

AAC

All Aluminum Conductor

All aluminum 1350 conductor concentric lay -stranded



Complete Conductor:

Bare all-aluminum 1350 conductors (AAC) are concentric-lay-stranded, consisting of one or more layers of wire wrapped helically around a straight round central wire. Each successive layer has six wires more than the layer immediately beneath. Greater flexibility is provided by increasing the number of strands for a specific cross-sectional area. AAC conductors are manufactured in accordance with the requirements of the latest applicable issues of ASTM (specifications B230 and B231 & DIN). The more commonly used standings are 7, 19, 37, 61 and 91 standings are also available

Complete Conductor (cont'd):

Class AA standings are used for bare overhead lines. The direction of lay for the outer layer is right-hand and is normally reversed in successive layers. The temper is full hard drawn (H19).

Features and Benefits:

Optimum economy is provided since the lighter weight means lower unit length costs, easier handling in installation and less-complex fittings. All-aluminum conductors have an inherent high corrosion resistance due to their homogeneous construction.

Applications:

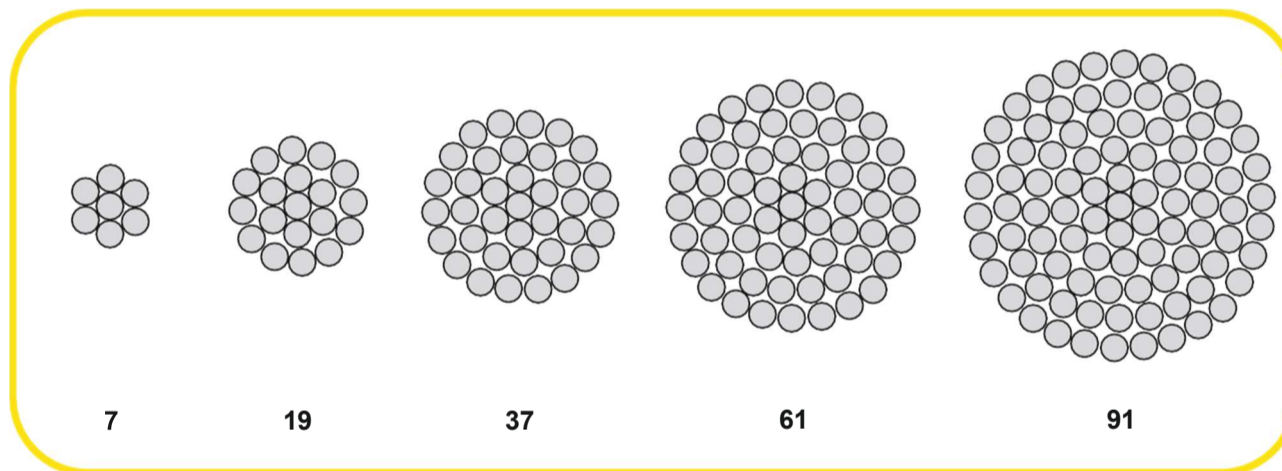
Stranded bare all-aluminum 1350 conductors (AAC) are used in overhead line installations where design parameters do not require the higher strength or temperature ratings provided by ACSR, ACSS or other type conductors.

Options:

- Trapezoidal-shaped aluminum strands (/TW)
- High-conductivity aluminum (/HC) (61.8% IACS)



AAC cross section according to the number of layers:



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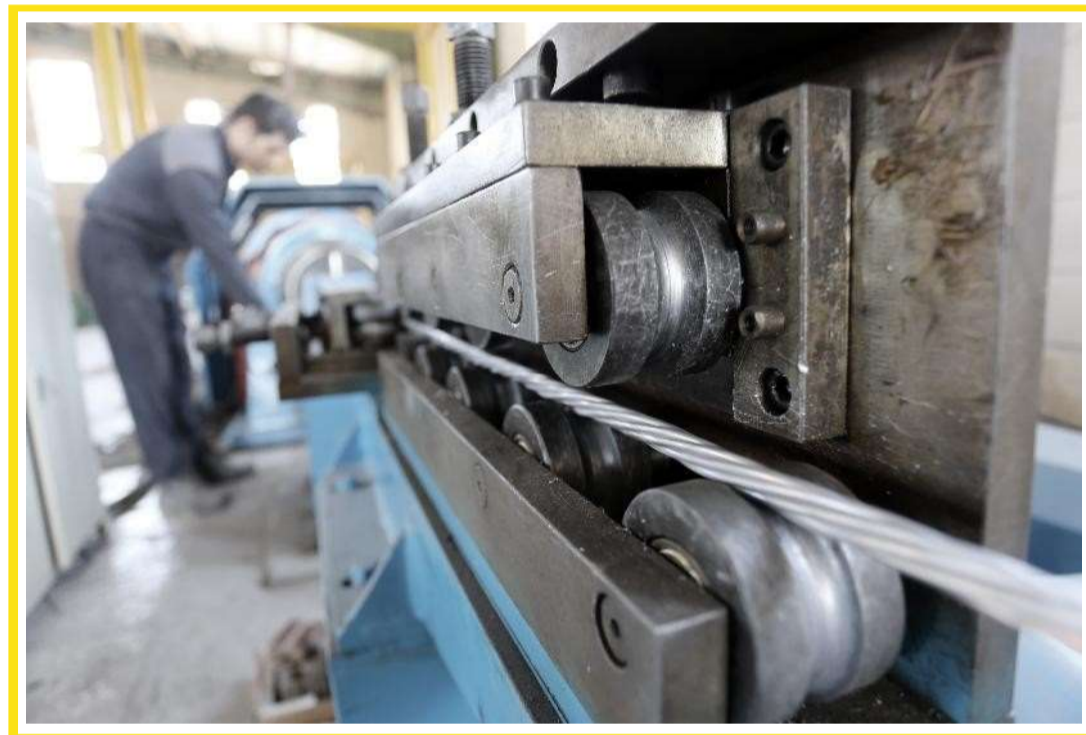
Code Name	Total Area		Stranding and wire diameter	Approximate overall diameter	Weight	Nominal breaking load	Maximum resistance at 20° c	Maximum AC Resistance		Current Rating Ambient Temp	
	AWG or MCM	mm ²						mm	kg/km	kgf	Ohm/km
			Ohm/km	A							
Peachbell	6	13.21	7/1.55	4.7	36	252	2.1828	2.2269	2.667	91	76
Rose	4	21.12	7/1.96	5.9	58	403	1.3651	1.3928	1.668	124	104
Iris	2	33.54	7/2.47	7.4	92	608	0.8596	0.8772	1.05	169	141
Pansy	1	42.49	7/2.78	8.3	117	728	0.6786	0.6925	0.829	197	165
Poppy	1/0	53.52	7/3.12	9.4	148	891	0.5387	0.55	0.659	230	193
Aster	210	67.35	7/3.5	10.5	186	1121	0.4281	0.4373	0.524	268	225
Phlox	310	84.91	7/3.93	11.8	234	1372	0.3395	0.3471	0.416	312	262
Oxlip	410	107.40	7/4.42	13.3	296	1735	0.2684	0.2748	0.329	365	306
Valerian	250	126.36	19/2.91	14.6	348	2098	0.2282	0.2336	0.2797	409	343
Sneezewort	250	126.67	7/4.80	14.4	349	2046	0.2276	0.2330	0.2790	408	342
Laurel	266.8	135.20	19/3.01	15.1	373	2180	0.2133	0.2187	0.2619	427	358
Daisy	266.8	135.25	7/4.96	14.9	373	2185	0.2132	0.2186	0.2618	425	357
Peony	300	151.85	19/3.19	16.0	419	2449	0.1899	0.1947	0.2332	461	387
Tulip	336.4	170.48	19/3.38	16.9	470	2749	0.1691	0.1738	0.2082	498	417
Daffodil	350	177.61	19/3.45	17.2	490	2864	0.1623	0.1669	0.1998	512	429
Canna	397.5	200.98	19/3.67	18.4	554	3171	0.1435	0.1479	0.1771	555	465
Goldentuft	450	228.13	19/3.91	19.6	629	3455	0.1264	0.1308	0.1567	602	505
Syringa	477	241.03	37/2.88	20.2	665	3915	0.1196	0.1238	0.1483	626	525
