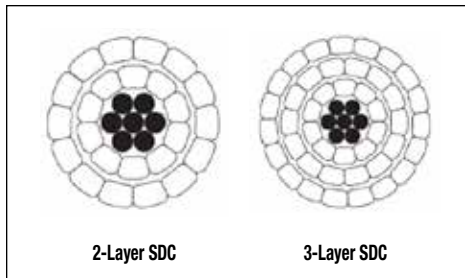


# TransPowr® ACSR/SD Bare Overhead Conductor

## Self-Damping Aluminum Conductor Steel-Reinforced Concentric-Lay-Stranded



### Product Construction:

#### Complete Conductor:

ACSR/SD conductors are manufactured with two layers of 1350 H19 trapezoidal-shaped aluminum wires concentrically stranded around a steel core of round coated steel wires. On certain larger conductor constructions, the trapezoidal-shaped wires are surrounded by a layer of round 1350 H19 aluminum wires. The steel core and the two layers of trapezoidal-shaped aluminum wires are separated by a gap to provide the self-damping characteristics. Steel core wires are protected from corrosion by aluminum-clad, galvanized, or zinc-5% aluminum mischmetal alloy coating. Standard, high, extra- and ultra-high-strength steel is also available. The ACSR/SD conductors are manufactured in accordance with the requirements of the latest issue of ASTM B701.

#### Features and Benefits:

The steel core and the two layers of trapezoidal-shaped aluminum wires in ACSR/SD are separated by a gap designed to provide self-damping characteristics to control Aeolian vibration—eliminating the need for vibration dampers. Additional advantages in using ACSR/SD include: shorter, more economical towers, increased reliability, lower overall line cost, reduced sag, reduced ice and wind loads as well as permitting longer spans.

#### Applications:

ACSR/SD conductors are used for overhead transmission lines to control Aeolian vibration.

#### Options:

- E3X® surface coating (/E3X)
- High-conductivity aluminum (/HC) (62.2% IACS)
- Regular-strength Class C galvanized steel core (/GC2)
- High-strength Class A galvanized steel core (/GA3 to ASTM B606)
- Extra-high-strength Class A galvanized steel core (/GA4 to ASTM B957)
- Ultra-high-strength Class A galvanized steel core (/GA5 to ASTM B957)
- Regular-strength Class A zinc-5% aluminum mischmetal alloy-coated steel core (/MA2 to ASTM B802)
- High-strength Class A zinc-5% aluminum mischmetal alloy-coated steel core (/MA3 to ASTM B803)
- Extra-high-strength Class A zinc-5% aluminum mischmetal alloy-coated steel core (/MA4 to ASTM B958)
- Ultra-high-strength Class A zinc-5% aluminum mischmetal alloy-coated steel core (/MA5 to ASTM B958)
- Aluminum-clad steel core (/AW)
- Non-specular surface finish (/NS)

