

# ACSR

## Aluminum Conductor Steel Reinforced



### Complete Conductor:

**A**CSR is a composite concentric-lay-stranded conductor. ACSR conductors are manufactured in accordance with the requirements of the latest applicable issues of ASTM specification B232. The steel strand or strands form the central core of the conductor, around which is stranded one or more layers of aluminum 1350-H19 wires. The steel core may consist of a single strand or a concentric-stranded cable of 7, 19, 37 or more wires. Numerous combinations of aluminum and steel strands and layers are possible. The sizes and standings listed on the following pages are those most frequently used for overhead lines.

### Features and Benefits:

ACSR conductors are recognized for their record of economy, dependability and favorable strength/ weight ratio. ACSR conductors combine the light.

### Features and Benefits (cont'd):

Weight and good conductivity of aluminum with the high tensile strength and ruggedness of steel. In line design, this can provide higher tensions, less sag and longer span lengths than obtainable with most other types of overhead conductors. The steel strands are added as mechanical reinforcement. The cross-sections above illustrate some common standings.

### Applications:

Aluminum Conductors, Steel-Reinforced (ACSR) are extensively used for overhead distribution and transmission lines.

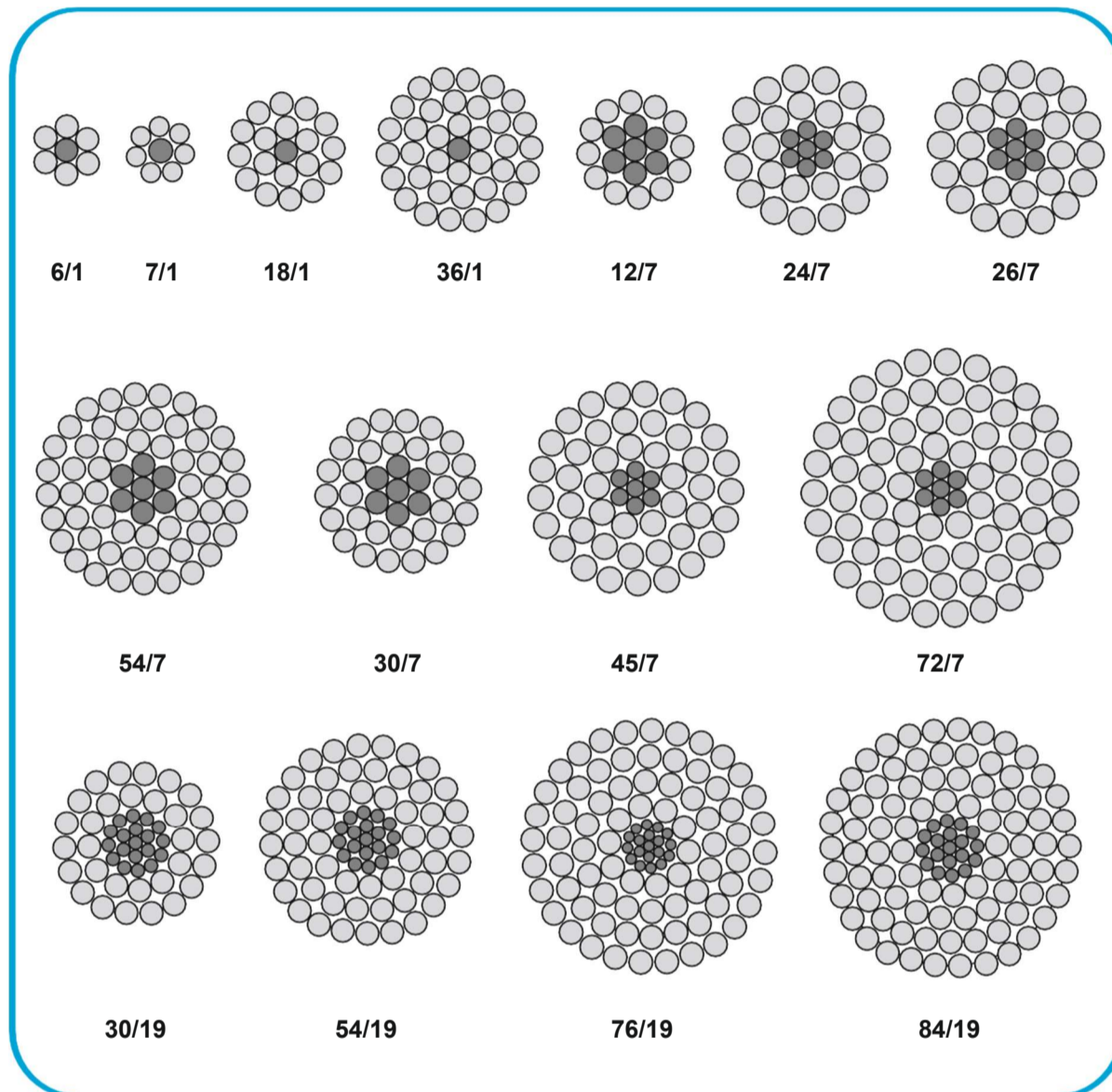
### Options:

- High-conductivity aluminum (/HC) (62.0% IACS)
- Regular-strength class C galvanized steel core (/Gc2)
- High-strength class A galvanized steel core (/GA)
- Extra-high-strength class A galvanized steel core (/GA4)

**Options (cont'd):**

- Ultra-high-strength class A galvanized steel core (/GA5)
- Regular-strength class A zinc-5% aluminum mischmetal alloy - coated steel core (/MA2)
- High-strength class A zinc - 5% aluminum mischmetal alloy - coated steel core (/MA3)
- Extra-high-strength class A zinc - 5% aluminum mischmetal alloy - coated steel core (/MA4)
- Ultra-high-strength class A zinc - 5% aluminum mischmetal alloy - coated steel core (/MA5)
- Aluminum-clad steel core (/AW) (see ACSR/AW catalogue section)

**ACSR cross section according to the number of layers:**



- Non-specular surface finish (/NS)
- Compact ACSR (ASTM B401) designs are available

ASTM B232

- Based on:

- The conductor temp of 75°C
- 0.6 m/s crosswind
- 0.5 coefficient of emissivity
- Intensity of solar radiation 1033w/m<sup>2</sup>
- Height of sea level 1500m

Code Name	Area			Stranding and wire diameter		
	Aluminum		Steel	Total	Aluminum	Steel
	AWG or MCM*	mm <sup>2</sup>	mm <sup>2</sup>	mm <sup>2</sup>	mm	mm
Turkey	6	13.3	2.22	15.52	6/1.68	1/1.68
Thrush	5	16.83	2.81	19.64	6/1.89	1/1.89
Swan	4	21.18	3.53	24.71	6/2.12	1/2.12
Swanate	4	21.12	5.35	26.47	7/1.96	1/2.61
Swallow	3	26.69	4.45	31.14	6/2.38	1/2.38
Sparrow	2	33.59	5.6	39.19	6/2.67	1/2.67
Sparate	2	33.54	8.55	42.09	7/2.47	1/3.30
Robin	1	42.41	7.07	49.48	6/3.00	1/3.00
Raven	1/0	53.52	8.92	62.44	6/3.37	1/3.37
Quail	210	67.33	11.22	78.55	6/3.78	1/3.78
Pigeon	310	85.12	14.19	99.3	6/4.25	1/4.25
Penguin	410	107.22	17.87	125.09	6/4.77	1/4.77
Waxwing	266.8	134.98	7.5	142.48	18/3.09	1/3.09
Partridge	266.8	134.87	21.99	156.86	26/2.57	7/2.0
Ostrich	300	152.19	24.71	176.89	26/2.73	7/2.12
Merlin	336.4	170.22	9.46	179.68	18/3.47	1/3.47
Linnet	336.4	170.55	27.83	198.38	26/2.89	7/2.25
Oriole	336.4	170.49	39.78	210.27	30/2.69	7/2.69
Chickadee	397.6	200.92	11.16	212.09	18/3.77	1/3.77
Brant	397.5	201.55	26.13	227.68	24/3.27	7/2.18
Ibis	397.5	201.33	32.73	234.06	26/3.14	7/2.44
Lark	397.5	200.89	46.87	247.77	30/2.92	7/2.92
Pelican	477	242.30	13.46	255.76	18/4.14	1/4.14
Flicker	477	241.58	31.4	272.98	24/3.58	7/2.39
Hawk	477	241.64	39.49	281.12	26/3.44	7/2.68
Hen	477	241.27	56.3	297.56	30/3.20	7/3.2
Osprey	556.5	282.46	15.69	298.16	18/4.47	1/4.47
Parakeet	556.5	282.3	36.59	318.89	24/3.87	7/2.58
Dove	556.5	282.58	45.92	328.49	26/3.72	7/2.89
Eagle	556.5	282.07	65.82	347.88	30/3.46	7/3.46
Peacock	605	306.12	39.78	345.91	24/4.03	7/2.69
Squab	605	305.82	49.81	355.62	26/3.87	7/3.01
Wood Duck	605	307.05	71.65	378.7	30/3.61	7/3.61
Teal	605	307.05	69.62	376.67	30/3.61	19/2.16
Kingbird	636	323	17.94	340.95	18/4.78	1/4.78

