

AACSR Conductor Cables

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AACSR – All Aluminium Alloy Conductors Steel Reinforced ASTM B711

Application

The all aluminium alloy conductor steel reinforced is used for the power transmission lines with large span length installed under various severe weather conditions like snow, ice, storms, and so on. AACSR offers optimal strength for line design. Variable steel core stranding enables the desired strength to be achieved without sacrificing ampacity.

AACSR is a concentrically stranded conductor composed of one or more layers of Aluminium -Magnesium -Silicon Alloy wire stranded around a high strength coated steel core. The core can be of either single wire or stranded multi wire. AACSR is available with steel core of Class A, B or C galvanizing or Aluminium clad (AW).

Additional corrosion protection is available through the **application** of grease to the core or infusion of the complete cable with grease.

Standard

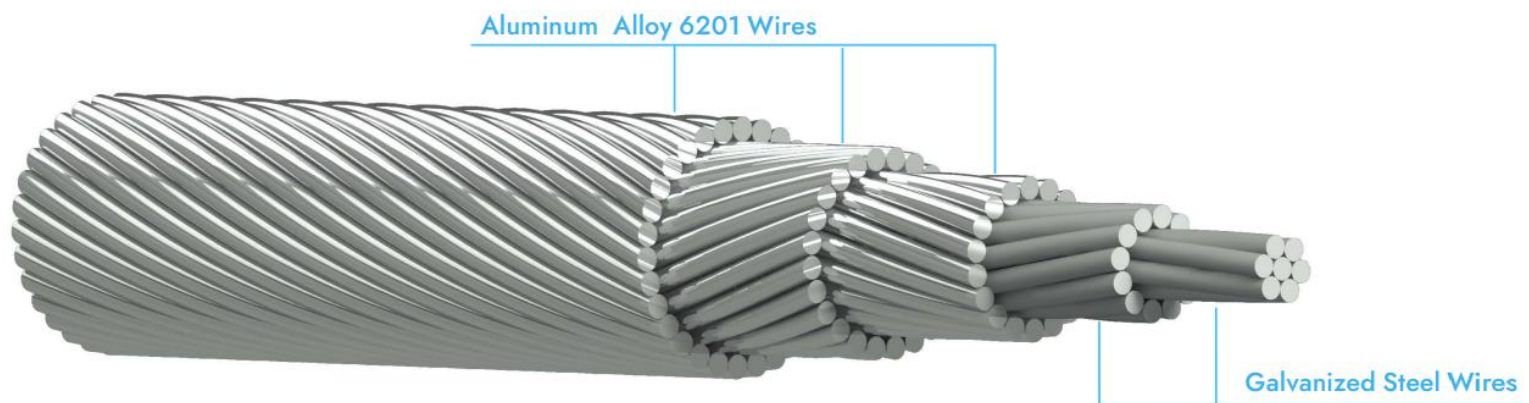
Basic design to ASTM B711 standard

Construction

AACSR is a concentrically stranded conductor composed of one or more layers of 6201 -T81 aluminum alloy wire stranded with a high-strength coated steel core. The core may be single wire or stranded depending on the size.

The proportions of aluminum alloy and steel can be varied to obtain the relation between current carrying capacity and mechanical strength best suited to each **application**.

Core wire for AACSR is available with Class A, B or C-galvanized; "aluminized" (AZ): or aluminum clad (AW).



Construction Parameters

Conductor Area	Alloy Area	Steel Area	No. of Alloy Wires	Dia of Alloy Wire	No. of Steel Wires	Dia of Steel Wire	Dia of Conductor	Linear Weight	Rated Strength *	Maximum DC Resistance at 20 0C
mm ²	mm ²	mm ²		mm		mm	mm	Kg/km	daN	? /km
163	140	23	26	2.62	7	2.04	16.6	560	7500	0.24
173	140	33	30	2.44	7	2.44	17.1	650	8740	0.24
186	160	26	26	2.8	7	2.18	17.7	645	8560	0.21
198	160	38	30	2.61	7	2.61	18.3	740	10600	0.21
209	180	29	26	2.97	7	2.31	18.8	725	9510	0.187