# TransPowr® ACSR/SD Bare Overhead Conductor

## Self-Damping Aluminum Conductor Steel-Reinforced Concentric-Lay-Stranded

### ACSR/SD, CONCENTRIC-LAY-STRANDED (MECHANICAL PROPERTIES)

CODE WORD (1)	SIZE AWG OR kcmil	TYPE	STEEL CORE O.D. INCHES	O.D. INCHES	APPROX. WEIGHT LB/1000 FT (2)			PERCENT BY WEIGHT		RATED STRENGTH LBS	STANDARD PACKAGES (3)		
					TOTAL	AL	STEEL	AL	STEEL		REEL DESIGNATION	WEIGHT POUNDS	LENGTH FEET
Titmouse/SD	266.8	5	0.117	0.593	287	251	36	87.3	12.7	6920	RM 66.32	4017	14000
Eider/SD	266.8	7	0.136	0.601	299	251	49	83.7	16.3	7610	RM 66.32	4192	14000
Spoonbill/SD	266.8	10	0.162	0.610	320	251	69	78.3	21.7	8450	RM 66.32	4480	14000
Partridge/SD	266.8	16	0.236	0.645	367	251	116	68.5	31.5	11350	RM 66.32	4771	13000
Cowbird/SD	336.4	5	0.132	0.667	362	316	46	87.3	12.7	8500	RM 66.32	4343	12000
Hummingbird/SD	336.4	7	0.153	0.664	378	316	62	83.7	16.3	9130	RM 66.32	4532	12000
Woodcock/SD	336.4	10	0.206	0.688	405	317	88	78.3	21.7	11000	RM 66.32	4450	11000
Linnet/SD	326.4	16	0.265	0.716	462	317	145	68.5	31.5	14300	RM 68.38	6011	13000
Erne/SD	397.5	5	0.143	0.717	428	374	54	87.3	12.7	9740	RM 66.32	4277	10000
Longspur/SD	397.5	7	0.166	0.725	446	373	73	83.7	16.3	10600	RM 68.38	5799	13000
Stork/SD	397.5	10	0.224	0.750	478	374	104	78.3	21.7	12900	RM 68.38	5735	12000
Ibis/SD	397.5	16	0.288	0.771	547	375	172	68.5	31.5	16400	RM 68.38	6558	12000
Kestrel/SD	477.0	5	0.157	0.787	513	448	65	87.3	12.7	11700	RM 68.38	5646	11000
Jackdaw/SD	477.0	7	0.206	0.808	536	449	87	83.7	16.3	13300	RM 68.38	5894	11000
Toucan/SD	477.0	10	0.245	0.824	573	449	125	78.3	21.7	15300	RM 68.38	5734	10000
Flicker/SD	477.0	13	0.282	0.843	614	449	165	73.2	26.8	17200	RMT 84.36	7362	12000
Hawk/SD	477.0	16	0.316	0.860	656	449	206	68.5	31.5	19500	RMT 84.36	7214	11000
Blackbird/SD	556.5	5	0.169	0.843	599	523	76	87.3	12.7	13600	RM 68.38	5990	10000
Sunbird/SD	556.5	7	0.222	0.863	625	523	102	83.7	16.3	15500	RMT 84.36	6875	11000
Sapsucker/SD	556.5	10	0.265	0.882	669	524	145	78.3	21.7	17800	RMT 84.36	7359	11000
Parakeet/SD	556.5	13	0.305	0.901	716	524	192	73.2	26.8	20000	RMT 84.36	7160	10000
Dove/SD	556.5	16	0.341	0.919	765	524	241	68.5	31.5	22600	RMT 84.36	7650	10000
Pippit/SD	636.0	5	0.205	0.903	684	598	87	87.3	12.7	16100	RMT 84.36	7524	11000
Killdeer/SD	636.0	7	0.238	0.917	715	598	117	83.6	16.4	17700	RMT 84.36	7150	10000
Goldfinch/SD	636.0	10	0.284	0.935	765	599	166	78.3	21.7	20100	RMT 84.36	7650	10000
Rook/SD	636.0	13	0.326	0.955	818	599	219	73.2	26.8	22900	RMT 84.36	7362	9000
Grosbeak/SD	636.0	16	0.365	0.975	874	599	275	68.5	31.5	25400	RMT 84.36	7866	9000
Macaw/SD	795.0	5	0.229	0.999	856	747	109	87.3	12.7	19800	RMT 90.45	11984	14000
Tern/SD	795.0	7	0.266	1.013	893	747	146	83.6	16.4	21900	RMT 90.45	11609	13000
Puffin/SD	795.0	10	0.317	1.034	956	746	208	78.3	21.7	25100	RMT 90.45	12428	13000
Condor/SD	795.0	13	0.364	1.055	1023	749	274	73.2	26.8	28200	RMT 90.45	12276	12000
Drake/SD	795.0	16	0.408	1.077	1093	749	344	68.5	31.5	31800	RMT 90.45	12023	11000
Phoenix/SD	954.0	5	0.251	1.088	1027	897	130	87.3	12.7	23700	RMT 90.45	11297	11000
Rail/SD	954.0	7	0.291	1.103	1073	897	176	83.6	16.4	26100	RMT 90.45	11803	11000
Cardinal/SD	954.0	13	0.399	1.147	1227	898	329	73.2	26.8	33500	RMT 90.45	12270	10000

(1) Code words shown denote ACSR/SD with regular-strength Class A galvanized steel core ((GA2). See the Options section to find the appropriate code word modifier designation for alternative design options.

