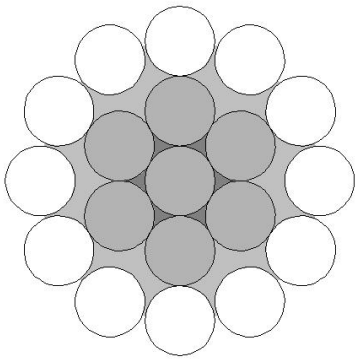
Aluminium Conductor Al-Alloy Reinforced(ACAR)

APPLICATION:

Aluminium Conductors Alloy reinforced (ACAR) is formed by concentrically stranded Wires of Aluminium on high strength Aluminium-Magnesium Silicon (AlMgSi) Alloy core. ACAR has got a better mechanical and electrical properties as compared to an equivalent conductors of ACSR,AAC or AAAC.A very good balance between the mechanical and electrical properties therefore makes ACAR the best choice where the Current-carrying capacity , strength , and lightweight are the main consideration of the line design. These conductors are extensively used in overhead transmission and distribution lines.



STANDARDS:

- ASTM B-524
- ASTM B-399/231
- IEC 61089/EN 50182

Qualification Certificate:

For more information, please visit our website:

https://www.huilicablegroup.com/acar-aluminum-conductor-aluminum-alloy-reinforced.html

CONSTRUCTION:

- 1350-H19 Aluminum Wires.
- 6201 Aluminum Alloy Core.
- Anti-Corrosion Grease

TECHNICAL PARAMETERS:

ALUMINUM CONDUCTOR ALLOY REINFORCED(ACAR) ASTM B524

Size	Sectional Area	Stranding			Outer Diameter	Mass Per Unit Length			Rated Strength	DC Resistance @20℃	Current Capacity	
		No.of Wires		Wire Diameter		Al	Al-Alloy	Total			75℃	85℃
		Al	Al-Alloy									
cmil	mm²	No.	No.	mm	mm	Kg/Km	Kg/Km	Kg/Km	KN	Ω/Km	A	A
3000000	1520.00	72	19	4.613	50.74	3343.0	878.0	4221.0	270.0	0.01966	1029	1387
2750000	1393.00	72	19	4.415	48.57	3063.0	808.0	3871.0	247.0	0.02147	992	1329
2500000	1267.00	72	19	4.209	46.30	2784.0	731.0	3515.0	225.0	0.02362	951	1267
2493000	1263.00	72	19	4.204	46.24	2785.0	731.0	3515.0	224.0	0.02367	950	1265
2250000	1140.00	72	19	3.993	43.92	2506.0	658.0	3164.0	202.0	0.02624	907	1200
2000000	1013.00	72	19	3.764	41.40	2206.0	579.0	2785.0	182.0	0.02925	861	1131
3000000	1520.00	63	28	4.613	50.74	2926.0	1290.0	4216.0	287.0	0.01995	1024	1380
2750000	1393.00	63	28	4.415	48.57	2680.0	1180.0	3860.0	263.0	0.02178	987	1323
2500000	1267.00	63	28	4.209	46.30	2436.0	1080.0	3516.0	239.0	0.02397	946	1260
2250000	1140.00	63	28	3.993	43.92	2193.0	970.0	3163.0	215.0	0.02663	902	1193
2000000	1013.00	63	28	3.764	41.40	1930.0	853.0	2783.0	193.0	0.02968	856	1125
3000000	1520.00	54	37	4.613	50.74	2508.0	1710.0	4218.0	308.0	0.02025	1019	1374
2750000	1393.00	54	37	4.415	48.57	2297.0	1570.0	3867.0	282.0	0.02211	982	1316
2500000	1267.00	54	37	4.209	46.30	2088.0	1420.0	3508.0	257.0	0.02432	941	1254
2493000	1263.00	54	37	4.204	46.24	2089.0	1423.0	3512.0	256.0	0.02438	940	1252
2250000	1140.00	54	37	3.993	43.92	1879.0	1280.0	3159.0	231.0	0.02703	897	1187
2000000	1013.00	54	37	3.764	41.40	1654.0	1130.0	2784.0	207.0	0.03012	851	1119
2000000	1013.00	54	7	4.600	41.40	2470.0	318.0	2788.0	169.0	0.02882	866	1138
1900000	963.00	54	7	4.483	40.35	2346.0	303.0	2649.0	160.0	0.03034	844	1107
1800000	912.00	54	7	4.364	39.28	2223.0	287.0	2510.0	152.0	0.03202	822	1075
1750000	887.00	54	7	4.303	38.73	2161.0	288.0	2439.0	148.0	0.03293	811	1058
1700000	861.00	54	7	4.239	38.15	2098.0	271.0	2369.0	143.0	0.03393	799	1041
1600000	811.00	54	7	4.115	37.04	1976.0	255.0	2231.0	135.0	0.03601	775	1007
1500000	760.00	54	7	3.983	35.85	1852.0	239.0	2090.0	127.0	0.03843	750	971
1400000	709.00	54	7	3.848	34.63	1729.0	223.0	1952.0	118.0	0.04118	723	934
1361500	690.00	54	7	3.795	34.16	1685.0	217.0	1902.0	117.0	0.04234	713	919
1300000	659.00	54	7	3.708	33.37	1605.0	207.0	1812.0	112.0	0.04435	696	895
1277000	647.00	54	7	3.675	33.08	1580.0	204.0	1784.0	110.0	0.04515	689	886