Cosmos	477	241.15	19/4.02	20.1	665	3774	0.1196	0.1238	0.1482	625	524
Hyacinth	500	252.88	37/2.95	20.7	697	4107	0.1140	0.1180	0.1413	646	542
Zinnia	500	253.29	19/4.12	20.6	698	3964	0.1138	0.1178	0.1411	646	542
Dahlia	556.5	282.36	19/4.35	21.7	778	4419	0.1021	0.1062	0.1272	693	581
Mistletoe	556.5	281.06	37/3.11	21.8	775	4435	0.1026	0.1067	0.1278	692	580
Meadowsweet	600	303.17	37/3.23	22.6	836	4783	0.0951	0.0995	0.1192	725	608
Orchid	636	322.23	37/3.33	23.3	888	5084	0.0895	0.0936	0.1121	755	633
Heuchera	650	330.02	37/3.37	23.6	910	5207	0.0874	0.0914	0.1095	768	644
Flag	700	354.44	61/2.72	24.5	977	5856	0.0813	0.0857	0.1027	802	673
Verbena	700	353.94	37/3.49	24.5	976	5585	0.0815	0.0859	0.1028	801	672
Nasturtium	715.5	362.30	61/2.75	24.8	999	5986	0.0796	0.0839	0.1004	814	683
Violet	715.5	362.10	37/3.53	24.7	998	5713	0.0796	0.0839	0.1005	814	682
Cattail	750	380.98	61/2.82	25.3	1050	6120	0.0757	0.0798	0.096	842	706
Petunia	750	380.8	37/3.62	25.3	1050	6008	0.0757	0.0798	0.096	841	705
Lilac	795	402.91	61/2.90	26.1	1111	6472	0.0716	0.0761	0.091	870	730
Arbutus	795	402.13	37/3.72	26.1	1109	6345	0.0717	0.0762	0.091	869	729
Snapdragon	900	457.43	61/3.09	27.8	1261	7138	0.063	0.0677	0.081	934	790
Cockscomb.	900	455.69	37/3.96	27.7	1256	6978	0.0633	0.0679	0.081	940	788
Goldenrod	954	484.46	61/3.18	28.6	1336	7560	0.0595	0.0639	0.077	980	821
Magnolia	954	484.46	37/4.08	28.6	1336	7560	0.0595	0.0639	0.077	980	821
Camellia	1000	506.03	61/3.25	29.3	1395	7896	0.057	0.0619	0.074	1003	841
Hawkweed	1000	507.73	37/4.18	29.2	1400	7775	0.0568	0.0617	0.074	1005	842

