



AS Wire/GS Wire

CONEX
CABLE, L.L.C.

AS WIRE
Aluminum-clad Steel Wire

GS WIRE
Galvanized Steel Wire

Made in the U.S.A.

Development of Aluminum-clad Steel (AS) Wire

Conex Cable, LLC, under the original name of Conex, started production of Aluminum-clad Steel wire (AS wire) in 1988. In 1990 Hitachi Cable Ltd., a worldwide wire and cable manufacturer, became a joint venture partner and inaugurated a new era of growth and development. Then in 2004, Conex became an independent, 100% U.S. owned company and moved its manufacturing facilities from Dublin, California to DeKalb, Illinois.

Aluminum-clad steel wire was originally developed by Hitachi Cable, Ltd in 1956 based on a new technology of the time known as the continuous extrusion method. Even though AS wire has since achieved worldwide acceptance, engineering continues in an effort to improve and refine the process and product.

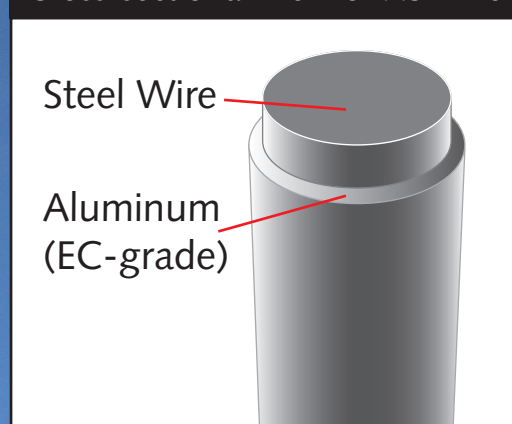
Conex Cable, LLC has utilized the vast knowledge of Hitachi Cable in many areas including technology, engineering, and production, in the efforts to become a leading manufacturer of electrical wire and cable.

Applications, Products, and Manufacturing Process

Using this technology, Conex Cable, LLC supplies high quality aluminum-clad steel wire and cable products to electric utilities, cable manufacturers, and accessory manufacturers. Conex Cable, LLC manufactures overhead transmission line ground wire; guy wire; guy grip wire; AS wire for optical ground wire (OPGW) applications; and Aluminum-clad Steel (AS) core wire for various overhead conductors.

Our AS wire is manufactured by the continuous extrusion method which bonds high purity aluminum to high strength steel wire. The thick aluminum cladding provides AS wire with superior corrosion resistance as well as high conductivity. AS wire incorporates the capability to vary the aluminum thickness as required for the higher conductivity described in the latest ASTM and IEC standards.

Cross-sectional View of AS Wire



Features of CONEX AS Wire

- Thick aluminum cladding—standard ratio of aluminum area in cross section: 25%
- High corrosion resistance
- High electrical conductivity
- High strength
- Excellent thermal stability for high temperature operation
- Lighter weight

TYPES OF AS WIRE

AS wire has been used in a great variety of applications such as conductors, ground wires and guy wires in over-head transmissions and distribution line,

messenger wires, guard rope, mooring rope, trellis, barbed wires and net fencing. Various applications and cross-sectional views of AS wire are shown below.

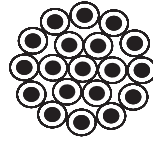
ALL AS STRAND



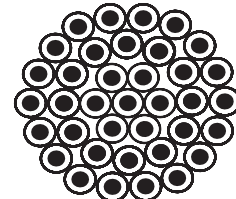
3 AS



7 AS

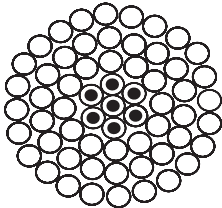


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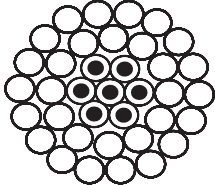


