

ACCC

Aluminum Conductor Composite Core(ACCC)



ACCC conductor

The ACCC conductor utilizes a lightweight, high strength carbon and glass fiber core embedded in a high performance thermoset resin matrix, produced using an advanced pultrusion process. The hybrid structural core is surrounded by helically wound, fully annealed, trapezoidal shaped, high-efficiency aluminum wires.

Though the ACCC conductor was designed to perform efficiently at temperatures significantly higher than conventional ACSR conductors, it actually operates much cooler and more efficiently under equal power flow compared to any other conductor type of the same diameter and weight.

Product Overview

Code Name	Aluminum		Steel Area		Al Area	Diameter				Area				ITS		Total # of Wires
	in ²		mm ²			Core		Outside		Aluminum		Steel		lb	kg	
	in ²	cm ²	in ²	mm ²	in	mm	in	mm	in ²	cm ²	in ²	cm ²				
Pasadena	154.4	305	182.4	0.2826	0.2393	5.97	0.235	15.6	0.616	424.5	295.3	476.6	320.3	60.9	15.5	6
Limnet	218.2	430	246.2	0.3815	0.3381	5.97	0.235	18.3	0.720	601.4	404.1	653.3	439.8	72.7	16.3	16
Oriole	222.3	439	252.1	0.4061	0.3445	7.11	0.280	18.8	0.741	613.1	412.0	686.9	461.6	98.2	22.1	18
Waco	230.1	454	277.3	0.4297	0.3566	7.75	0.305	15.6	0.770	634.8	426.6	722.3	485.4	114.8	25.8	18
Laredo	268.5	530	308.3	0.4777	0.4161	7.11	0.280	20.5	0.807	740.1	497.4	814.0	547.0	101.0	22.7	16
Irving	308.9	609	369.2	0.5721	0.4787	8.76	0.345	22.4	0.882	852.0	572.5	964.4	648.0	147.2	33.2	18
Dove	361.6	714	408.8	0.6334	0.5604	7.75	0.305	23.6	0.927	996.6	669.7	1084.0	728.6	122.0	27.5	18
Hawk	329.8	651	349.0	0.5417	0.4801	7.11	0.280	21.8	0.858	853.9	573.8	927.7	623.4	102.0	23.2	16
Lubbock	458.1	904	518.4	0.803	0.710	8.76	0.345	26.4	1.04	1262.3	846.0	1374.4	924.0	156.1	35.1	18
Galveston	512.6	1011	572.9	0.888	0.794	8.76	0.345	27.7	1.09	1412.3	949.0	1524.4	1024.0	158.8	35.7	18
Drake	519.8	1026	591.1	0.9160	0.8055	9.53	0.375	28.1	1.11	1433.0	962.8	1565.0	1052.0	183.0	41.1	18
Plano	537.0	1059	597.3	0.925	0.832	8.76	0.345	28.8	1.13	1484.1	997.0	1596.3	1073.0	160.6	36.0	33
Corpus Christi	599.0	1103	619.4	0.960	0.866	8.76	0.345	29.1	1.15	1543.4	1037.0	1655.7	1113.0	161.5	36.3	33
Arlington	583.4	1151	654.7	1.015	0.904	9.53	0.375	29.9	1.18	1612.7	1084.0	1745.7	1173.0	186.4	41.9	33
Cardinal	619.3	1222	679.6	1.053	0.960	8.76	0.345	30.4	1.20	1710.0	1149.0	1822.0	1224.0	165.0	37.1	33
Fort Worth	659.1	1300	730.4	1.132	1.021	9.53	0.375	31.5	1.24	1819.7	1223.0	1952.2	1312.0	190.6	42.9	33
El Paso	664.2	1350	744.5	1.154	1.060	8.76	0.345	31.8	1.25	1886.3	1269.0	2000.6	1344.0	168.6	37.9	33
Beaumont	724.1	1429	795.3	1.232	1.122	9.53	0.375	32.9	1.29	2003.7	1347.0	2136.3	1436.0	194.4	43.7	33
San Antonio	747.6	1475	822.7	1.275	1.158	9.78	0.385	33.4	1.32	2068.9	1390.0	2208.5	1484.0	204.2	45.9	33
Bittern	801.6	1582	862.0	1.336	1.242	8.76	0.345	34.2	1.34	2218.0	1490.0	2390.0	1566.0	175.0	39.4	33
Dallas	909.7	1795	984.9	1.526	1.410	9.78	0.385	36.9	1.46	2527.4	1699.0	2667.1	1792.0	213.1	47.9	56
Houston	976.9	1927	1064.2	1.649	1.514	10.54	0.415	38.3	1.51	2812.0	1824.0	2974.4	1933.0	243.3	54.7	56
Lapwing	887.8	1949	1062.9	1.647	1.531	9.78	0.385	38.2	1.50	2744.0	1844.0	2884.0	1938.0	216.0	48.9	56
Falcon	1036.5	2045	1123.8	1.742	1.606	10.54	0.415	39.2	1.54	2680.0	1935.0	3042.0	2044.0	246.0	55.4	56
Chukar	1136.1	2242	1215.2	1.883	1.761	10.03	0.395	40.7	1.60	3156.0	2121.0	3303.0	2219.0	234.0	52.7	94
Bluebird	1389.1	2741	1476.5	2.288	2.153	10.54	0.415	44.8	1.76	3899.0	2593.0	4021.0	2702.0	266.0	59.9	53