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Code Name	Total Area	Nominal Aluminum Area	Stranding and wire diameter	Approximate overall diameter	Weight	Rated Strength	Nominal de resistance at 20°C	Maximum AC resistance		Current Rating Ambient Temp	
								25°C	75°C	25°C	40°C
								Ohm/km		A	
	mm ²		mm	kg/km	kgf						
Midge	23.33	22	7/2.06	6.2	64	433	1.2273	1.2521	1.4995	133	111
Aphis	26.44		3/3.35	7.2	72	445	1.0829	1.1048	1.323	166	139
Gnat	26.85		7/2.21	6.6	74	449	1.0663	1.8794	1.3028	146	122
Weevil	31.56		3/3.66	7.9	86	522	0.9072	0.9257	1.1086	187	157
Mosquito	36.88		7/2.59	7.8	101	649	0.7764	0.7923	0.9488	180	151
Ladybird	42.79		7/2.79	8.4	117	748	0.6691	0.6828	0.8176	199	161
Ant	52.83	50	7/3.10	9.3	145	889	0.5419	0.5532	0.6625	229	192
Fly	63.55	60	7/3.4	10.2	174	1075	0.4505	0.4602	0.551	259	217
Bluebottle	73.64		7/3.66	11	202	1220	0.3888	0.3971	0.4755	285	239
Earwig	78.55		7/3.78	11.4	215	1297	0.3645	0.3723	0.4458	298	250
Grasshopper	84.05		7/3.91	11.7	230	1361	0.3407	0.3483	0.417	311	261
Clegg	95.6		7/4.17	12.5	262	1551	0.2995	0.3062	0.3667	339	284
Wasp	105.95	100	7/4.39	13.2	290	1719	0.2702	0.2766	0.3313	363	304
Beetle	106.38		19/2.67	13.4	293	1810	0.2705	0.2769	0.3316	365	306
Bee	132		7/4.9	14.7	361	2136	0.2169	0.2224	0.2664	420	352
Cricket	159.72		7/5.36	16.1	437	2504	0.1793	0.1843	0.2207	476	399
Hornet	157.61	150	19/3.25	16.3	434	2576	0.1826	0.1876	0.2247	473	396
Caterpillar	185.94		19/3.53	17.7	512	3039	0.1548	0.1591	0.1905	528	443
Chafer	213.21	200	19/3.78	18.9	587	3416	0.1349	0.1391	0.1666	578	484
Spider	237.56		19/3.99	20	654	3719	0.1211	0.1417	0.1697	583	489
Cockroach	265.74	250	19/4.22	21.1	731	4168	0.1083	0.1126	0.1349	666	558
Butterfly	322.65	300	19/4.65	23.3	888	5080	0.0892	0.0933	0.0112	756	634
Moth	373.05		19/5.00	25	1027	5851	0.0771	0.0813	0.0974	830	696
Drone	372.43		37/3.58	25.1	1027	5851	0.0774	0.0816	0.0977	829	760
Locust	428.71		19/5.36	26.8	1180	6577	0.0671	0.0714	0.0854	907	744
Centipede	415.2	400	37/3.78	26.5	1145	6486	0.0694	0.0738	0.0884	888	823
Maybug	486.1		37/4.09	28.6	1340	7484	0.0591	0.0637	0.0763	982	867
Scorpion	529.83		37/4.27	29.9	1461	8819	0.0544	0.0591	0.0708	1034	958
Cicada	628.33		37/5.65	32.6	1732	9661	0.0459	0.0512	0.0613	1143	862
Tarantula	794.84		37/5.23	36.6	2191	12202	0.0363	0.0426	0.0511	1303	858
Larkspur	1033.5	524.88	61/3.31	29.8	1447	8191	0.0549	0.06	0.07	1028	862
Bluebell	1033.5	524.41	37/4.24	29.7	1440	8000	0.0552	0.06	0.07	1024	858
Marigold	1113	563.63	61/3.43	30.9	1554	8795	0.0512	0.056	0.07	1071	898
Hawthorn	1192.5	603.76	61/3.55	32	1665	9422	0.0478	0.053	0.06	1113	933
Narcissus	1272	645.27	61/3.67	33	1779	10069	0.0447	0.05	0.06	1164	976
Columbine	1351.5	684.53	61/3.78	34	1887	10368	0.04	0.048	0.06	1201	1007
Carnation	1431	724.95	61/3.89	35	1999	10980	0.0398	0.045	0.05	1248	1046
Gladiolus	1510.5	766.53	61/4.00	36	2113	11610	0.0376	0.043	0.05	1284	1076
Coreopsis	1590	805.33	61/4.10	37	2220	12197	0.0358	0.042	0.05	1315	1102
Jessamine	1750	885.82	61/4.30	38	2442	13416	0.0326	0.039	0.05	1388	1163
Cowslip	2000	1010.4	91/3.76	41.4	2786	15133	0.0285	0.036	0.04	1483	1242
Sagebrush	2250	1137.8	91/3.99	43.9	3137	17041	0.0253	0.033	0.04	1587	1329
Lupine	2500	1266.73	91/4.21	46.3	3492	18972	0.0228	0.031	0.04	1664	1394
Bitterroot	2750	1389.94	91/4.41	48.6	3832	20818	0.0207	0.029	0.03	1749	1464
Trillium	3000	1517.09	127/3.90	50.7	4183	23411	0.019	0.028	0.03	1809	1514
Bluebonnet	3500	1776.26	127/4.22	54.8	4897	26604	0.02	0.025	0.03	1961	1640