37 AS

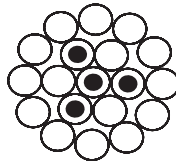
ACSR/AS



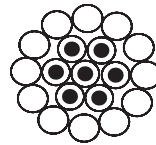
54 AL/7 AS



30 AL/7 AS



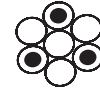
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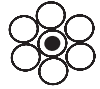
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3 AL/4 AS



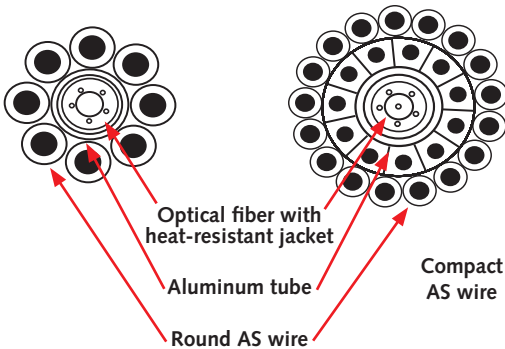
4 AL/3 AS



6 AL/1 AS

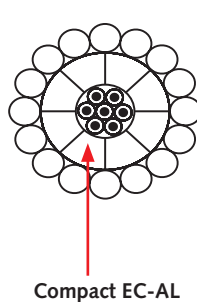
OPGW

(For telecommunications)



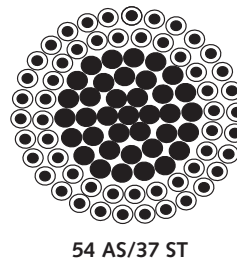
SLAC/AS

(Small loss ACSR/AS)

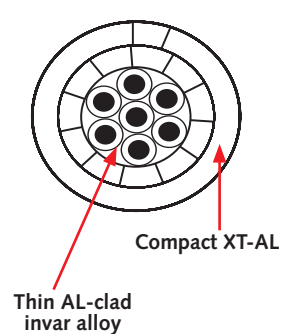


AS-170

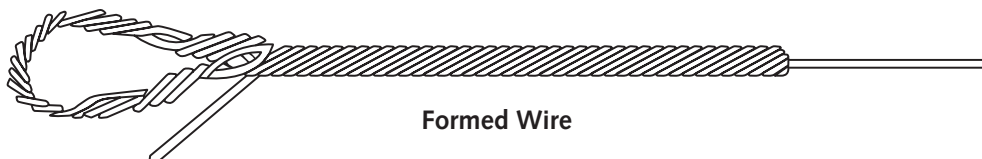
(ASSR)



XTACIR



NON-CONDUCTOR USE



1

OVERHEAD SHIELD WIRE (GROUND WIRE)

1-1 • SINGLE WIRE ASTM B415

Size/AWG	Diameter		Ultimate Tensile Strength		Minimum Breaking Strength		Weight		Resistance at 20°		Cross Section		
	inches	mm	ksi	kg/mm ²	lbs.	kg	lbs./1,000 ft.	kg/km	Ω/1,000 ft.	Ω/km	C mils	inches ²	mm ²
4	.2043	5.189	155	109.0	5,081	2,304.6	93.63	139.34	1.222	4.010	41,740	0.033	21.150
	.1880	4.775	160	112.5	4,441	2,014.6	79.29	118.00	1.443	4.735	35,340	0.028	17.910
5	.1819	4.620	165	116.0	4,290	1,945.9	74.25	110.50	1.541	5.056	33,090	0.026	16.770
	.1729	4.392	170	119.5	3,991	1,810.4	67.09	99.84	1.706	5.598	29,900	0.023	15.150
6	.1620	4.114	175	123.0	3,608	1,636.6	58.88	87.62	1.943	6.375	26,240	0.021	13.300
	.1549	3.934	180	126.6	3,392	1,538.8	53.84	80.13	2.126	6.974	24,000	0.019	12.160
7	.1443	3.665	185	130.1	3,025	1,372.1	46.69	69.48	2.450	8.038	20,820	0.016	10.550
	.1369	3.477	190	133.6	2,796	1,268.5	42.04	62.57	2.722	8.931	18,740	0.015	9.495
8	.1285	3.264	195	137.1	2,529	1,147.1	37.03	55.11	3.089	10.135	16,510	0.013	8.367
9	.1144	2.906	195	137.1	2,005	909.4	29.37	43.71	3.896	12.783	13,090	0.010	6.632
10	.1019	2.588	195	137.1	1,590	721.2	23.29	34.66	4.912	16.116	10,380	0.008	5.261
11	.0907	2.304	195	137.1	1,269	571.9	18.47	27.49	6.194	20.322	8,230	0.006	4.168
12	.0808	2.052	195	137.1	1,000	453.6	14.65	21.80	7.811	25.627	6,530	0.005	3.310

