAN	4	6/1	0.4032	0.4119	0.4794	0.5218	0.7149	0.1152	0.1314	0.1369
SWANATE	4	7/1	0.3989	0.4072	0.4633	0.5165	0.7102	0.11533	0.1239	0.1303
SPARROW	2	6/1	0.2534	0.2591	0.3080	0.3360	0.6785	0.1100	0.1235	0.1277
SPARATE	2	7/1	0.2506	0.2563	0.2966	0.3297	0.6737	0.1081	0.1176	0.1206
ROBIN	1	6/1	0.2011	0.2059	0.2474	0.2703	0.6600	0.1068	0.1191	0.1224
RAVEN	1/0	6/1	0.1593	0.1633	0.1972	0.2161	0.6421	0.1040	0.1138	0.1163
QUAIL	2/0	6/1	0.1265	0.1301	0.1616	0.1760	0.6241	0.1017	0.1117	0.1135
PIGEON	3/0	6/1	0.1003	0.1034	0.1208	0.1445	0.6056	0.0992	0.1083	0.1095
PENGUIN	4/0	6/1	0.0795	0.0822	0.1066	0.1157	0.5966	0.0964	.01047	0.1053
								Inductive (Ohms/1000 Ft.)		GMR (Ft.)
WAXWING	266.8	18/1	0.0644	0.0657	0.0723	0.0788	0.576	0.0934	0.0197	
PARTRIDGE	266.8	26/7	0.0637	0.0652	0.0714	0.0778	0.565	0.0881	0.0217	
MERLIN	336.4	18/1	0.0510	0.0523	0.0574	0.0625	0.560	0.0877	0.0221	
LINNET	336.4	26/7	0.0506	0.0517	0.0568	0.0619	0.549	0.0854	0.0244	
ORIOLE	336.4	30/7	0.0502	0.0513	0.0563	0.0614	0.544	0.0843	0.0255	
CHICKADEE	397.5	18/1	0.0432	0.0443	0.0487	0.0528	0.544	0.0856	0.0240	
IBIS	397.5	26/7	0.0428	0.0438	0.0481	0.0525	0.539	0.0835	0.0265	
LARK	397.5	30/7	0.0425	0.0434	0.0477	0.0519	0.533	0.0824	0.0277	
PELICAN	477.0	18/1	0.0360	0.0369	0.0405	0.0441	0.528	0.0835	0.0263	
FLICKER	477.0	24/7	0.0358	0.0367	0.0403	0.0439	0.524	0.0818	0.0283	
HAWK	477.0	26/7	0.0357	0.0366	0.0402	0.0438	0.522	0.0814	0.0290	
HEN	477.0	30/7	0.0354	0.0362	0.0389	0.0434	0.517	0.0803	0.0304	
OSPREY	556.5	18/1	0.0309	0.0318	0.0348	0.0379	0.518	0.0818	0.0284	
PARAKEET	556.5	24/7	0.0307	0.0314	0.0347	0.0377	0.512	0.0801	0.0306	
DOVE	556.5	26/7	0.0305	0.0314	0.0345	0.0375	0.510	0.0795	0.0313	
EAGLE	556.5	30/7	0.0300	0.0311	0.0341	0.0371	0.505	0.0786	0.0328	
PEACOCK	605.0	24/7	0.0282	0.0290	0.0378	0.0347	0.505	0.0792	0.0319	
SWIFT	636.0	36/1	0.0267	0.0281	0.0307	0.0334	0.509	0.0806	0.0300	
KINGBIRD	636.0	18/1	0.0269	0.0278	0.0306	0.0332	0.507	0.0805	0.0301	
ROOK	636.0	24/7	0.0268	0.0277	0.0300	0.0330	0.502	0.0786	0.0327	
GROSBEAK	636.0	26/7	0.0267	0.0275	0.0301	0.0328	0.500	0.0780	0.0335	
EGRET	636.0	30/19	0.0266	0.0273	0.0299	0.0326	0.495	0.0769	0.0351	
FLAMINGO	666.6	24/7	0.0256	0.0263	0.0290	0.0314	0.498	0.0780	0.0335	
STARLING	715.5	26/7	0.0238	0.0244	0.0269	0.0292	0.490	0.0767	0.0355	
REDWING	715.5	30/19	0.0236	0.0242	0.0267	0.0290	0.486	0.0756	0.0372	
COOT	795.0	36/1	0.0217	0.0225	0.0247	0.0268	0.492	0.0780	0.0335	
TERN	795.0	45/7	0.0216	0.0225	0.0246	0.0267	0.488	0.0764	0.0352	
CUCKOO	795.0	24/7	0.0215	0.0223	0.0243	0.0266	0.484	0.0763	0.0361	
CONDOR	795.0	54/7	0.0215	0.0222	0.0244	0.0265	0.484	0.0759	0.0368	
DRAKE	795.0	26/7	0.0214	0.0222	0.0242	0.0263	0.482	0.0756	0.0375	
MALLARD	795.0	30/19	0.0213	0.0220	0.0241	0.0261	0.477	0.0744	0.0392	
RUDDY	900.0	45/7	0.0191	0.0200	0.0218	0.0237	0.479	0.0755	0.0374	