NOTE :Current capacity based on conductor temperature, 0.56 m/s wind, 0 m Elevation, 0.45 Emmisivity, 0.80 absorptivity, 45°C Ambient temperature, 1045 W/m² Solar radiation.

ALUMINUM CONDUCTOR ALLOY REINFORCED(ACAR) ASTM B524

Size	Sectional Area	Stranding			Outer Diameter	Mass Per Unit Length			Rated Strength	DC Resistance @20℃	Current Capacity	
		No.of Wires		Wire Diameter		Al	Al-Alloy	Total			75℃	85℃
		Al	Al-Alloy									
cmil	mm²	No.	No.	mm	mm	Kg/Km	Kg/Km	Kg/Km	KN	Ω/Km	A	A
1250000	633.00	54	7	3.635	32.72	1542.0	199.0	1741.0	107.0	0.04615	681	875
1200000	608.00	54	7	3.564	32.08	1482.0	191.0	1673.0	104.0	0.04800	667	855
1100000	557.00	54	7	3.411	30.70	1358.0	176.0	1534.0	95.9	0.05241	636	813
1000000	507.00	54	7	3.251	29.26	1234.0	159.0	1393.0	87.9	0.05769	604	769
2338000	1185.00	42	19	4.973	44.76	2273.0	1022.0	3295.0	229.0	0.02563	918	1217
2000000	1013.00	42	19	4.600	41.40	1921.0	865.0	2786.0	196.0	0.02966	856	1126
1933000	979.00	42	19	4.522	40.70	1861.0	837.0	2698.0	189.0	0.03069	842	1105
1900000	963.00	42	19	4.483	40.35	1825.0	821.0	2646.0	186.0	0.03123	835	1095
1800000	912.00	42	19	4.364	39.28	1729.0	778.0	2507.0	176.0	0.03295	813	1063
1798000	911.00	42	19	4.361	39.25	1731.0	779.0	2509.0	176.0	0.03300	812	1062
1750000	887.00	42	19	4.303	38.73	1681.0	757.0	2438.0	171.0	0.03389	802	1046
1700000	861.00	42	19	4.239	38.15	1632.0	735.0	2367.0	166.0	0.03493	790	1029
1198000	607.00	30	7	4.570	31.99	1358.0	315.0	1673.0	109.0	0.04866	663	850
1172000	594.00	30	7	4.521	31.65	1329.0	308.0	1637.0	107.0	0.04972	655	839
1109000	562.00	30	7	4.397	30.78	1257.0	292.0	1549.0	101.0	0.05256	636	813
1100000	557.00	30	7	4.379	30.65	1244.0	289.0	1533.0	100.0	0.05299	633	809
1024500	519.00	30	7	4.227	29.59	1161.0	269.0	1431.0	93.2	0.05687	610	776
1000000	507.00	30	7	4.176	29.23	1131.0	262.0	1393.0	91.0	0.05827	601	765
950000	481.00	30	7	4.069	28.48	1074.0	249.0	1323.0	86.4	0.06137	585	742
900000	456.00	30	7	3.962	27.73	1018.0	236.0	1254.0	81.9	0.06473	568	720
853700	433.00	30	7	3.858	27.01	968.0	225.0	1192.0	77.6	0.06827	551	697
850000	431.00	30	7	3.851	26.96	962.0	223.0	1185.0	77.3	0.06852	550	696
800000	405.00	30	7	3.734	26.14	904.0	210.0	1114.0	73.8	0.07288	532	671
750000	380.00	30	7	3.617	25.32	848.0	197.0	1045.0	69.2	0.07767	513	646
700000	355.00	30	7	3.493	24.45	791.0	184.0	975.0	65.5	0.08329	494	620
650000	329.00	30	7	3.366	23.56	735.0	171.0	906.0	60.8	0.08969	473	593
600000	304.00	30	7	3.233	22.63	678.0	158.0	836.0	56.8	0.09722	452	565