Coefficient of linear expansion: 0.000 0007 2/deg F (12.96 x 10⁻⁶/deg C)

Temperature coefficient of resistance: 0.0020/deg F (0.0036/deg C)

Modulus of elasticity: 23,500 ksi (16,520 kg/mm²)

Min. aluminum thickness: 10% of nominal wire radius

1-2 • STRANDED WIRE ASTM B416

Size/AWG	Individual Wire Diameter		Stranded Diameter		Minimum Breaking Strength		Weight		Resistance at 20°C		Cross Section		
	inches	mm	inches	mm	lbs.	kg	lbs./1,000 ft.	kg/km	Ω/1,000 ft.	Ω/km	C mils	inches ²	mm ²
37/5	.1819	4.620	1.270	32.360	142,800	64,770	2,802.00	4170.0	0.0425	0.1394	1,225,000	0.9619	620.60
37/6	.1620	4.115	1.130	28.700	120,200	54,520	2,222.00	3307.0	0.0536	0.1758	971,300	0.7629	492.20
37/7	.1443	3.665	1.010	25.650	100,700	45,670	1,762.00	2622.0	0.0675	0.2216	770,300	0.6050	390.30
37/8	.1285	3.264	.899	22.830	84,200	38,110	1,398.00	2080.0	0.0852	0.2794	610,900	0.4798	309.50
37/9	.1144	2.906	.801	20.350	66,700	30,250	1,108.00	1649.0	0.1074	0.3524	484,400	0.3805	245.50
37/10	.1019	2.588	.713	18.110	52,950	24,010	879.00	1308.0	0.1354	0.4443	384,200	0.3017	194.60
19/5	.1819	4.620	.910	23.110	73,350	33,270	1,430.00	2128.0	0.0822	0.2699	628,900	0.4940	318.70
19/6	.1620	4.114	.810	20.570	61,700	27,980	1,134.00	1688.0	0.1037	0.3403	498,800	0.3917	252.70
19/7	.1443	3.665	.721	18.310	51,730	23,460	889.50	1339.0	0.1308	0.4292	395,500	0.3107	200.40
19/8	.1285	3.264	.642	16.310	43,240	19,610	713.50	1062.0	0.1649	0.5411	313,700	0.2464	159.00
19/9	.1144	2.906	.572	14.530	34,290	15,550	565.80	842.0	0.2079	0.6821	248,800	0.1954	126.10
19/10	.1019	2.588	.509	12.130	27,190	12,330	448.70	667.8	0.2622	0.8603	197,300	0.1549	99.93
7/5	.1819	4.620	.546	13.870	27,030	12,260	524.90	781.2	0.2264	0.7428	231,700	0.1820	117.40
7/6	.1620	4.115	.486	12.340	22,730	10,310	416.30	619.5	0.2803	0.9197	183,800	0.1443	93.09
7/7	.1443	3.665	.433	11.000	19,060	8,645	330.00	491.1	0.3535	1.1598	145,700	0.1145	73.87
7/8	.1285	3.264	.385	9.779	15,930	7,225	261.80	389.6	0.4458	1.4627	115,600	0.0908	58.56
7/9	.1144	2.906	.343	8.712	12,630	5,728	207.60	308.9	0.5621	1.8442	91,650	0.0720	46.44
7/10	.1019	2.588	.306	7.772	10,020	4,544	164.70	245.1	0.7088	2.3255	72,680	0.0571	36.82
7/11	.0907	2.304	.272	6.909	7,945	3,603	130.60	194.4	0.8938	2.9325	57,590	0.0452	29.18
7/12	.0808	2.052	.242	6.147	6,301	2,858	103.60	154.2	1.1270	3.6976	45,710	0.0359	23.16
3/5	.1819	4.620	.392	9.957	12,230	5,547	224.50	334.1	0.5177	1.6985	99,310	0.0780	50.32
3/6	.1620	4.115	.349	8.864	10,280	4,662	178.10	265.0	0.6528	2.1418	78,750	0.0619	39.90
3/7	.1443	3.665	.311	7.899	8,621	3,910	141.20	210.7	0.8232	2.1009	62,450	0.0491	31.64
3/8	.1285	3.264	.277	7.036	7,206	3,268	112.00	166.7	1.0380	3.4057	49,530	0.0389	25.10
3/9	.1144	2.907	.247	6.274	5,715	2,592	88.81	132.2	1.3090	4.2947	39,280	0.0309	19.90
3/10	.1019	2.588	.220	5.588	4,532	2,055	70.43	104.8	1.6510	5.4168	31,150	0.0245	15.78

