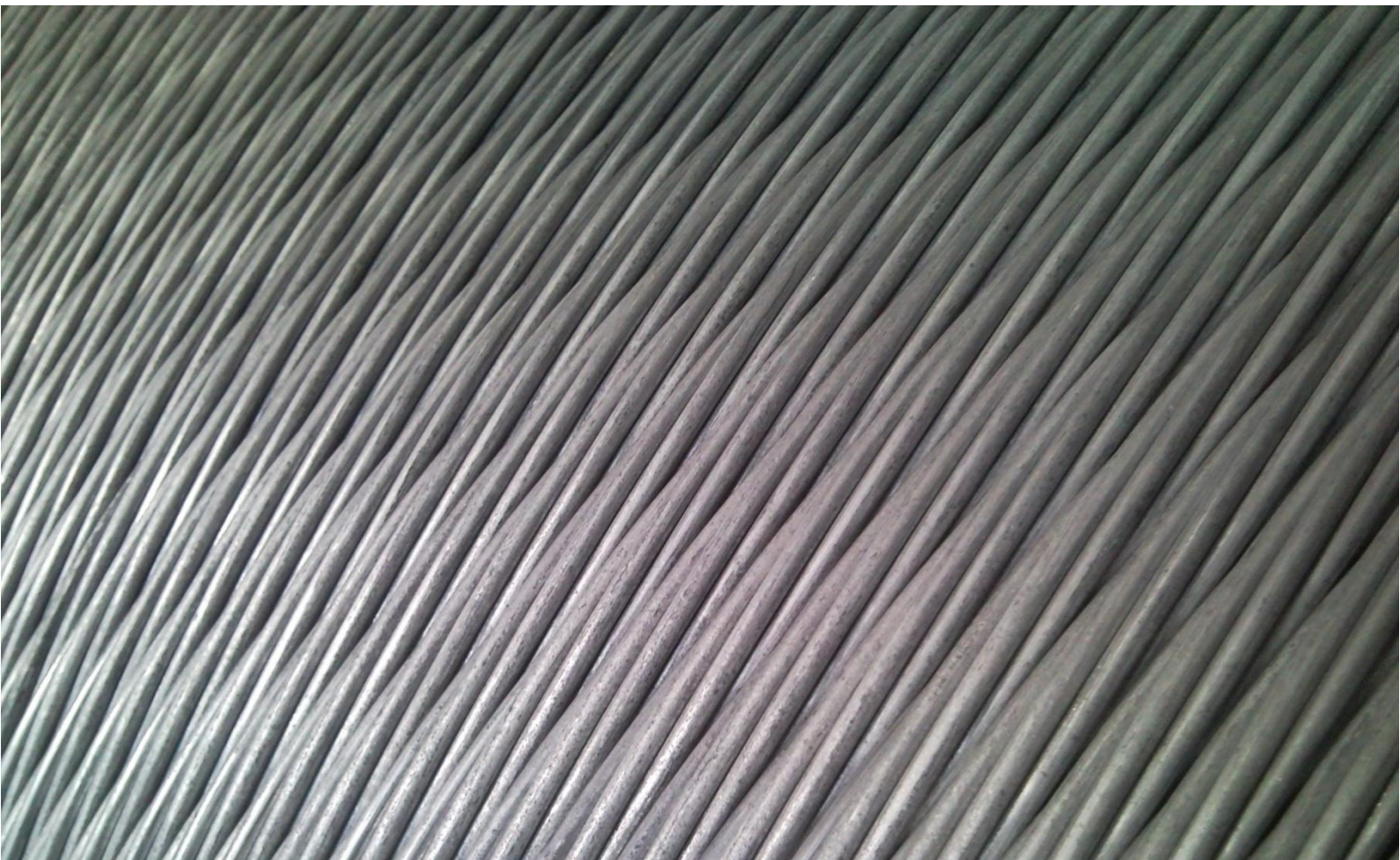


# Steel Strand

by Aluminum clad steel, Galvanized or Stainless steel.