NOTE :Current capacity based on conductor temperature, 0.56 m/s wind, 0 m Elevation, 0.45 Emmisivity, 0.80 absorptivity, 45°C Ambient temperature, 1045 W/m² Solar radiation.

ALUMINUM CONDUCTOR ALLOY REINFORCED(ACAR) ASTM B524

Size	Sectional Area	Stranding			Outer Diameter	Mass Per Unit Length			Rated Strength	DC Resistance @20℃	Current Capacity	
		No.of Wires		Wire Diameter		Al	Al-Alloy	Total			75℃	85℃
		Al	Al-Alloy									
cmil	mm²	No.	No.	mm	mm	Kg/Km	Kg/Km	Kg/Km	KN	Ω/Km	A	A
1080600	548.00	18	19	4.341	30.39	735.0	771.0	1506.0	121.0	0.05661	615	785
1000000	507.00	18	19	4.176	29.23	678.0	713.0	1391.0	112.0	0.06117	589	750
950000	481.00	18	19	4.069	28.48	644.0	677.0	1321.0	106.0	0.06443	573	728
900000	456.00	18	19	3.962	27.73	611.0	642.0	1253.0	101.0	0.06795	556	705
850000	431.00	18	19	3.851	26.96	577.0	606.0	1183.0	95.3	0.07193	539	682
800000	405.00	18	19	3.734	26.14	543.0	570.0	1113.0	90.3	0.07651	521	658
750000	380.00	18	19	3.617	25.32	509.0	534.0	1043.0	84.7	0.08154	503	633
739800	375.00	18	19	3.592	25.14	503.0	528.0	1031.0	83.5	0.08268	499	628
700000	355.00	18	19	3.493	24.45	475.0	498.0	973.0	79.5	0.08743	483	607
650000	329.00	18	19	3.366	23.56	440.0	463.0	903.0	73.8	0.09415	464	581
649500	329.00	18	19	3.365	23.56	442.0	464.0	905.0	73.8	0.09421	463	581
600000	304.00	18	19	3.233	22.63	406.0	427.0	833.0	70.1	0.10206	443	554
550000	279.00	18	19	3.096	21.67	373.0	392.0	765.0	64.3	0.11129	422	526
500000	253.00	18	19	4.120	28.84	339.0	356.0	695.0	58.8	0.06284	581	738
653100	331.00	12	7	4.709	23.55	577.0	335.0	911.0	68.5	0.09164	469	588
600000	304.00	12	7	4.513	22.57	528.0	307.0	835.0	62.9	0.09977	447	559
550000	279.00	12	7	4.321	21.61	483.0	281.0	764.0	57.6	0.10884	426	531
500000	253.00	12	7	4.120	20.60	440.0	256.0	696.0	52.4	0.11971	403	501
450000	228.00	12	7	3.909	19.55	396.0	230.0	626.0	47.2	0.13299	380	470
400000	203.00	12	7	3.685	18.43	352.0	204.0	556.0	42.4	0.14965	355	438
350000	177.00	12	7	3.447	17.24	308.0	179.0	487.0	37.4	0.17102	328	404
300000	152.00	12	7	3.193	15.97	265.0	153.0	418.0	32.8	0.19932	300	369
250000	127.00	12	7	2.913	14.57	220.0	128.0	348.0	27.6	0.23947	270	330
195700	99.10	4	3	4.247	12.74	156.0	116.0	272.0	21.3	0.30858	233	283
167800	85.00	4	3	3.932	11.80	134.0	99.7	234.0	18.3	0.36000	212	257
155400	78.70	4	3	3.785	11.36	124.0	92.4	216.0	17.1	0.38851	203	246
77470	39.30	4	3	2.672	8.02	61.7	46.1	108.0	8.9	0.77958	134	161
66360	33.6	4	3	2.474	7.42	52.9	39.5	92.4	7.8	0.90935	123	146

NOTE :Current capacity based on conductor temperature, 0.56 m/s wind, 0 m Elevation, 0.45 Emmisivity, 0.80 absorptivity, 45°C Ambient temperature, 1045 W/m² Solar radiation.