CANARY	900.0	54/7	0.0190	0.0197	0.0216	0.0235	0.474	0.0744	0.0392	
CORNCRAKE	954.0	20/7	0.0180	0.0188	0.0206	0.0224	0.474	0.0751	0.0378	
REDBIRD	954.0	24/7	0.0179	0.0186	0.0204	0.0221	0.470	0.0742	0.0396	
TOWHEE	954.0	48/7	0.0180	0.0188	0.0205	0.0223	0.473	0.0745	0.0391	
RAIL	954.0	45/7	0.0180	0.0188	0.0206	0.0223	0.474	0.0748	0.0385	
CARDINAL	954.0	54/7	0.0179	0.0186	0.0205	0.0222	0.470	0.0757	0.0404	
ORTOLAN	1033.5	45/7	0.0167	0.0175	0.0191	0.0208	0.468	0.0739	0.0401	
CURLEW	1033.5	54/7	0.0165	0.0172	0.0189	0.0201	0.464	0.0729	0.0420	
BLUEJAY	1113.0	45/7	0.0155	0.0163	0.0178	0.0193	0.462	0.0731	0.0416	
FINCH	1113.0	54/19	0.0154	0.0161	0.0176	0.0191	0.458	0.0702	0.0436	
BUNTING	1192.5	45/7	0.0144	0.0152	0.0167	0.0181	0.456	0.0723	0.0431	
GRACKLE	1192.5	54/19	0.0144	0.0151	0.0165	0.0179	0.452	0.0710	0.0451	
SKYLARK	1272.0	36/1	0.0135	0.0145	0.0159	0.0173	0.455	0.072	0.0427	
BITTERN	1272.0	45/7	0.0135	0.0144	0.0157	0.0170	0.451	0.072	0.0445	
PHEASANT	1272.0	54/19	0.0135	0.0142	0.0155	0.0169	0.447	0.070	0.0466	
DIPPER	1351.5	45/7	0.0127	0.0136	0.0148	0.0161	0.447	0.071	0.0459	
MARTIN	1351.5	54/19	0.0127	0.0134	0.0147	0.0159	0.442	0.070	0.0480	
BOBOLINK	1431.0	45/7	0.0120	0.0129	0.0141	0.0152	0.442	0.070	0.0472	
PLOVER	1431.0	54/19	0.0120	0.0127	0.0134	0.0151	0.438	0.069	0.0495	
LAPWING	1590.0	45/7	0.0108	0.0117	0.0127	0.0138	0.434	0.069	0.0498	
FALCON	1590.0	54/19	0.0108	0.0116	0.0126	0.0137	0.430	0.068	0.0521	
CHUKAR	1780.0	84/19	0.0097	0.0106	0.0115	0.0125	0.424	0.067	0.0534	
MOCKINGBIRD	2034.5	72/7	0.0085	0.0096	0.0104	0.0112	0.416	0.066	0.0553	
BLUEBIRD	2156.0	84/19	0.0080	0.0090	0.0098	0.0105	0.409	0.065	0.0588	
KIWI	2167.0	72/7	0.0080	0.0092	0.0099	0.0106	0.411	0.068	0.0570	
THRASHER	2312.0	76/19	0.0075	0.0086	0.0092	0.0100	0.405	0.065	0.0600	
JOREA	2515.0	76/19	0.0069	0.0081	0.0087	0.0093	0.399	0.064	0.0621	
HIGH STRENGTH ACSR							60 HZ REACTANCE 1 FOOT EQUIVALENT SPACING			
							Capacitive (Megohms-1000 Ft.)	Inductive (Ohms/1000 Ft.)		
								@25° C	@50° C	@75° C
GROUSE	80.0	8/1	0.2065	0.2110	0.2362	0.2612	0.6547	0.1047	0.1129	0.1150
PETREL	101.8	12/7	0.1583	0.1625	0.2072	0.2394	0.6193	0.1019	0.1161	0.1282
MINORCA	110.8	12/7	0.1454	0.1491	0.1932	0.2233	0.6125	0.1017	0.1176	0.1269
LEGHORN	134.6	12/7	0.1198	0.1233	0.1638	0.1894	0.5972	0.0998	0.1148	0.1227
GUINEA	159.0	12/7	0.1014	0.1045	0.1426	0.1653	0.5845	0.0979	0.1117	0.1189
DOTTEREL	176.9	12/7	0.0911	0.0945	0.1301	0.1513	0.5760	0.0970	0.1102	0.1169
DORKING	190.8	12/7	0.0845	0.0875	0.1229	0.1424	0.5697	0.0956	0.1093	0.1150
COCHIN	211.3	12/7	0.0763	0.0792	0.1125	0.1311	0.5618	0.0945	0.1074	0.1129
BRAHMA	203.2	16/19	0.0764	0.0790	0.1089	0.1348	0.5507	0.0934	0.1047	0.1121

Notes:

1. DC resistance is based on 16.946 ohm-cmil/ft. 61.2% IACS for 1350 wires and 129.64 ohm-cmil/ft. 8% IACS for the steel core at 20° C with stranding increment as per ASTM B232.