Coefficient of linear expansion: 0.000 0007 2/deg F (12.96 x 10⁻⁶/deg C)

Temperature coefficient of resistance: 0.0020/deg F (0.0036/deg C)

Modulus of elasticity: 23,500 ksi (16,520 kg/mm²)All weights, measurements, and values are nominal.
All ASTM specifications are per the latest addition.
Made in U.S.A.

2

GUY WIRE & MESSENGER WIRE

2-1 • SINGLE WIRE FOR TYPE “MG STRANDS” ASTM B415

Nominal Diameter		AWG (equivalent)	Cross Section		Ultimate Tensile Strength		Minimum Breaking Strength		Weight		Minimum Aluminum Thickness	
inches	mm		inches ²	mm ²	ksi	kg/mm ²	lbs.	kg	lbs./1,000 ft.	kg/km	inches	mm
.081	2.06	12	.0052	3.33	195	137	1,005	457	14.72	22.0	.0041	0.103
.083	2.11		.0054	3.50	195	137	1,055	479	15.46	23.0	.0042	0.106
.091	2.31	11	.0065	4.19	195	137	1,268	574	18.58	27.6	.0046	0.116
.102	2.59	10	.0082	5.27	195	137	1,593	722	23.35	34.7	.0051	0.130
.104	2.64		.0085	5.47	195	137	1,657	750	24.27	36.1	.0052	0.132
.110	2.79		.0095	6.11	195	137	1,853	838	27.15	40.3	.0055	0.140
.114	2.90	9	.0102	6.61	195	137	1,990	905	29.16	43.5	.0057	0.145
.120	3.05		.0113	7.31	195	137	2,205	1,000	32.31	48.2	.0060	0.153
.121	3.07		.0115	7.40	195	137	2,242	1,010	32.85	48.8	.0061	0.154
.128	3.25	8	.0129	8.30	195	137	2,509	1,130	36.77	54.7	.0064	0.163
.139	3.53		.0152	9.79	185	130	2,807	1,270	43.36	64.5	.0070	0.177
.145	3.68	7	.0165	10.60	180	127	2,972	1,350	47.18	70.1	.0073	0.184
.148	3.75		.0172	11.00	180	127	3,097	1,400	49.15	72.8	.0074	0.188
.165	4.19		.0214	13.80	170	120	3,635	1,650	61.10	90.9	.0083	0.210
.173	4.39		.0235	15.10	165	120	3,878	1,810	67.16	99.8	.0087	0.220