222	180	42	30	2.76	7	2.76	19.3	825	11200	0.187
232	200	32	26	3.13	7	2.43	19.8	800	10600	0.168
247	200	47	30	2.91	7	2.91	20.4	920	12400	0.168
260	224	36	26	3.31	7	2.57	21	900	11800	0.15
276	224	52	30	3.08	7	3.08	21.6	1025	13900	0.15
291	250	41	26	3.5	7	2.72	22.2	1010	12900	0.135
308	250	58	30	3.26	7	3.26	22.8	1145	15600	0.135
326	280	46	26	3.7	7	2.88	23.4	1140	14400	0.12
345	280	65	30	3.45	7	3.45	24.2	1280	17100	0.12
367	315	52	26	3.93	7	3.06	24.9	1276	16300	0.107
387	315	72	30	3.66	19	2.2	25.6	1433	19000	0.107
413	355	58	26	4.17	7	3.24	26.4	1433	18300	0.095
436	355	81	30	3.88	19	2.33	27.2	1614	21100	0.095
465	400	65	26	4.43	7	3.45	28.1	1612	20700	0.0842
491	400	91	30	4.12	19	2.47	28.8	1816	23700	0.0842
509	450	59	54	3.26	19	1.96	29.5	1703	21500	0.0748
563	500	63	54	3.43	19	2.06	30.9	1873	22900	0.0673
631	560	71	54	3.63	19	2.18	32.7	2101	25700	0.0601
710	630	80	54	3.85	19	2.31	34.6	2365	28600	0.0534
800	710	90	54	4.09	19	2.45	36.8	2665	32200	0.0474
901	800	101	54	4.34	19	2.6	39	3000	36300	0.042
973	900	73	84	3.69	19	2.21	40.6	3062	35500	0.0374
1081	1000	81	84	3.89	19	2.33	42.8	3395	39100	0.0337

1211	1120	91	84	4.12	19	2.47	45.3	3803	43900	0.03
1352	1250	102	84	4.35	19	2.61	47.8	4250	49000	0.027

AACSR – All Aluminium Alloy Conductors Steel Reinforced IEC 61089

Application

The all aluminum alloy conductor steel reinforced is used for the power transmission lines with large span length installed under various severe weather conditions like snow, ice, storms, and so on. AACSR offers optimal strength for line design. Variable steel core stranding enables the desired strength to be achieved without sacrificing ampacity.

AACSR is a concentrically stranded conductor composed of one or more layers of Aluminium -Magnesium -Silicon Alloy wire stranded around a high strength coated steel core. The core can be of either single wire or stranded multi wire. AACSR is available with steel core of Class A, B or C galvanizing or Aluminium clad (AW).