Approximate Overall Diameter	Weight			Content%		Nominal breaking load	Maximum de Resistance at 20°C	Maximum AC resistance		Current Rating Ambient Temp 1				
	mm	Aluminum	Steel	Total	Aluminum			Steel	kgf	ohm/km	25°c	75 °c	25°c	40°c
		kg/km									Ohm/km		A	
5.04	37	17	54	67.9	32.1	538	2.1046	2.1471	2.5711	95	80			
5.67	46	22	68	67.6	32.4	681	1.6629	1.6964	2.0315	111	93			
6.36	58	27	86	67.9	32.1	847	1.3216	1.3484	1.6148	129	108			
6.53	58	42	100	58.13	41.87	1074	1.3088	1.3353	1.599	131	110			
7.14	73	35	108	67.9	32.1	1041	1.0486	1.0699	1.2812	151	126			
8.01	92	44	136	58.3	41.87	1294	0.8332	0.8503	1.0182	176	147			
8.24	92	67	159	57.9	42.1	1646	0.8239	0.8408	1.0068	178	150			
9	116	55	171	67.9	32.1	1613	0.66	0.6737	0.8068	205	172			
10.11	147	69	216	67.9	32.1	1974	0.523	0.5339	0.6394	240	201			
11.34	185	185	272	67.9	32.1	2373	0.4157	0.4246	0.5085	279	234			
12.75	234	234	344	67.9	32.1	3000	0.3289	0.3362	0.4026	326	273			
14.31	294	294	433	86.45	13.55	3779	0.2611	0.2672	0.32	380	319			
15.45	372	372	431	68.5	31.5	3087	0.2118	0.2172	0.2601	432	362			
16.28	374	374	546	68.5	31.5	5123	0.2097	0.2195	0.2629	442	371			
17.28	422	422	615	68.5	31.5	5768	0.1858	0.1945	0.233	479	402			
17.35	470	74	543	86.5	13.5	3893	0.168	0.1727	0.2068	504	423			
18.31	473	217	690	68.5	31.5	6401	0.1658	0.174	0.2084	517	433			
18.83	474	311	785	60	40	7897	0.1646	0.1742	0.2086	524	439			
18.85	554	87	641	86.5	13.5	4423	0.1423	0.1467	0.1757	562	471			
19.61	559	204	763	73	27	6601	0.141	0.1478	0.177	572	480			
19.88	558	256	814	69	31	7349	0.1405	0.1479	0.1771	576	483			
20.44	557	366	923	60	40	9209	0.1393	0.148	0.1772	584	490			
20.7	669	105	773	86.5	13.5	5334	0.118	0.1222	0.1463	636	533			
21.49	670	245	915	73	27	7717	0.1176	0.1238	0.1483	645	541			
21.8	670	308	978	68.5	31.5	8845	0.117	0.1237	0.1481	650	545			
22.4	671	440	1110	60	40	10725	0.1163	0.124	0.1485	658	552			
22.35	779	122	901	86.5	13.5	6218	0.1012	0.1053	0.1261	703	589			
23.22	783	286	1069	73	27	9004	0.1007	0.1065	0.1275	714	599			
23.55	783	359	1142	68.5	31.5	10311	0.1001	0.1063	0.1273	719	603			
24.21	784	514	1298	60	40	12539	0.0995	0.1072	0.1284	726	609			
24.2	849	311	1160	73	27	9777	0.0928	0.0988	0.1183	751	630			
24.51	848	389	1237	69	31	11029	0.9025	0.0988	0.1183	756	634			
25.25	853	560	1413	60	40	13159	0.0914	0.0985	0.1179	769	645			
25.24	853	545	1398	61	39	13602	0.0915	0.0988	0.1183	768	644			
23.88	891	140	1031	86.5	13.5	7111	0.0885	0.0926	0.1109	766	642			

ASTM B232

- Based on:

- The conductor temp of 75°C
- 0.6 m/s crosswind
- 0.5 coefficient of emissivity
- Intensity of solar radiation 1033w/m<sup>2</sup>
- Height of sea level 1500m