(2) Due to rounding, total values may not exactly equal the sum of the component values.

(3) Weights shown are for conductor only and do not include the reel. Normal length and shipping tolerances apply.

Dimensions and weights not designated minimum or maximum are nominal values and subject to manufacturing tolerances. In this context, weight means mass.

# TransPwr® ACSR/SD Bare Overhead Conductor

## Self-Damping Aluminum Conductor Steel-Reinforced Concentric-Lay-Stranded

### ACSR/SD, CONCENTRIC-LAY-STRANDED (ELECTRICAL PROPERTIES)

CODE WORD (1)	SIZE AWG OR kcmil	TYPE	STEEL CORE O.D. INCHES	O.D. INCHES	RESISTANCE (4) OHMS/1000 FT			GEOMETRIC MEAN RADIUS FT	INDUCTIVE REACTANCE OHM / 1000 FT (5)	CAPACITIVE REACTANCE MEGAOHM - 1000 FT (5)
					DC @ 20°C	AC @ 25°C	AC @ 75°C			
Titmouse/SD	266.8	5	0.117	0.593	0.0646	0.0660	0.0790	0.0195	0.0905	0.5797
Eider/SD	266.8	7	0.136	0.601	0.0645	0.0658	0.0788	0.0199	0.0900	0.5776
Spoonbill/SD	266.8	10	0.162	0.610	0.0642	0.0656	0.0785	0.0203	0.0895	0.5755
Partridge/SD	266.8	16	0.236	0.645	0.0637	0.0650	0.0779	0.0220	0.0877	0.5665
Cowbird/SD	336.4	5	0.132	0.667	0.0512	0.0523	0.0626	0.0217	0.0880	0.5613
Hummingbird/SD	336.4	7	0.153	0.664	0.0510	0.0522	0.0625	0.0218	0.0880	0.5618
Woodcock/SD	336.4	10	0.206	0.688	0.0509	0.0520	0.0623	0.0230	0.0867	0.5565
Linnet/SD	326.4	16	0.265	0.716	0.0505	0.0516	0.0618	0.0245	0.0853	0.5502
Erne/SD	397.5	5	0.143	0.717	0.0433	0.0443	0.0530	0.0233	0.0864	0.5496
Longspur/SD	397.5	7	0.166	0.725	0.0432	0.0442	0.0529	0.0238	0.0859	0.5481
Stork/SD	397.5	10	0.224	0.750	0.0431	0.0441	0.0527	0.0249	0.0848	0.5428
Ibis/SD	397.5	16	0.288	0.771	0.0428	0.0437	0.0523	0.0261	0.0838	0.5386
Kestrel/SD	477.0	5	0.157	0.787	0.0361	0.0370	0.0442	0.0257	0.0842	0.5354
Jackdaw/SD	477.0	7	0.206	0.808	0.0360	0.0369	0.0441	0.0261	0.0838	0.5333
Toucan/SD	477.0	10	0.245	0.824	0.0359	0.0368	0.0440	0.0274	0.0827	0.5280
Flicker/SD	477.0	13	0.282	0.843	0.0358	0.0366	0.0438	0.0283	0.0819	0.5243
Hawk/SD	477.0	16	0.316	0.860	0.0356	0.0365	0.0437	0.0291	0.0813	0.5217
Blackbird/SD	556.5	5	0.169	0.843	0.0309	0.0317	0.0379	0.0274	0.0827	0.5243
Sunbird/SD	556.5	7	0.222	0.863	0.0309	0.0317	0.0379	0.0285	0.0818	0.5206
Sapsucker/SD	556.5	10	0.265	0.882	0.0308	0.0316	0.0377	0.0293	0.0811	0.5174
Parakeet/SD	556.5	13	0.305	0.901	0.0307	0.0314	0.0376	0.0302	0.0804	0.5143
Dove/SD	556.5	16	0.341	0.919	0.0305	0.0313	0.0374	0.0311	0.0798	0.5111
Pippit/SD	636.0	5	0.205	0.903	0.0271	0.0278	0.0333	0.0291	0.0813	0.5153
Killdeer/SD	636.0	7	0.238	0.917	0.0270	0.0277	0.0332	0.0302	0.0804	0.5111
Goldfinch/SD	636.0	10	0.284	0.935	0.0269	0.0276	0.0330	0.0311	0.0798	0.5085
Rook/SD	636.0	13	0.326	0.955	0.0268	0.0275	0.0329	0.0320	0.0791	0.5048
Grosbeak/SD	636.0	16	0.365	0.975	0.0267	0.0274	0.0328	0.0329	0.0784	0.5016
Macaw/SD	795.0	5	0.229	0.999	0.0217	0.0224	0.0267	0.0326	0.0787	0.4979
Tern/SD	795.0	7	0.266	1.013	0.0216	0.0223	0.0266	0.0333	0.0782	0.4958
Puffin/SD	795.0	10	0.317	1.034	0.0215	0.0222	0.0265	0.0343	0.0775	0.4926
Condor/SD	795.0	13	0.364	1.055	0.0215	0.0221	0.0264	0.0353	0.0769	0.4895
Drake/SD	795.0	16	0.408	1.077	0.0214	0.0220	0.0263	0.0364	0.0762	0.4863
Phoenix/SD	954.0	5	0.251	1.088	0.0180	0.0187	0.0223	0.0357	0.0766	0.4847
Rail/SD	954.0	7	0.291	1.103	0.0180	0.0187	0.0222	0.0364	0.0762	0.4826
Cardinal/SD	954.0	13	0.399	1.147	0.0179	0.0185	0.0220	0.0384	0.0749	0.4763