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Standard

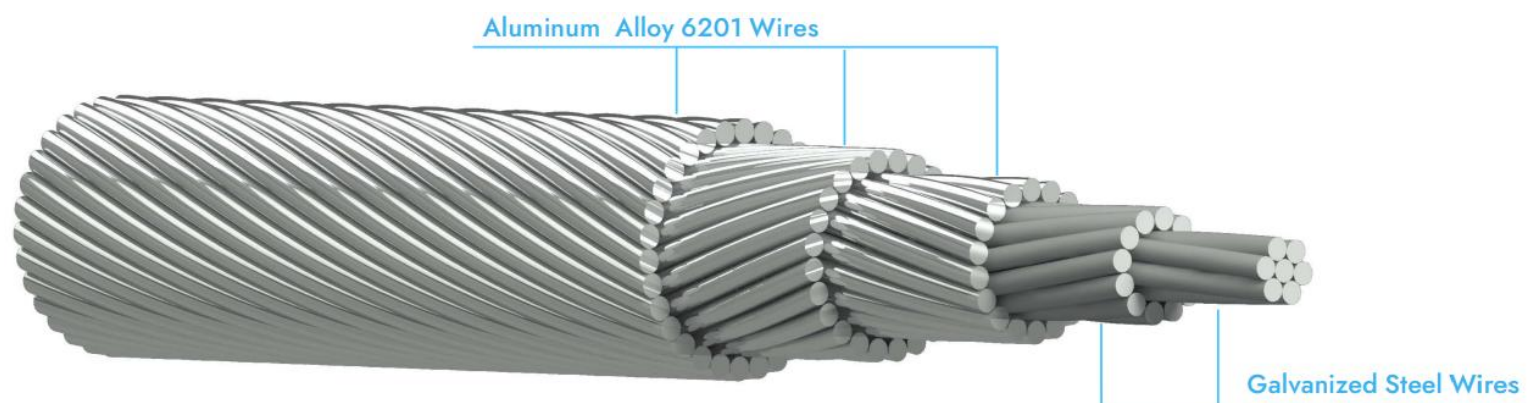
Basic design to IEC 61089 standard

Construction

AACSR is a concentrically stranded conductor composed of one or more layers of 6201 -T81 aluminum alloy wire stranded with a high-strength coated steel core. The core may be single wire or stranded depending on the size.

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Construction Parameters

Code Number	Area			Number of Wires		Wire Dia.		Diameter		Linear Mass	A1/S1 A Conductor	A1/S2 A Conductor	A1/S3 A Conductor	Max.D. C. Resistance at 20°C
	Alu	Ste	Total	Al	St.	Alum.	Ste	Core	Con	Rated	Rated	Rated		

	m.	el		.			el		d.	Strengt h	Streng th	Strengt h		
mm ²	mm ²	mm ²	mm ²			mm	mm	mm	mm	kg/km	kN			Ω/km
16	16	2.67	18.7	6	1	1.84	1.84	1.64	5.53	64.6	6.08	6.45	6.83	1.7934
25	25	4.17	29.2	6	1	2.3	2.3	2.3	6.91	100.9	9.13	9.71	10.25	1.1478
40	40	6.67	46.7	6	1	2.91	2.91	2.91	8.74	161.5	14.4	15.33	16.2	0.7174
63	63	10.5	73.5	6	1	3.66	3.66	3.66	11	254.4	21.63	22.37	24.15	0.4555
100	100	16.7	117	6	1	4.61	4.61	4.61	13.8	403.8	34.33	35.5	38.33	0.2869
125	125	6.94	132	1 8	1	2.97	2.97	2.97	14.9	397.9	29.17	30.14	31.04	0.2304
125	125	20.4	145	2 6	7	2.47	1.92	5.77	15.7	503.9	45.69	48.54	51.39	0.231
160	160	8.89	169	1 8	1	3.36	3.36	3.36	16.8	509.3	36.18	37.42	38.67	0.18
160	160	26.1	186	2 6	7	2.8	2.18	6.53	17.7	644.9	57.69	61.34	64.99	0.1805
200	200	11.1	211	1 8	1	3.76	3.76	3.76	18.8	636.7	44.22	45	46.89	0.144
200	200	32.6	233	2 6	7	3.13	2.43	7.3	19.8	806.2	70.13	74.69	78.93	0.1444
250	250	24.6	275	2 2	7	3.8	2.11	6.34	21.6	880.6	68.72	72.16	75.6	0.1154
250	250	40.7	291	2 6	7	3.5	2.72	8.16	22.2	1007.7	87.67	93.37	98.66	0.1155
315	315	21.8	337	4 5	7	2.99	1.99	5.97	23.9	1039.3	79.03	82.08	85.13	0.0917
315	315	51.3	366	2 6	7	3.93	3.05	9.16	24.9	1269.7	106.83	114.02	121.2	0.0917