Code Name	Area			Stranding and wire diameter		
	Aluminum	Steel	Total	Aluminum	Steel	
	AWG or MCM*	mm <sup>2</sup>		mm		
Rook	636	323.06	41.88	364.94	24/4.14	7/2.76
Grosbeak	636	321.83	52.49	374.33	26/3.97	7/3.09
Seater	636	322.55	75.26	397.82	30/3.70	7/3.09
Egret	636	322.55	73.54	396.1	30/3.70	19/2.22
Flamingo	666.6	337.26	43.72	380.98	24/4.23	7/2.82
Gannet	666.6	338.25	54.9	393.15	26/4.07	7/3.16
Stilt	715.5	363.26	46.87	410.12	24/4.39	7/2.92
Starling	715.5	361.92	59.15	421.07	26/4.21	7/3.28
Red wing	715.5	362.05	82.41	444.46	30/3.92	19/2.35
Tern	795	403.76	27.83	431.59	45/3.38	7/2.25
Condor	795	402.32	52.15	454.47	54/3.08	7/3.08
Cuckoo	795	402.32	52.15	454.47	24/4.62	7/3.08
Drake	795	402.55	65.44	467.98	26/4.44	7/3.45
Mallard	795	403.83	91.78	495.61	30/4.14	19/2.48
Ruddy	900	455.49	31.67	487.16	45/3.59	7/2.4
Canary	900	456.27	59.15	515.41	54/3.28	7/3.28
Rail	954	483.83	33.54	517.37	45/3.7	7/2.47
Cardinal	945	484.51	62.81	547.32	54/3.38	7/3.38
Ortlan	1033.5	523.85	36.31	560.17	45/3.85	7/2.57
Curlew	1033.5	525.48	68.12	593.6	54/3.52	7/3.52
Blueiav	1113	565.47	38.9	604.37	45/4.0	7/2.66
Finch	1113	565.011	71.57	636.58	54/3.65	19/2.19
Bunting	1192.5	605.75	41.88	647.62	45/4.14	7/2.76
Grackie	1192.5	602.77	76.89	679.66	54/3.77	19/2.27
Bittern	1272	644.38	44.65	689.04	45/4.27	7/2.85
Pheasant	1272	645.06	81.71	726.77	54/3.90	19/2.34
Dipper	1351.5	684.22	46.87	731.09	45/4.4	7/2.92
Martin	1351.5	685.37	86.67	772.04	54/4.02	19/2.41
Bobolink	1431	725.25	50.14	775.39	45/4.53	7/3.02
Plover	1431	726.89	91.78	818.67	54/4.14	19/2.48
Nuthatch	1510.5	764.18	52.83	817.01	45/4.65	7/3.10
Parrot	1510.5	766.04	97.03	863.07	54/4.25	19/2.55
Lap wing	1590	804.13	55.59	859.72	45/4.77	7/3.18
Falcon	1590	806.2	102.43	908.63	54/4.36	19/2.62
Ckukar	1780	1903.15	73.54	1976.69	84/3.70	19/2.22