ALUMINUM CONDUCTOR ALLOY REINFORCED(ACAR) IEC 61089

Size	Sectional Area	Stranding			Outer Diameter	Weight	Rated Strength	DC Resistance @20℃	Current Capacity	
		No.of Wires		Wire Diameter					75℃	85℃
		Al	Al-Alloy							
	mm²	No.	No.	mm	mm	Kg/Km	KN	Ω/Km	A	A
16	17.03	4	3	1.76	5.28	46.6	3.85	1.7896	82	97
25	26.61	4	3	2.20	6.60	72.8	5.93	1.1453	107	127
40	42.49	4	3	2.78	8.34	116.5	9.25	0.7158	141	169
63	66.96	4	3	3.49	10.47	183.5	14.38	0.4545	185	223
100	106.44	4	3	4.40	13.20	291.2	22.52	0.2863	243	296
125	131.63	12	7	2.97	14.85	362.7	27.79	0.2302	276	338
160	168.47	12	7	3.36	16.80	464.2	35.04	0.1798	319	392
200	210.97	12	7	3.76	18.80	580.3	43.13	0.1439	363	449
250	264.49	12	7	4.21	21.05	725.3	53.92	0.1151	412	513
250	268.56	18	19	3.04	21.28	742.2	60.39	0.1154	413	515
315	324.18	30	7	3.34	23.38	829.6	60.52	0.0916	468	586
315	339.90	18	19	3.42	23.94	935.1	76.09	0.0916	471	591
400	410.84	30	7	3.76	26.32	1133.5	75.19	0.0721	535	676
400	430.74	18	19	3.85	26.95	1187.5	95.58	0.0721	538	681
450	462.63	30	7	3.99	27.93	1275.2	84.59	0.0641	571	724
450	483.74	18	19	4.08	28.56	1335.9	107.52	0.0641	574	730
500	515.06	30	7	4.21	29.47	1416.9	93.98	0.0577	605	770
500	539.82	18	19	4.31	30.17	1484.3	119.47	0.0577	609	777
560	575.46	30	7	4.45	31.15	1586.9	105.26	0.0515	643	823
560	570.24	54	7	3.45	31.05	1571.9	101.54	0.0516	642	821
630	659.43	42	19	3.71	33.39	1820.0	130.25	0.0458	686	883
630	688.18	24	37	3.79	34.11	1897.5	160.19	0.0458	690	890
710	743.73	42	19	3.94	35.46	2051.2	146.78	0.0407	730	945
710	774.24	24	37	4.02	36.18	2138.4	180.53	0.0407	734	952
800	837.09	42	19	4.18	37.62	2311.2	165.39	0.0361	777	1011
800	873.53	24	37	4.27	38.43	2409.5	203.41	0.0361	780	1018
900	940.22	42	19	4.43	39.87	2600.1	186.06	0.0321	824	1079
900	957.40	54	37	3.66	40.26	2638.4	199.54	0.0321	825	1082
1000	1032.05	72	19	3.80	41.80	2849.1	190.94	0.0289	866	1139
1000	1059.38	54	37	3.85	42.35	2931.6	221.71	0.0289	868	1144
1120	1155.01	72	19	4.02	44.22	3191.0	213.85	0.0258	914	1210
1120	1189.74	54	37	4.08	44.88	3283.4	248.32	0.0258	916	1216
1250	1290.95	72	19	4.25	46.75	3561.4	238.68	0.0231	961	1281
1250	1327.66	54	37	4.31	47.41	3664.5	277.14	0.0231	963	1287
1400	1447.30	72	19	4.50	49.50	3988.8	267.32	0.0207	1007	1353

NOTE :Current capacity based on conductor temperature, 0.56 m/s wind, 0 m Elevation, 0.45 Emmisivity, 0.80 absorptivity, 45°C Ambient temperature, 1045 W/m² Solar radiation.