400	400	27.7	428	4 5	7	3.36	2.24	6.73	26.9	1320.1	98.36	102.23	106.1	0.0722
400	400	51.9	452	5 4	7	3.07	3.07	9.21	27.6	1510.3	123.04	130.3	137.56	0.0723
450	450	31.1	481	4 5	7	3.57	2.38	7.14	28.5	1485.2	107.47	111.82	115.87	0.0642
450	450	58.3	508	5 4	7	3.26	3.26	9.77	29.3	1699.1	138.42	146.58	154.75	0.0643
500	500	34.6	535	4 5	7	3.76	2.51	7.52	30.1	1650.2	199.41	124.25	128.74	0.0578
500	500	64.8	565	5 4	7	3.43	3.43	10.3	30.9	1887.9	153.8	162.87	171.94	0.0578
560	560	38.7	599	4 5	7	3.98	2.65	7.96	31.8	1848.2	133.74	139.16	144.19	0.0516
560	560	70.9	631	5 4	19	3.63	2.18	10.9	32.7	2103.4	172.59	182.52	192.45	0.0516
630	630	43.6	674	4 5	7	4.22	2.81	8.44	33.8	2079.2	150.45	156.55	162.21	0.0459
630	630	79.8	710	5 4	19	3.85	2.31	11.6	34.7	2366.3	191.77	202.94	213.31	0.0459
710	710	49.1	759	4 5	7	4.48	2.99	8.96	35.9	2343.2	169.56	176.43	182.81	0.0407
710	710	89.9	800	5 4	19	4.09	2.45	12.3	36.8	2666.8	216.12	228.71	240.41	0.0407
800	800	34.6	835	7 2	7	3.76	2.51	7.52	37.6	2480.2	167.41	172.25	176.74	0.0361
800	800	66.7	867	8 4	7	3.48	3.48	10.4	38.3	2732.7	205.33	214.67	224	0.0362
800	800	101	901	5 4	19	4.44	2.61	13	39.1	3004.9	243.52	257.71	270.88	0.0362
900	900	38.9	939	7	7	3.99	2.66	7.98	39.9	2790.2	188.33	193.78	198.83	0.0321

				2										
900	900	75	975	8 4	7	3.69	3.69	11.1	40.6	3074.2	226.5	231.75	244.5	0.0322
1000	1000	43.2	1043	7 2	7	4.21	2.8	8.41	42.1	3100.3	209.26	215.31	220.93	0.0289
1120	1120	47.3	1167	7 2	19	4.45	1.78	8.9	44.5	3464.9	234.53	241.15	247.77	0.0258
1120	1120	91.2	1211	8 4	19	4.12	2.47	12.4	45.3	3811.5	283.17	295.94	307.79	0.0258
1250	1250	102	1352	8 4	19	4.35	2.61	13.1	47.9	4253.9	316.04	269.14	276.53	0.0232
1250	1250	52.8	1303	7 2	19	4.7	1.88	9.4	47	3867.1	261.75	330.29	343.52	0.0231

AACSR – All Aluminium Alloy Conductors Steel Reinforced DIN 48206

Application

The all aluminum alloy conductor steel reinforced is used for the power transmission lines with large span length installed under various severe weather conditions like snow, ice, storms, and so on. AACSR offers optimal strength for line design. Variable steel core stranding enables the desired strength to be achieved without sacrificing ampacity.