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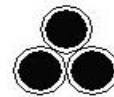
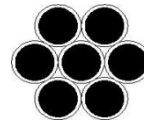
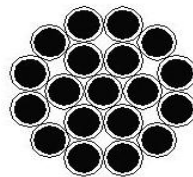
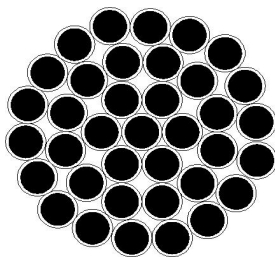


## We offer strand for

Hold trolley wire,  
Protect lightening,  
Tighten the structure,  
Transmit the electricity or provide grounding  
functions, with rust-proof, high tensile strength and  
high conductivity.

### *Wire material:*

- Aluminum Clad Steel Wires
- Galvanized Wires
- Stainless Wires



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### Advantages of ACS Strand

1. **Superior corrosion resistance** compared with galvanized steel wires, aluminized steel wires and galvanized wires. Best for coast area and industrial zone.
2. **Better conductivity** than galvanized steel wire (14~40% VS 9%).
3. **Flexibility for design** because of wider range of combinations of tensile strength and conductivity.
4. **Lighter weight**, 15~40% lighter than galvanized wire, but tensile strength can be same.
5. **Excellent thermal stability**, good as ACSS core.
6. **Wider variety of products**, with broad range of properties, quality, and size of steel wire and aluminum cladding.

### Applications

- Ground wire
- Core strength member of bare conductor
- Conductor for power line crossing water
- Guy wires for poles and masts.
- Messenger wire for trolley wires, communication cable etc.
- Antenna

### Packing

All wires can be delivered in coils, plywood spools, corrugated steel spools or Steel-wooden spools. Spool size: 1000~2500mm (39.4~98inch).

Arbor hole size: 100mm (3.94inch) or specified by the customer.



### Other Strand available

Strand made by galvanized wires, Beznal wires and stainless wires.

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## IEC 61089 Concentric-Lay-Stranded Aluminum-Clad Steel Conductors

### SA1A

Code number	Area	Number of Wires	Diameter		Linear mass	Rated Strength	DC Resistance
			Wire	Conductor			
	mm <sup>2</sup>		mm	mm	kg/km	kN	Ohm/km
4	12	7	1.48	4.43	80.1	16.08	7.1592
6.3	18.9	7	1.85	5.56	126.2	25.33	4.5455
10	30	7	2.34	7.01	200.3	40.20	2.8637
12.5	37.5	7	2.61	7.84	250.4	50.25	2.2910
16	48	7	2.95	8.86	320.5	64.32	1.7898
25	75	7	3.69	11.08	500.7	93.75	1.1455
40	120	7	4.67	14.02	801.2	132.00	0.7159
40	120	19	2.84	14.18	805.0	160.80	0.7194
63	189	19	3.56	17.79	1267.9	240.03	0.4568
100	300	37	3.21	22.49	2017.3	402.00	0.2884
125	375	37	3.59	25.15	2521.7	476.25	0.2307
160	480	37	4.06	28.45	3227.7	580.80	0.1803
200	600	37	4.54	31.81	4034.7	684.00	0.1442
200	600	61	3.54	31.85	4040.6	762.00	0.1444

### SA1B

Code number	Area	Number of Wires	Diameter		Linear mass	Rated Strength	DC Resistance
			Wire	Conductor			
	mm <sup>2</sup>		mm	mm	kg/km	kN	Ohm/km
4	12	7	1.48	4.43	79.4	15.84	7.1592
6.3	18.9	7	1.85	5.56	125.0	24.95	4.5455
10	30	7	2.34	7.01	198.5	39.60	2.8637
12.5	37.5	7	2.61	7.84	248.1	49.50	2.2910
16	48	7	2.95	8.86	317.5	63.36	1.7898
25	75	7	3.69	11.08	496.2	99.00	1.1455
40	120	7	4.67	14.02	793.9	158.40	0.7159
40	120	19	2.84	14.18	797.7	158.40	0.7194
63	189	19	3.56	17.79	1256.4	249.48	0.4568
100	300	37	3.21	22.49	1999.0	396.00	0.2884
125	375	37	3.59	25.15	2498.7	495.00	0.2307
160	480	37	4.06	28.45	3198.3	633.60	0.1803
200	600	37	4.54	31.81	3997.9	792.00	0.1442
200	600	61	3.54	31.85	4003.8	792.00	0.1444