Germany Sizes (DIN 48201)

No	Area		Stranding and wire diameter	Overall Diameter	Weight	Nominal Breaking load	Maximum dc resistance at 20 °C	Maximum AC resistance		Current Rating Ambient Temp
	Nominal	Actual						mm	kg/km	
			25°C	75°C	A					
1	16	15.89	7/1.7	5.1	43	289	1.8021	1.84	2.2	103
2	25	24.25	7/2.1	6.3	66	432	1.1809	1.2	1.44	137
3	35	34.36	7/2.5	7.5	94	589	0.8333	0.85	1.02	172
4	50	49.48	7/3.0	9	135	810	0.5787	0.59	0.71	219
5	50	48.36	19/1.8	9	133	881	0.5951	0.61	0.73	216
6	70	65.82	19/2.10	10.5	181	1173	0.4372	0.45	0.53	265
7	95	93.27	19/2.50	12.5	256	1599	0.3085	0.32	0.38	334
8	120	117	19/2.80	14	322	1961	0.2459	0.25	0.3	388
9	150	147.1	37/2.25	15.7	405	2580	0.196	0.2	0.24	452
10	185	181.6	37/2.5	17.5	500	3115	0.1587	0.16	0.19	520
11	240	242.53	61/2.25	20.2	670	4030	0.1192	0.12	0.15	628
12	300	299.42	61/2.50	22.5	827	4865	0.0966	0.1	0.12	721
13	400	400.13	61/2.89	26	1105	6207	0.0723	0.08	0.09	865
14	500	499.82	61/3.23	29.1	1381	7616	0.0579	0.06	0.08	993
15	625	626.28	91/2.96	32.6	1733	9714	0.0463	0.05	0.06	1138
16	800	802.06	91/3.35	36.8	2226	12222	0.0362	0.04	0.05	1307



British Sizes

Code Name	Nominal Aluminum Area	Stranding & wire Dia	Overall Diameter	Total Area	Weight	Rated Strenght	Maximum AC Resistance
	mm ²	mm	mm	mm ²	kg/km	kN	ohm/km
Midge	22	7/2.06	6.2	23.3	64	3.99	1.227
Aphis	25	3/3.35	7.2	26.4	73	4.12	1.081
Gnat	25	7/2.21	6.6	26.8	73	4.59	1.0662
Weevil	30	3/3.66	7.9	31.6	86	4.86	0.9082
Mosquito	35	7/2.59	7.8	36.9	101	6.03	0.7763
Ladybird	40	7/2.79	8.4	42.8	117	6.99	0.6687
Ant	50	7/3.10	9.3	52.8	145	8.28	0.5419
Fly	60	7/3.40	10.2	63.6	174	9.90	0.4505
Bluebottle	70	7/3.66	11.0	73.7	202	11.33	0.3887
Earwig	75	7/3.78	11.4	78.5	215	11.94	0.3645
Grasshopper	80	7/3.91	11.7	84.1	230	12.78	0.3405
Clegg	90	7/4.17	12.5	95.6	262	14.53	0.2994
Wasp	100	7/4.39	13.2	106	290	16.00	0.2700
Beetle	100	19/2.67	13.4	106.4	293	17.38	0.2703
Bee	125	7/4.90	14.7	132.0	361	19.94	0.2167
Cricket	150	7/5.36	16.1	157.9	432	23.8	0.1812
Hornet	150	19/3.25	16.3	157.6	434	25.7	0.1825
Caterpillar	175	19/3.53	17.7	186.0	512	28.62	0.1547
Chafer	200	19/3.78	18.9	213.0	587	32.4	0.1349
Spider	225	19/3.99	20.0	237.0	652	36.11	0.1211
Cockroach	250	19/4.22	21.1	265.7	731	40.4	0.10830
Butterfly	300	19/4.65	23.3	322.7	888	48.75	0.08912
Moth	350	19/5.00	25.0	373.2	1027	56.35	0.77090
Drone	350	19/3.58	25.1	372.5	1029	57.32	0.07738
Locust	400	19/5.36	26.8	428.5	1179	64.76	0.06710
Centipede	400	37/3.78	26.5	415.2	1145	63.1	0.06944
Maybug	450	37/4.09	28.6	486	1340	73.89	0.05929
Scorpion	500	37/4.27	29.9	530	1460	80.03	0.05442
Cicada	600	37/4.65	32.6	628.6	1733	94.91	0.04587
Tarantula	750	37/5.23	36.6	794.8	2191	120.07	0.03628