Approximate Overall Diameter	Weight			Content%		Nominal breaking load	Maximum de Resistance at 20°C	Maximum AC resistance		Current Rating Ambient Temp 1			
	Aluminum	Steel	Total	Aluminum	Steel			kgf	ohm/km	25°C	75 °c	25°C	40°C
	kg/km									Ohm/km		A	
24.84	896	327	1223	73	27	10305	0.088	0.0936	0.1121	779	653		
25.15	892	410	1302	68.5	31.5	11410	0.0879	0.0939	0.1124	783	656		
25.88	897	588	1484	60	40	13823	0.087	0.0938	0.1123	795	667		
25.9	897	576	1472	61	39	14339	0.0871	0.0941	0.1126	794	666		
25.4	935	341	1277	72	28	10758	0.0843	0.0896	0.1074	801	672		
28.3	938	429	1367	68.5	31.5	11959	0.0836	0.0893	0.107	809	678		
26.31	1007	366	1373	73	27	11560	0.0782	0.0838	0.1004	839	704		
26.68	1003	462	1465	69	31	12845	0.0781	0.0841	0.1007	844	707		
27.43	1006	645	1651	61	39	15672	0.0776	0.0844	0.1011	855	717		
27.03	1119	217	1337	84	16	9940	0.071	0.0761	0.0912	885	742		
27.72	1115	407	1523	73	27	12680	0.0706	0.0763	0.0914	895	750		
27.74	1115	407	1523	73	27	12629	0.0706	0.0763	0.0914	895	750		
28.11	1116	511	1627	69	31	14245	0.0703	0.0762	0.0913	902	756		
28.96	1122	718	1841	61	31	17463	0.0695	0.0763	0.0914	916	768		
28.73	1263	247	1510	84	16	11155	0.063	0.0681	0.0817	954	800		
29.52	1265	462	1727	73	27	14380	0.0623	0.0679	0.0814	968	812		
29.61	1341	262	1603	84	16	11838	0.0593	0.0641	0.0769	994	833		
30.42	1343	491	1834	73	27	15270	0.0587	0.064	0.0767	1008	845		
30.81	1452	284	1736	84	16	12573	0.0547	0.0599	0.0718	1042	873		
31.68	1457	532	1989	73	27	16561	0.0541	0.0597	0.0715	1058	887		
31.98	1568	304	1872	84	16	13535	0.0507	0.0562	0.0674	1089	913		
32.85	1574	560	2134	73	27	17808	0.0506	0.0566	0.0678	1101	923		
33.12	1680	327	2007	84	16	14525	0.0473	0.0532	0.0638	1133	950		
33.97	1679	602	2281	74	26	18785	0.0474	0.0538	0.0644	1142	958		
34.17	1787	349	2135	84	16	15465	0.0445	0.0509	0.0609	1171	982		
35.1	1797	639	2437	74	26	19799	0.0443	0.0511	0.0612	1185	994		
35.16	1897	366	2263	84	16	16353	0.0419	0.0479	0.0574	1218	1021		
36.17	1910	678	2588	74	26	21018	0.0417	0.0436	0.0522	1296	1086		
36.24	2011	392	2402	84	16	17391	0.0395	0.0460	0.0551	1256	1053		
37.24	2025	718	2744	74	26	22275	0.0393	0.0461	0.0553	1272	1067		
37.20	2119	413	2531	84	16	18117	0.0375	0.0436	0.0523	1301	1090		
38.25	2134	759	2894	74	26	23512	0.0373	0.0437	0.0524	1318	1105		
38.16	2230	434	2664	84	16	19064	0.0357	0.0415	0.0497	1346	1128		
39.26	2246	802	3048	74	26	24783	0.0354	0.0424	0.0508	1351	1133		
40.7	2516	576	3092	81	19	23232	0.0318	0.0386	0.0463	1428	1197		

**ASTM B232**  
(High strength stranding)

- Based on:
- The conductor temp of 75°C
  - 0.6 m/s crosswind
  - 0.5 coefficient of emissivity
  - Intensity of solar radiation 1033w/m<sup>2</sup>
  - Height of sea level 1500m

Code Name	Area			Stranding and wire diameter		
	Aluminum	Steel	Total	Aluminum	Steel	
	AWG or MCM*	mm <sup>2</sup>		mm		
<b>Grouse</b>	80	40.54	14.12	54.65	8/2.54	1/4.24
<b>Petrel</b>	101.8	51.6	30.1	81.71	12/2.34	7/2.34
<b>Minorca</b>	110.8	56.11	32.73	88.84	12/2.44	7/2.44
<b>Leghorn</b>	134.6	68.2	39.78	107.98	12/2.69	7/2.69
<b>Guinea</b>	159	80.36	46.87	127.23	12/2.92	7/2.92
<b>Dotterel</b>	176.9	89.4	52.15	141.56	12/3.08	7/3.08
<b>Darking</b>	190.8	96.51	56.3	152.8	12/3.20	7/3.20
<b>Cochin</b>	211.3	107.03	62.44	169.47	12/3.37	7/3.37
<b>Brahma</b>	203.2	102.78	91.78	194.56	16/2.86	19/2.48