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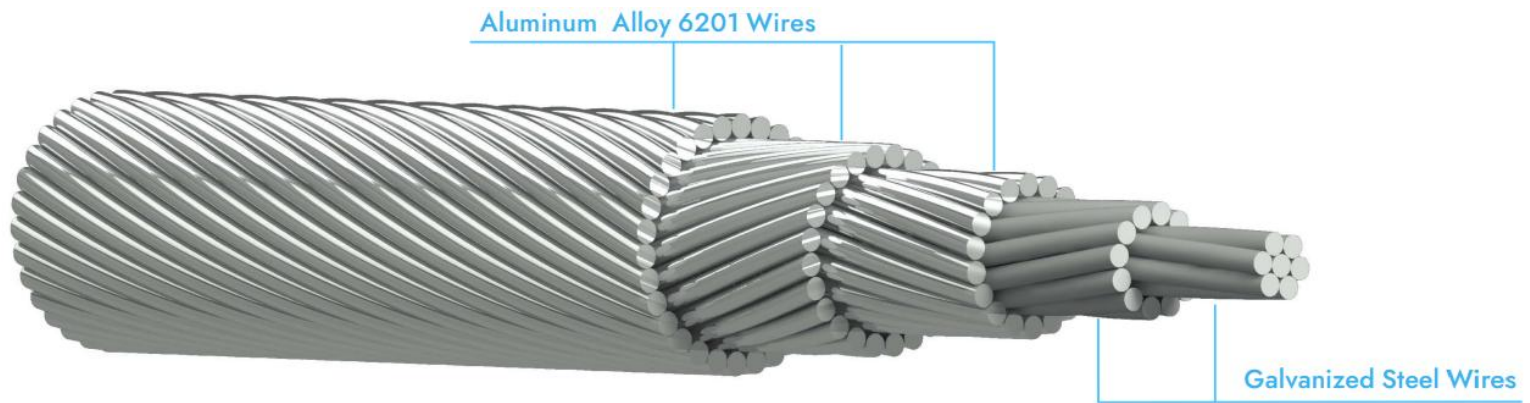
Basic design to DIN 48206 standard

Construction

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Construction Parameters

Nominal Cross Section	Cross Section of Steel Wires	Cross Section of Alloy Wires	Number of Alloy Wires	Diameter of Alloy Wires	Number of Steel Wires	Diameter of Steel Wires	Overall Diameter	Linear Mass	Rated Tensile Strength	Max.D.C. Resistance at 20℃
mm ²	mm ²	mm ²	-	mm	-	mm	mm	kg/km	daN	Ω/km
16/2.5	15.27	2.54	6	1.8	1	1.8	5.4	62	748	2.18
25/4	23.86	3.98	6	2.25	1	2.25	6.8	97	1171	1.3952
35/6	34.35	5.73	6	2.7	1	2.7	8.1	140	1685	0.9689
44/32	43.98	31.67	14	2	7	2.4	11.2	373	5027	0.7625
50/8	48.25	8.04	6	3.2	1	3.2	9.6	196	2366	0.6898
50/30	51.17	29.85	12	2.33	7	2.33	11.7	378	5024	0.6547
70/12	69.89	11.4	26	1.85	7	1.44	11.7	284	3399	0.4791
95/15	94.39	15.33	26	2.15	7	1.67	13.6	383	4582	0.3547
95/55	96.51	56.3	12	3.2	7	3.2	16	714	9475	0.3471
105/75	105.67	75.55	14	3.1	19	2.25	17.5	899	12014	0.3174
120/20	121.57	19.85	26	2.44	7	1.9	15.5	494	5914	0.2754
120/70	122.15	71.25	12	3.6	7	3.6	18	904	11912	0.2742
125/30	127.92	29.85	30	2.33	7	2.33	16.3	590	7280	0.2621
150/25	148.86	24.25	26	2.7	7	2.1	17.1	604	7236	0.2249

170/40	171.77	40.08	30	2.7	7	2.7	18.9	794	9775	0.1952
185/30	183.78	29.85	26	3	7	2.33	19	744	8922	0.1822
210/35	209.1	34.09	26	3.2	7	2.49	20.3	848	10167	0.1601
210/50	212.06	49.48	30	3	7	3	21	979	12068	0.1581
230/30	230.91	29.85	24	3.5	7	2.33	21	674	10306	0.1449
240/40	243.05	39.49	26	3.45	7	2.68	21.8	985	11802	0.1378
265/35	263.66	34.09	24	3.74	7	2.49	22.4	998	11771	0.1269
300/50	304.26	49.48	26	3.86	7	3	24.5	1233	14779	0.1101
305/40	304.62	39.49	54	2.68	7	2.68	24.1	1155	13612	0.1101
340/30	339.29	29.85	48	3	7	2.33	25	1174	13494	0.0988
380/50	381.7	49.48	54	3	7	3	27	1448	17056	0.0879
385/35	386.04	34.09	48	3.2	7	2.49	26.7	1336	15369	0.0868
435/55	434.29	56.3	54	3.2	7	3.2	28.8	1647	19406	0.0772
450/40	448.71	39.49	48	3.45	7	2.68	28.7	1553	17848	0.0747
490/65	490.28	63.55	54	3.4	7	3.4	30.6	1860	21907	0.0684
550/70	549.65	71.25	54	3.6	7	3.6	32.4	2085	24560	0.061
560/50	561.7	49.48	48	3.86	7	3	32.2	1943	22348	0.0597
680/85	678.58	85.95	54	4	19	2.4	36	2564	30084	0.0494