(1) Code words shown denote ACSR/SD with regular-strength Class A galvanized steel core (GA2). See the Options section to find the appropriate code word modifier designation for alternative design options.  
 (4) Based on a conductivity of 61.0% IACS at 20°C for aluminum and 8% IACS at 20°C for the steel core. AC resistance for three-layer designs must be increased by 1.1%, 2.7%, 3.7%, and 4.3% for current densities of 200, 600, 1000, and 1400 amperes per 1000 kcmil of aluminum to allow for the magnetic losses in the steel core. To convert to ohms/mile, multiply by 5.28. To convert to ohms/km, multiply by 3.281.  
 (5) Values for inductive reactance and capacitive reactance are expressed in terms of a 1 ft radius.



# TransPowr® ACSR/SD Bare Overhead Conductor

## Self-Damping Aluminum Conductor Steel-Reinforced Concentric-Lay-Stranded

### ACSR/SD, CONCENTRIC-LAY-STRANDED (MECHANICAL PROPERTIES)

CODE WORD (1)	SIZE AWG OR kcmil	TYPE	STEEL CORE O.D. INCHES	O.D. INCHES	APPROX. WEIGHT LB/1000 FT (2)			PERCENT BY WEIGHT		RATED STRENGTH LBS	STANDARD PACKAGES (3)		
					TOTAL	AL	STEEL	AL	STEEL		REEL DESIGNATION	WEIGHT POUNDS	LENGTH FEET
Snowbird/SD	1033.5	5	0.261	1.185	1115	974	141	87.3	12.7	25900	RMT 90.45	11150	10000
Ortolan/SD	1033.5	7	0.303	1.145	1161	971	190	83.6	16.4	28100	RMT 90.45	11610	10000
Curlew/SD	1033.5	13	0.415	1.191	1329	973	356	73.2	26.8	36300	RMT 90.45	11961	9000
Avocet/SD	1113.0	5	0.271	1.226	1200	1048	152	87.3	12.7	27500	RMT 90.45	10800	9000
Bluejay/SD	1113.0	7	0.315	1.242	1254	1049	205	83.7	16.3	30300	RMT 90.45	11286	9000
Finch/SD	1113.0	13	0.431	1.233	1424	1048	376	73.6	26.4	39100	RMT 90.45	12816	9000
Oxbird/SD	1192.5	5	0.281	1.266	1286	1123	163	87.3	12.7	29500	RMT 90.45	11574	9000
Bunting/SD	1192.5	7	0.326	1.284	1343	1124	219	83.7	16.3	32400	RMT 90.45	10744	8000
Grackle/SD	1192.5	13	0.446	1.274	1526	1123	403	73.6	26.4	41900	RMT 90.45	12208	8000
Scissortail/SD	1272.0	5	0.290	1.305	1372	1198	174	87.3	12.7	31400	RMT 96.60	16464	12000