**German Sizes DIN 48204**

Area					Stranding and wire diameter		Overall diameter
Nominal		Actual			Aluminum	Steel	
Aluminum	Steel	Aluminum	Steel	Total			
mm <sup>2</sup>					mm		
16	2.5	15.27	2.54	17.81	6/1.80	1/1.80	5.4
25	4	23.86	3.98	27.83	6/2.25	1/2.25	6.8
35	6	34.35	5.73	40.08	6/2.7	1/2.70	8.1
44	32	43.98	31.67	75.65	14/2.00	7/2.4	11.2
50	8	48.25	8.04	56.3	6/3.20	1/3.20	9.6
50	30	51.16	29.85	81.01	12/2.33	7/2.33	11.7
70	12	69.89	11.4	81.29	26/2.85	7/1.44	11.7
95	15	94.39	15.33	109.72	26/2.15	7/1.67	13.6
95	55	96.51	56.3	152.8	12/3.20	7/3.2	16
105	75	105.66	75.54	181.21	14/3.10	19/2.25	17.5
120	20	121.57	19.85	141.42	26/2.44	7/1.9	15.5
120	70	122.14	71.25	193.39	12/3.60	7/3.6	18
125	30	127.91	29.85	157.76	30/2.33	7/2.33	16.1
150	25	148.86	24.24	173.1	26/2.7	7/2.10	17.1
170	40	171.76	40.08	211.84	30/2.7	7/2.7	18.9
185	30	183.78	29.85	213.62	26/3	7/2.33	19
210	35	209.1	34.09	243.18	26/3.2	7/2.49	20.3
210	50	212.05	49.48	261.53	30/3.00	7/3.0	21
230	30	230.9	29.85	260.75	24/3.5	7/2.33	21
240	40	243.05	39.49	282.53	26/3.45	7/2.68	21.9
265	35	263.65	34.09	297.74	24/3.74	7/2.49	22.4
300	50	304.25	49.48	353.72	26/3.86	7/3.0	24.5
305	40	304.61	39.49	344.09	54/2.68	7/2.68	24.1
340	30	339.28	29.85	369.13	48/3.0	7/2.33	25
380	50	381.69	49.48	431.17	54/3.0	7/3.0	27
385	35	386.03	34.09	420.11	48/3.20	7/2.49	26.7
435	55	434.28	56.3	490.58	54/3.2	7/3.2	28.8
450	40	448.7	39.49	488.19	48/3.45	7/2.68	28.7
490	65	490.26	63.55	553.82	54/3.4	7/3.4	30.6
550	70	549.64	71.25	620.89	54/3.6	7/3.6	32.4
560	50	561.69	49.48	611.16	48/3.86	7/3.0	32.2
680	85	678.56	85.95	764.52	54/4	19/2.40	36

Approximate Overall Diameter	Weight			Content%		Nominal breaking load	Maximum de resistance at 20°C	Maximum AC resistance		Current Rating Ambient Temp 1	
	Aluminum	Steel	Total	Aluminum	Steel			25°C	75 °c	25°C	40°C
	mm	kg/km					kgf	ohm/km	Ohm/km		A
9.32	112	110	222	50.5	49.5	2332	0.6758	0.6894	0.8256	205	172
11.71	143	236	379	38	62	4707	0.5544	0.5673	0.6794	244	205
12.22	156	256	412	38	62	5118	0.5099	0.5218	0.6248	258	216
13.46	189	312	501	38	62	6188	0.4195	0.4293	0.5141	294	246
14.63	223	367	590	38	62	7252	0.3561	0.3643	0.4363	328	275
15.42	248	408	656	38	62	7820	0.32	0.3275	0.3921	352	295
16.03	268	441	708	38	62	8441	0.2965	0.3034	0.3633	370	311
16.84	297	489	786	38	62	9362	0.2673	0.2738	0.3279	397	333
18.14	285	720	1005	28	72	12904	0.2799	0.2864	0.3429	398	334