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Code Name	Aluminum		Rac @ 20°C		Rac @ 25°C		Rac @ 35°C		Rac @ 50°C		Rac @ 75°C		GMI		Xi (Inductive Reactance @ 10)		Xc (Capacitive Reactance Megaohm-Miles @ 10)	
	mm ²	total	Ω/mi	Ω/mi	Ω/mi	Ω/mi	Ω/mi	Ω/mi	Ω/mi	Ω/mi	Ω/mi	Ω/mi	lb/ft	ft/lb	Ω/ft	Ω/mi	MΩ/ft	MΩ/mi
Pasadena	154.4	305	0.1792	0.2885	0.1792	0.2885	0.1829	0.2944	0.2013	0.3239	0.2197	0.3535	0.0060	0.0198	0.296	0.476	0.177	0.109
Linnet	218.2	430.5	0.1277	0.2055	0.1281	0.2061	0.1307	0.2103	0.1436	0.2311	0.1564	0.2517	0.0072	0.0237	0.262	0.454	0.168	0.103
Oriole	222.3	438.6	0.1255	0.2019	0.1258	0.2024	0.1283	0.2065	0.1409	0.2268	0.1535	0.2471	0.0076	0.0248	0.279	0.449	0.166	0.102
Waco	230.1	454	0.1212	0.1951	0.1215	0.1956	0.1240	0.1996	0.1364	0.2195	0.1488	0.2395	0.0079	0.0259	0.275	0.443	0.166	0.102
Laredo	268.5	530	0.1038	0.1671	0.1043	0.1678	0.1064	0.1712	0.1170	0.1883	0.1276	0.2053	0.0082	0.0267	0.273	0.439	0.164	0.101
Irving	308.9	609	0.0903	0.1454	0.0908	0.1461	0.0926	0.1491	0.1019	0.1639	0.1111	0.1788	0.0091	0.0297	0.265	0.427	0.160	0.098
Hawk	309.8	611.3	0.0900	0.1448	0.0905	0.1456	0.0923	0.1485	0.1013	0.1630	0.1094	0.1760	0.0086	0.0283	0.269	0.433	0.164	0.101
Dove	361.6	713.5	0.0770	0.1240	0.0776	0.1249	0.0792	0.1274	0.0869	0.1399	0.0947	0.1524	0.0084	0.0310	0.263	0.423	0.157	0.096
Grosbeak	416.3	821.4	0.0672	0.1061	0.0679	0.1092	0.0692	0.1114	0.0761	0.1224	0.0829	0.1334	0.0100	0.0330	0.258	0.415	0.154	0.094
Lubbock	458.1	904	0.0608	0.0979	0.0616	0.0992	0.0628	0.1011	0.0690	0.1111	0.0752	0.1210	0.0105	0.0345	0.254	0.409	0.152	0.093
Galveston	512.6	1011	0.0544	0.0875	0.0553	0.0889	0.0564	0.0907	0.0619	0.0995	0.0674	0.1084	0.0110	0.0361	0.250	0.403	0.150	0.092
Drake	519.8	1026	0.0536	0.0863	0.0544	0.0875	0.0554	0.0892	0.0608	0.0978	0.0662	0.1065	0.0112	0.0368	0.249	0.401	0.149	0.091
Plano	537.0	1059	0.0522	0.0840	0.0534	0.0859	0.0544	0.0876	0.0597	0.0960	0.0649	0.1045	0.0114	0.0375	0.247	0.398	0.148	0.091
Corpus Christi	559.0	1103	0.0501	0.0806	0.0514	0.0827	0.0524	0.0843	0.0574	0.0924	0.0625	0.1005	0.0117	0.0385	0.246	0.395	0.147	0.090
Arlington	583.4	1151	0.0480	0.0773	0.0493	0.0793	0.0502	0.0809	0.0551	0.0886	0.0599	0.0964	0.0120	0.0393	0.244	0.393	0.146	0.089
Cardinal	619.3	1222	0.0452	0.0728	0.0464	0.0747	0.0473	0.0762	0.0518	0.0834	0.0563	0.0906	0.0121	0.0398	0.243	0.391	0.145	0.089
	659.1	1300	0.0425	0.0684	0.0440	0.0708	0.0448	0.0721	0.0479	0.0770	0.0533	0.0858	0.0126	0.0413	0.240	0.387	0.143	0.088
El Paso	684.2	1350	0.0409	0.0659	0.0426	0.0685	0.0434	0.0698	0.0474	0.0763	0.0515	0.0829	0.0126	0.0415	0.240	0.386	0.143	0.087
	724.1	1429	0.0387	0.0623	0.0403	0.0649	0.0411	0.0661	0.0449	0.0723	0.0488	0.0785	0.0131	0.0430	0.237	0.382	0.141	0.087
San Antonio	747.6	1475	0.0375	0.0603	0.0380	0.0611	0.0387	0.0623	0.0422	0.0680	0.0458	0.0738	0.0133	0.0437	0.236	0.380	0.141	0.086
Bittern	801.6	1582	0.0352	0.0566	0.0368	0.0592	0.0375	0.0603	0.0409	0.0658	0.0444	0.0714	0.0136	0.0445	0.235	0.378	0.139	0.085
Dallas	909.7	1795	0.0309	0.0497	0.0332	0.0534	0.0339	0.0546	0.0368	0.0592	0.0398	0.0640	0.0148	0.0485	0.228	0.367	0.136	0.083
	976.9	1927	0.0285	0.0459	0.0310	0.0499	0.0317	0.0510	0.0343	0.0551	0.0370	0.0596	0.0153	0.0502	0.225	0.363	0.134	0.082
Lapwing	987.8	1949	0.0284	0.0458	0.0310	0.0499	0.0315	0.0507	0.0342	0.0551	0.0370	0.0595	0.0153	0.0502	0.225	0.363	0.134	0.082
Falcon	1037	2045	0.0271	0.0436	0.0293	0.0471	0.0298	0.0479	0.0324	0.0521	0.0350	0.0563	0.0158	0.0517	0.223	0.359	0.133	0.081
Chukar	1136	2242	0.0247	0.0398	0.0272	0.0438	0.0277	0.0445	0.0300	0.0483	0.0324	0.0521	0.0163	0.0536	0.221	0.355	0.131	0.080
	1389	2741	0.0203	0.0326	0.0237	0.0381	0.0240	0.0387	0.0259	0.0417	0.0278	0.0447	0.0180	0.0590	0.213	0.343	0.126	0.077