### SA2

Code number	Area	Number of Wires	Diameter		Linear mass	Rated Strength	DC Resistance
			Wire	Conductor			
	mm <sup>2</sup>		mm	mm	kg/km	kN	Ohm/km
16	36.2	7	2.56	7.69	216.4	39.04	1.7896
25	56.5	7	3.21	9.62	338.2	61.00	1.1454
40	90.4	7	4.05	12.2	541.1	97.61	0.7159
40	90.4	19	2.46	12.3	543.7	97.61	0.7193
63	142	19	3.09	15.4	856.4	153.73	0.4567
100	226	37	2.79	19.5	1362.6	244.02	0.2884
125	282	37	3.12	21.8	1703.2	305.02	0.2307
160	362	37	3.53	24.7	2180.1	390.43	0.1803
200	452	37	3.94	27.6	2725.1	488.03	0.1442
200	452	61	3.07	27.6	2729.1	488.03	0.1442

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## ASTM B416 Approximate Properties

inch-pound unit

Size	Number and Diameter of individual Wires		Conductor Diameter	Min. Rated Breaking Strength	Mass per unit length	Max. Resistance	Nominal Cross Section	
						@ 20°C		
Designation	Nos	inch	inch	lb	lb/1000ft	Ω/1000ft	in. <sup>2</sup>	cmils
37No.5AWG	37	0.1819	1.27	142800	2802	0.04247	0.9619	1225000
37No.6AWG	37	0.162	1.13	120200	2222	0.05356	0.7629	971300
37No.7AWG	37	0.1443	1.01	100700	1762	0.06754	0.605	770300
37No.8AWG	37	0.1285	0.899	84200	1398	0.08516	0.4798	610900
37No.9AWG	37	0.1144	0.801	66770	1108	0.1074	0.3805	484400
37No.10AWG	37	0.1019	0.713	52950	879	0.1354	0.3017	384200
19No.5AWG	19	0.1819	0.91	73350	1430	0.08224	0.494	628900
19No.6AWG	19	0.162	0.81	61700	1134	0.1037	0.3917	498800
19No.7AWG	19	0.1443	0.721	51730	899.5	0.1308	0.3107	395500
19No.8AWG	19	0.1285	0.642	43240	713.5	0.1649	0.2464	313700
19No.9AWG	19	0.1144	0.572	34290	565.8	0.2079	0.1954	248800
19No.10AWG	19	0.1019	0.509	27190	448.7	0.2622	0.1549	197300
7No.5AWG	7	0.1819	0.546	27030	524.9	0.2264	0.182	231700
7No.6AWG	7	0.162	0.486	22730	416.3	0.2803	0.1443	183800
7No.7AWG	7	0.1443	0.433	19060	330	0.3535	0.1145	145700
7No.8AWG	7	0.1285	0.385	15930	261.8	0.4458	0.09077	115600
7No.9AWG	7	0.1144	0.343	12630	207.6	0.5621	0.07198	91650
7No.10AWG	7	0.1019	0.306	10020	164.7	0.7088	0.05708	72680
7No.11AWG	7	0.0907	0.272	7945	130.6	0.8938	0.04523	57590
7No.12AWG	7	0.0808	0.242	6301	103.6	1.127	0.0359	45710
3No.5AWG	3	0.1819	0.392	12230	224.5	0.5177	0.078	99310
3No.6AWG	3	0.162	0.349	10280	178.1	0.6528	0.06185	78750
3No.7AWG	3	0.1443	0.311	8621	141.2	0.8232	0.04905	62450
3No.8AWG	3	0.1285	0.277	7206	112	1.038	0.0389	49530
3No.9AWG	3	0.1144	0.247	5715	88.81	1.309	0.03085	39280
3No.10AWG	3	0.1019	0.22	4532	70.43	1.651	0.02446	31150

Coefficient of linear expansion

(0.0000072/°F) (0.0000126/°C)