Weight			Content%		Nominal breaking load	Maximum de resistance at 20°C	Maximum AC resistance		Current Rating Ambient Temp 1	
aluminum	Steel	Total	Aluminum	Steel			25°C	75 °c	25°C	40 °c
					kgf	Ohm/km	Ohm/km		A	
42	20	62	67.7	32.3	569	1.8332	1.87	2.2397	104	87
65	31	96	67.7	32.3	873	1.1733	1.2	1.4335	140	117
94	45	139	67.6	32.4	1230	0.8148	0.83	0.9957	178	150
121	248	370	32.7	67	4405	0.5932	0.6608	0.7913	233	195
132	63	195	67.7	32.3	1664	0.5801	0.5921	0.7091	224	187
141	234	375	37.6	62.4	4310	0.519	0.569	0.6814	252	211
193	89	282	68.4	31.6	2576	0.4033	0.4205	0.5035	286	240
260	120	381	68.2	31.5	3408	0.2987	0.3117	0.3732	350	293
266	441	707	37.6	62.4	7771	0.2751	0.3021	0.3618	385	323
292	594	886	33	67	10367	0.2472	0.2785	0.3335	418	350
335	156	491	68.2	31.8	4354	0.2318	0.2423	0.2901	414	347
337	558	895	37.7	62.3	9535	0.2174	0.239	0.2862	450	377
353	234	587	60.1	39.9	5656	0.2183	0.2301	0.2755	434	364
411	190	601	68.4	31.6	5267	0.1893	0.1982	0.2373	473	397
474	314	788	60.2	39.8	7461	0.1625	0.1721	0.206	528	442
507	234	741	68.4	31.6	6422	0.1534	0.1609	0.1927	544	456
577	267	844	68.4	31.6	7260	0.1348	0.1419	0.1699	592	496
585	388	973	60.1	39.9	8938	0.1317	0.1398	0.1674	606	509
636	234	870	73.1	26.9	7081	0.1226	0.129	0.1545	627	526
670	309	980	68.4	31.5	8377	0.116	0.1225	0.1467	653	548
727	267	994	73.1	26.9	8036	0.1074	0.1135	0.1359	683	573
839	388	1227	68.4	31.6	10241	0.0926	0.099	0.1185	755	633
841	309	1151	73.1	26.8	9621	0.0931	0.099	0.1186	750	629
936	234	1170	80	20	8968	0.084	0.0889	0.1065	798	669
1054	388	1442	73.1	26.9	11715	0.0743	0.0796	0.0953	868	728
1065	267	1332	80	20	10106	0.0739	0.0787	0.0943	867	727
1199	441	1640	73.1	26.9	13203	0.0653	0.0706	0.0845	943	791
1238	309	1548	80	20	11645	0.0635	0.069	0.0826	950	797
1354	498	1852	73.1	26.9	14810	0.0578	0.0639	0.0765	1012	848
1518	558	2076	73.1	26.9	16328	0.0516	0.0577	0.0691	1085	910
1550	388	1938	80	20	14282	0.0508	0.0565	0.0676	1091	914
1874	676	2550	73.5	26.5	20347	0.0418	0.0483	0.0578	1230	1031



British Sizes BS 215

- Based on:
- The conductor temp of 75°C
  - 0.6 m/s crosswind
  - 0.5 coefficient of emissivity
  - Intensity of solar radiation 1033w/m<sup>2</sup>
  - Height of sea level 1500m

Code Name	Area			Stranding and wire diameter		Approximate overall diameter
	Aluminum	Steel	Total	Aluminum	Steel	
	mm <sup>2</sup>			mm		
Mole	10.6	1.77	12.37	6/1.50	1/1.50	4.5
Squirrel	20.98	3.50	24.48	6/2.11	1/2.11	6.33
Gopher	26.25	4.37	30.62	6/2.36	1/2.36	7.08
Weasel	31.61	5.27	36.88	6/2.59	1/2.59	7.77
Fox	36.68	6.11	42.79	6/2.79	1/2.79	8.37
Ferret	42.41	7.07	49.48	6/3.00	1/3.00	9
Rabbit	52.88	8.81	61.7	6/3.35	1/3.35	10.05
Mink	63.12	10.52	73.64	6/3.66	1/3.66	10.98
Shank	63.22	36.88	100.1	12/2.59	7/2.59	12.95
Beaver	75.02	12.5	87.52	6/3.99	1/3.99	11.97
Horse	73.36	42.79	116.16	12/2.79	7/2.79	13.95
Raccoon	79.21	13.2	92.42	6/4.10	1/4.10	12.3
Otter	83.92	13.99	97.9	6/4.22	1/4.22	12.66
Cat	95.42	15.9	111.33	6/4.5	1/4.50	13.5
Hare	104.98	17.5	122.48	6/4.72	1/4.72	14.16
Dog	104.98	13.55	118.53	6/4.72	7/1.57	14.15
Hyena	105.95	20.48	126.43	7/4.39	7/1.93	14.57
Leopard	131.37	16.84	148.21	6/5.28	7/1.75	15.81
Coyote	132.1	20.09	152.2	26/2.54	7/1.91	15.89
Cougar	130.3	7.24	137.5	18/3.05	18/3.05	15.25
Tiger	131.23	30.62	161.85	30/2.36	7/2.36	16.52
Wolf	158.05	36.88	194.93	30/2.59	7/2.59	18.13
-	158.65	8.81	167.46	18/3.35	1/3.35	16.75
lynx	183.4	42.79	226.2	30/2.79	7/2.79	19.53
-	184.23	10.24	194.47	18/3.61	1/3.61	18.05
Panther	212.05	49.48	261.53	30/2.00	7/3.0	21
Lion	238.26	55.59	293.85	30/3.18	7/3.18	22.26
Bear	264.42	61.7	326.11	30/3.35	7/3.35	23.45
Goat	324.3	75.67	399.97	30/3.71	7/3.71	25.97
Sheep	375.1	87.52	462.62	30/3.99	7/3.99	27.93
Antelope	374.1	48.49	422.59	54/2.97	7/2.97	26.73
Bison	381.69	49.48	431.17	54/3.0	7/3.0	27
-	210.63	11.7	222.33	18/3.86	1/3.86	19.3
Deer	429.59	100.24	529.83	30/4.27	7/4.27	29.89
Zebra	428.87	55.59	484.46	54/3.18	7/3.18	28.62
Elk	477.12	111.33	588.44	30/4.50	7/4.5	31.5
Camel	475.95	61.7	537.65	54/3.35	7/3.35	30.15
Moose	528.47	68.51	596.98	54/3.53	7/3.53	31.77