AACSR/AZ – Aluminium Alloy Conductors, Aluminium Clad Steel Reinforced AS/NZS 3607

Application

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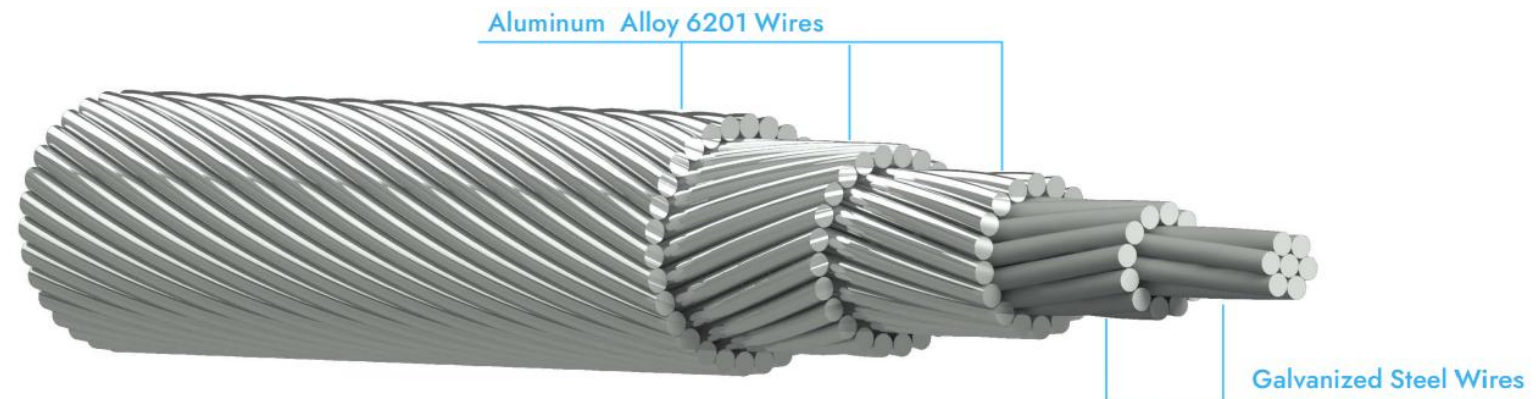
Basic design to AS/NZS 3607 standard

Construction

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Construction Parameters

Product code	Strand/wire		Cross sectional area			Nominal O.D. mm	Approximate mass kg/km	Calculated minimum load kN	Calculated breaking of elasticity GPa	Coefficient of linear expansion /°C x 10-6
	Alum No/mm	Steel No/mm	Alum mm2	Steel mm2	Total mm2					
ARCHERY 1120	6/3.00	1/3.00	42.4	7.1	49.5	9	163	18.4	79	20.1
BASEBALL 1120	6/3.75	1/3.75	66.3	11	77.3	11.3	254	27.6	79	20.1
BOWLS 1120	6/4.75	7/1.60	106	14.1	120	14.3	385	40	76	20.6
CRICKET 1120	30/2.50	7/2.50	147	34.4	182	17.5	636	75.2	82	19.4
DARTS 1120	30/3.00	7/3.00	212	49.5	262	21	913	108	82	19.4
DICE 1120	30/3.25	7/3.25	249	58.1	307	22.8	1070	127	82	19.4
DIVING 1120	30/3.50	7/3.50	289	67.3	356	24.5	1240	143	82	19.4
GOLF 1120	54/3.00	7/3.00	382	49.5	431	27	1380	150	75	20.6
GYMNASTICS1120	54/3.25	7/3.25	448	58.1	506	29.3	1620	176	75	20.6
HURDLES 1120	54/3.50	7/3.50	519	67.3	587	31.5	1880	197	75	20.6