Final modulus of elasticity

23 000 000 psi (160 GPa)

Temperature coefficient of resistance

(0.0020/°F) (0.0036/°C)

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## ASTM B416 Approximate Properties

SI unit

Size	Number and Diameter of individual Wires		Conductor Diameter	Min. Rated Breaking Strength	Mass per unit length	Max. Resistance @ 20°C	Nominal Cross Section
	Nos	mm					
37No.5AWG	37	4.62	32.26	634.8	4169	0.1393	620.6
37No.6AWG	37	4.11	28.70	534.3	3306	0.1757	492.2
37No.7AWG	37	3.67	25.65	447.6	2622	0.2216	390.3
37No.8AWG	37	3.26	22.83	374.3	2080	0.2794	309.5
37No.9AWG	37	2.91	20.35	296.8	1649	0.3524	245.5
37No.10AWG	37	2.59	18.11	235.4	1308	0.4442	194.6
19No.5AWG	19	4.62	23.11	326.1	2128	0.2698	318.7
19No.6AWG	19	4.11	20.57	274.3	1687	0.3402	252.7
19No.7AWG	19	3.67	18.31	230.0	1338	0.4291	200.5
19No.8AWG	19	3.26	16.31	192.2	1062	0.5410	159.0
19No.9AWG	19	2.91	14.53	152.4	841.9	0.6821	126.1
19No.10AWG	19	2.59	12.93	120.9	667.7	0.8602	99.94
7No.5AWG	7	4.62	13.87	120.2	781.1	0.7428	117.4
7No.6AWG	7	4.11	12.34	101.0	619.5	0.9196	93.10
7No.7AWG	7	3.67	11.00	84.73	491.0	1.1598	73.87
7No.8AWG	7	3.26	9.78	70.81	389.6	1.4626	58.56
7No.9AWG	7	2.91	8.71	56.14	308.9	1.8441	46.44
7No.10AWG	7	2.59	7.77	44.54	245.1	2.3254	36.83
7No.11AWG	7	2.30	6.91	35.32	194.3	2.9324	29.18
7No.12AWG	7	2.05	6.15	28.01	154.2	3.6975	23.16
3No.5AWG	3	4.62	9.96	54.36	334.1	1.6985	50.32
3No.6AWG	3	4.11	8.86	45.70	265.0	2.1417	39.90
3No.7AWG	3	3.67	7.90	38.32	210.1	2.7008	31.65
3No.8AWG	3	3.26	7.04	32.03	166.7	3.4055	25.10
3No.9AWG	3	2.91	6.27	25.40	132.1	4.2946	19.90
3No.10AWG	3	2.59	5.59	20.15	104.8	5.4166	15.78

Coefficient of Linear expansion

0.0000126/°C

Final modulus of elasticity

160GPa

Temperature coefficient of resistance

0.0036/°C

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## Characteristics of Aluminum Clad Steel Guy Strand

Designation	Number and Diameter of Individual Wires		Conductor Nominal Diameter in.	Rated Breaking Strength (x1000lbs)	Weight LBS/1000ft	Approx. DC Resistance OHMS/1000ft	Standard Lengths (feet)	
	#	in.					Coils	Reels
	25M	7	0.173	0.519	25	475	0.25	500
20M	7	0.148	0.444	20	347	0.34	500	5000
18M	7	0.139	0.417	18	306	0.38	500	5000
16M	7	0.128	0.386	16	262	0.45	500	5000
14M	7	0.121	0.363	14	232	0.50	500	5000
12.5M	7	0.114	0.343	12.5	208	0.56	500	5000
10M	7	0.102	0.306	10	165	0.71	500	5000
8M	7	0.091	0.272	8	131	0.89	500	5000
6M	7	0.081	0.242	6	104	1.13	500	5000

**Standard: ASTM B 416-98 (reapproved 2007)**

The single wires before stranding meet the standard of ASTM B415-98(2007).

Joint and splice requirement for wire and strand to meet ASTM A363-2009

Length can be made to order.

### Application:

Overhead power transmission line

Messenger wire for railway & communication line

Guy wire for tower & masts

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