Bittern/SD	1272.0	7	0.336	1.323	1433	1199	234	83.7	16.3	34600	RMT 96.60	17196	12000
Pheasant/SD	1272.0	13	0.461	1.378	1631	1202	429	73.7	26.3	44100	RMT 96.60	19572	12000
Ringdove/SD	1351.5	5	0.299	1.344	1458	1273	185	87.3	12.7	33400	RMT 96.60	17496	12000
Dipper/SD	1351.5	7	0.347	1.361	1522	1274	248	83.7	16.3	36700	RMT 96.60	18264	12000
Frigate/SD	1351.5	10	0.413	1.389	1629	1276	353	78.3	21.7	41700	RMT 96.60	17919	11000
Martin/SD	1351.5	13	0.475	1.417	1733	1277	456	73.7	26.3	46800	RMT 96.60	19063	11000
Popinjay/SD	1431.0	5	0.308	1.381	1544	1348	196	87.3	12.7	35300	RMT 96.60	16984	11000
Bobolink/SD	1431.0	7	0.357	1.398	1612	1349	263	83.7	16.3	38900	RMT 96.60	17732	11000
Plover/SD	1431.0	13	0.489	1.448	1835	1352	483	73.7	26.3	49600	RMT 96.60	20185	11000
Ratite/SD	1590.0	5	0.325	1.447	1715	1498	218	87.3	12.7	39100	RMT 96.60	17150	10000
Lapwing/SD	1590.0	7	0.376	1.468	1791	1499	292	83.7	16.3	42600	RMT 96.60	17910	10000
Falcon/SD	1590.0	13	0.515	1.521	2039	1502	537	73.7	26.3	55100	RMT 96.60	18351	9000
Smew/SD	1780.0	5	0.343	1.531	1921	1677	244	87.3	12.7	43600	RMT 96.60	17289	9000
Chukar/SD	1780.0	8	0.437	1.565	2068	1681	387	81.3	18.7	51100	RMT 96.60	18612	9000
Cockatoo/SD	2156.0	5	0.378	1.731	2331	2036	295	87.3	12.7	52500	RMT 96.60	17483	7500
Bluebird/SD	2156.0	8	0.481	1.716	2504	2036	468	81.3	18.7	60700	RMT 96.60	18780	7500
Kiwi/SD	2167.0	4	0.347	1.725	2296	2047	249	89.2	10.8	50700	RMT 96.60	16072	7000

(1) Code words shown denote ACSR/SD with regular-strength Class A galvanized steel core (GA2). See the Options section to find the appropriate code word modifier designation for alternative design options.

(2) Due to rounding, total values may not exactly equal the sum of the component values.

(3) Weights shown are for conductor only and do not include the reel. Normal length and shipping tolerances apply.

Dimensions and weights not designated minimum or maximum are nominal values and subject to manufacturing tolerances. In this context, weight means mass.