AACSR/GZ – Aluminium alloy conductors, galvanised steel reinforced AS/NZS 3607

Application

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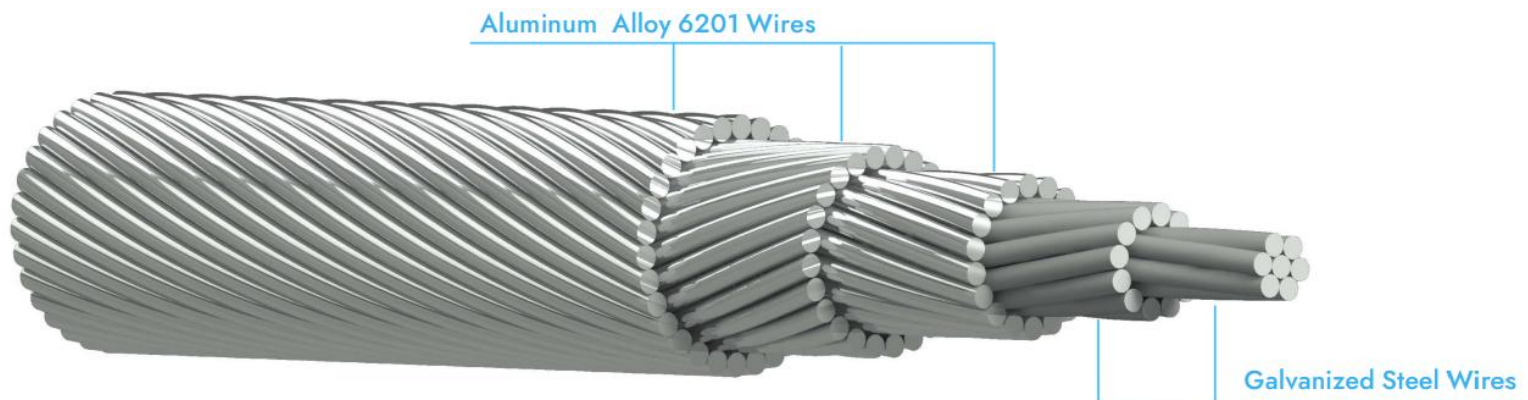
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Construction

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Construction Parameters

Product code	Strand/wire		Cross sectional area			Nominal O.D. mm	Approximate mass kg/km	Calculated minimum breaking load kN	Calculated final modulus of elasticity GPa	Coefficient of linear expansion /°C x 10-6
	Alum No/mm	Steel No/mm	Alum mm2	Steel mm2	Total mm2					
APPLE 1120	6/3.00	1/3.00	42.4	7.1	49.5	9	171	18.3	83	19.3
BANANA 1120	6/3.75	1/3.75	66.3	11	77.3	11.3	268	27.9	83	19.3
CHERRY 1120	6/4.75	7/1.60	106	14.1	120	14.3	402	40.7	80	19.9
GRAPE 1120	30/2.50	7/2.50	147	34.4	182	17.5	677	74.4	88	18.4
LEMON 1120	30/3.00	7/3.00	212	49.5	262	21	973	107	88	18.4
LYCHEE 1120	30/3.25	7/3.25	249	58.1	307	22.8	1140	126	88	18.4
LIME 1120	30/3.50	7/3.50	289	67.3	356	24.5	1320	143	88	18.4
MANGO 1120	54/3.00	7/3.00	382	49.5	431	27	1440	149	78	19.9
ORANGE 1120	54/3.25	7/3.25	448	58.1	506	29.3	1690	174	78	19.9
OLIVE 1120	54/3.50	7/3.50	519	67.3	587	31.5	1960	197	78	19.9