Weight			Content%		Nominal breaking load	Maximum de resistance at 20°C	Maximum AC resistance		Current Rating Ambient Temp	
Aluminum	Steel	Total	Aluminum	Steel			kgf	Ohm/km	35 °c	75 °c
kg/km					A					
29	14	43	67.4	32.6	421	2.6398	2.6931	3.2251	82	69
58	27	85	68.2	31.8	806	1.3341	1.3612	1.6300	129	108
72	34	106	62.9	32.1	980	1.0664	1.088	1.303	149	125
87	41	128	67.9	32.1	1157	0.8855	0.9036	1.082	169	141
101	48	148	68.2	31.1	1343	0.7631	0.7787	0.9325	186	156
116	55	171	67.8	32.2	1553	0.66	0.6735	0.8065	205	172
145	69	214	67.7	32.3	1873	0.5293	0.5403	0.647	238	199
173	82	255	67.8	32.2	2223	0.4434	0.4529	0.5423	267	224
175	288	463	37.8	62.2	5378	0.42	0.4608	0.5518	290	243
206	97	303	67.9	32.1	2627	0.3731	0.3811	0.4563	300	251
203	334	537	37.8	62.2	6240	0.362	0.3971	0.4755	321	269
217	103	320	67.8	32.2	2774	0.3533	0.3612	0.4326	311	261
230	109	339	67.8	32.2	2939	0.3335	0.341	0.4083	323	271
262	124	386	67.8	32.2	3341	0.2933	0.2999	0.3591	352	295
288	136	424	67.9	32.1	3665	0.2666	0.2729	0.3268	375	314
288	106	394	73	27	3333	0.2681	0.279	0.3341	374	313
291	160	451	64.5	35.5	4194	0.2632	0.276	0.3305	381	319
360	132	492	73.2	26.8	4157	0.2143	0.2234	0.2675	433	363
365.7	155.8	521.5	70.1	29.9	4684	0.2144	0.2242	0.2685	434	364
359	56.3	415.3	86.4	13.6	3116	0.2172	0.2227	0.2667	425	356
363	239	602	60.3	39.7	5916	0.2127	0.2247	0.269	441	370
437	288	725	60.3	39.7	7061	0.1766	0.187	0.2239	499	419
437	69	506	86.4	13.6	3460	0.18	0.185	0.2216	481	403
507	334	841	60.3	39.7	8137	0.1522	0.1611	0.193	551	462
508	80	588	86.4	13.6	3983	0.155	0.1593	0.1908	532	446
586	387	973	60.2	39.8	9408	0.1317	0.1398	0.1674	606	509
658	435	1093	60.2	39.8	10247	0.1172	0.1249	0.1496	654	549
731	482	1213	60.3	39.7	11345	0.1056	0.1131	0.1354	700	587
896	591	1488	60.2	39.8	13848	0.0861	0.0928	0.1111	799	671
1036	684	1721	60.2	39.8	15940	0.0744	0.0808	0.0968	878	736
1015	379	1394	72.8	27.2	12087	0.0745	0.0798	0.0955	865	725
1036	387	1423	72.8	27.2	12130	0.073	0.0782	0.0936	876	735
580	91	672	86.3	13.7	4513	0.1356	0.1429	0.1711	574	481
1187	783	1971	60.2	39.8	18212	0.065	0.0711	0.0852	957	803
1164	435	1599	72.8	27.2	13454	0.0649	0.0702	0.084	943	791
1318	870	2189	60.2	39.8	20227	0.0585	0.0647	0.0775	1022	857
1292	482	1774	72.8	27.2	14883	0.0585	0.0639	0.0765	1006	844
1434	535	1970	72.8	27.2	16417	0.0527	0.0582	0.0697	1073	900