# TransPowr® ACSR/SD Bare Overhead Conductor

## Self-Damping Aluminum Conductor Steel-Reinforced Concentric-Lay-Stranded

### ACSR/SD, CONCENTRIC-LAY-STRANDED (ELECTRICAL PROPERTIES)

CODE WORD (1)	SIZE AWG OR kcmil	TYPE	STEEL CORE O.D. INCHES	O.D. INCHES	RESISTANCE (4) OHMS/1000 FT			GEOMETRIC MEAN RADIUS FT	INDUCTIVE REACTANCE OHM / 1000 FT (5)	CAPACITIVE REACTANCE MEGAOHM - 1000 FT (5)
					DC @ 20°C	AC @ 25°C	AC @ 75°C			
Snowbird/SD	1033.5	5	0.261	1.185	0.0167	0.0175	0.0208	0.0389	0.0746	0.4710
Ortolan/SD	1033.5	7	0.303	1.145	0.0166	0.0174	0.0206	0.0378	0.0753	0.4768
Curlew/SD	1033.5	13	0.415	1.191	0.0165	0.0171	0.0204	0.0400	0.0740	0.4704
Avocet/SD	1113.0	5	0.271	1.226	0.0155	0.0163	0.0193	0.0402	0.0739	0.4657
Bluejay/SD	1113.0	7	0.315	1.242	0.0155	0.0162	0.0192	0.0410	0.0734	0.4636
Finch/SD	1113.0	13	0.431	1.233	0.0153	0.0159	0.0190	0.0414	0.0732	0.4652
Oxbird/SD	1192.5	5	0.281	1.266	0.0145	0.0153	0.0181	0.0415	0.0732	0.4609
Bunting/SD	1192.5	7	0.326	1.284	0.0144	0.0152	0.0180	0.0423	0.0727	0.4588
Grackle/SD	1192.5	13	0.446	1.274	0.0143	0.0149	0.0177	0.0428	0.0724	0.4599
Scissortail/SD	1272.0	5	0.290	1.305	0.0136	0.0144	0.0170	0.0427	0.0725	0.4562
Bittern/SD	1272.0	7	0.336	1.323	0.0135	0.0143	0.0170	0.0436	0.0720	0.4541
Pheasant/SD	1272.0	13	0.461	1.378	0.0134	0.0141	0.0167	0.0464	0.0705	0.4477
Ringdove/SD	1351.5	5	0.299	1.344	0.0128	0.0136	0.0180	0.0440	0.0718	0.4514
Dipper/SD	1351.5	7	0.347	1.361	0.0128	0.0135	0.0160	0.0449	0.0713	0.4493
Frigate/SD	1351.5	10	0.413	1.389	0.0127	0.0134	0.0159	0.0463	0.0706	0.4462
Martin/SD	1351.5	13	0.475	1.417	0.0126	0.0133	0.0158	0.0477	0.0699	0.4430
Popinjay/SD	1431.0	5	0.308	1.381	0.0121	0.0129	0.0152	0.0452	0.0711	0.4472
Bobolink/SD	1431.0	7	0.357	1.398	0.0120	0.0128	0.0152	0.0461	0.0707	0.4451
Plover/SD	1431.0	13	0.489	1.448	0.0120	0.0127	0.0150	0.0488	0.0694	0.4398
Ratite/SD	1590.0	5	0.325	1.447	0.0109	0.0118	0.0138	0.0477	0.0699	0.4382
Lapwing/SD	1590.0	7	0.376	1.468	0.0108	0.0116	0.0137	0.0484	0.0696	0.4377
Falcon/SD	1590.0	13	0.515	1.521	0.0108	0.0115	0.0136	0.0512	0.0683	0.4319
Smew/SD	1780.0	5	0.343	1.531	0.0097	0.0106	0.0125	0.0502	0.0688	0.4308
Chukar/SD	1780.0	8	0.437	1.565	0.0097	0.0105	0.0124	0.0519	0.0680	0.4277
Cockatoo/SD	2156.0	5	0.378	1.731	0.0080	0.0091	0.0105	0.0573	0.0657	0.4118
Bluebird/SD	2156.0	8	0.481	1.716	0.0080	0.0089	0.0104	0.0570	0.0658	0.4134
Kiwi/SD	2167.0	4	0.347	1.725	0.0080	0.0090	0.0105	0.0570	0.0659	0.4124

(1) Code words shown denote ACSR/SD with regular-strength Class A galvanized steel core (GA2). See the Options section to find the appropriate code word modifier designation for alternative design options.

(4) Based on a conductivity of 61.0% IACS at 20°C for aluminum and 8% IACS at 20°C for the steel core. AC resistance for three-layer designs must be increased by 1.1%, 2.7%, 3.7%, and 4.3% for current densities of 200, 600, 1000, and 1400 amperes per 1000 kcmil of aluminum to allow for the magnetic losses in the steel core. To convert to ohms/mile, multiply by 5.28. To convert to ohms/km, multiply by 3.281.

(5) Values for inductive reactance and capacitive reactance are expressed in terms of a 1 ft radius.