AC resistance data based on 63% IACS Avg.



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Reduce Line Losses and Greenhouse Gas Emissions with ACCC conductor.

The conductor is less than 2% of the operating cost of a line over 40 years. Your greatest single cost is the fuel you waste in line losses. By using ACCC conductor, you can reduce CO2 emissions by thousands of tons over the 40 year life of a line and reduce your tower height and cost at the same time.

Ampacity

Code Name	Aluminum		Ampacity		
	mm ²	kcmil	100° C	150° C	180° C
Pasadena	154.4	305	529	701	778
Linnet	218.2	430	656	878	978
Oriole	222.3	439	668	894	1057
Waco	230.1	454	684	910	1012
Laredo	268.5	530	748	997	1109
Irving	308.9	609	819	1093	1217
Hawk	309.8	611	816	1097	1224
Dove	361.6	714	899	1212	1353
Grosbeak	416.3	821	977	1322	1480
Lubbock	458.1	904	1047	1405	1567
Galveston	512.6	1011	1121	1507	1682
Drake	519.8	1026	1125	1517	1695
Plano	537.0	1059	1154	1553	1735
	559.0	1103	1183	1593	1780
Arlington	583.4	1151	1216	1640	1833
Cardinal	619.3	1222	1246	1686	1887
Fort Worth	659.1	1300	1308	1766	1975
El Paso	684.2	1350	1334	1829	2051
Beaumont	724.1	1429	1384	1872	2095
San Antonio	747.6	1475	1437	1947	2180
Bittern	801.6	1582	1451	1972	2211
Dallas	909.7	1795	1588	2165	2431
Houston	976.9	1927	1646	2254	2635
Lapwing	987.8	1949	1651	2269	2553
Falcon	1036.5	2045	1701	2340	2635
Chukar	1136.1	2242	1788	2466	2779
Bluebird	1389.1	2741	1999	2773	3133