Density: 0.2381 lb/in³

2-2 • TYPE “MG STRANDS” FOR GUY & MESSENGER WIRE ASTM B416

Designation	Construction Nos.		AWG (equivalent)	Stranded Diameter		Cross section		Minimum Breaking Strength		Weight	
	inches	mm		inches	mm	inches ²	mm ²	lbs.	kg	lbs./1,000 ft.	kg/km
4 MG3	3/0.102	2.59	3/10 AWG	0.220	5.59	0.0245	15.8	4,500	2,060	70.60	105
5 MG3	3/0.114	2.90	3/9 AWG	0.247	6.27	0.0306	19.8	5,600	2,580	88.80	132
6 MG	7/0.081	2.06	7/12 AWG	0.242	6.15	0.0361	23.3	6,300	2,880	104.10	155
6.6 MG	7/0.083	2.11	--	0.249	6.32	0.0379	24.5	6,600	3,020	109.30	163
7 MG3	3/0.128	3.25	3/8 AWG	0.277	7.04	0.0386	24.9	7,100	3,240	111.20	165
8 MG	7/0.091	2.31	7/11 AWG	0.272	6.91	0.0455	29.3	8,000	3,620	131.40	195
5/16 in. MG	3/0.141	3.68	3/7 AWG	5/16	7.94	0.0495	31.9	8,400	3,850	142.70	212
10 MG	7/0.102	2.59	7/10 AWG	0.306	7.77	0.0572	36.9	10,000	4,550	165.10	245
5/16 in. MG	7/0.104	2.64	--	5/16	7.94	0.0595	38.3	10,400	4,720	171.60	255
11.5 MG	7/0.110	2.79	--	0.330	8.38	0.0665	42.8	11,600	5,280	192.00	285
12.5 MG	7/0.114	2.90	7/9 AWG	0.343	8.71	0.0714	46.3	12,500	5,700	206.20	308
3/8 in. MG	7/0.121	3.05	--	--	9.52	0.0792	51.2	13,800	6,310	228.40	340
14 MG	7/0.121	3.07	--	0.363	9.22	0.0805	51.8	14,100	6,390	232.20	345
16 MG	7/0.128	3.25	7/8 AWG	0.386	9.80	0.0901	58.1	16,000	7,160	260.00	387
18 MG	7/0.139	3.53	--	0.417	10.60	0.1062	68.5	18,000	8,020	306.60	456
7/16 in. MG	7/0.145	3.68	7/7 AWG	7/16	11.10	0.1156	74.5	18,700	8,510	333.60	496
20 MG	7/0.148	3.75	--	0.444	11.30	0.1204	77.3	20,000	8,840	347.50	515
1/2 in. MG	7/0.165	4.19	--	1/2	12.70	0.1497	96.5	22,900	10,400	432.00	642
25 MG	7/0.173	4.39	--	0.519	13.20	0.1645	106.0	25,000	11,400	474.80	705

Package: Standard packaging for guy wire will be in 500 ft. coils or on 5000 ft. reels.

All weights, measurements, and values are nominal.
All ASTM specifications are per the latest addition.
Made in U.S.A.

3 AS SOLID WIRE

3-1 • ASTM B502 (SINGLE WIRE)

Diameter		Stress at 1.0% extension		Ultimate Tensile Strength		Resistivity at 68° F	Density lb/in ³
inches	mm	ksi	kg/mm ²	ksi	kg/mm ²		
0.0770-0.1289	1.956-3.274	175	123	195	137	51.01 ohm-cmil/ft.	.2381 (6.590g/cm ³)
0.1290-0.1369	3.275-3.477	170	120	190	134		
0.1370-0.1443	3.478-3.665	165	116	185	130		
0.1444-0.1549	3.666-3.934	160	112	180	127		
0.1550-0.1620	3.935-4.115	160	112	175	123		
0.1621-0.1729	4.116-4.392	155	109	170	120		
0.1730-0.1819	4.393-4.620	150	105	165	116		
0.1820-0.1880	4.621-4.775	145	102	160	112		

Resistivity: 51.01 ohm-cmil/ft. at 68°F = 0.08480 ohm-mm²/m at 20°C = Conductivity 20.3% IACS at 20°C
Min. aluminum thickness: 10% of nominal wire radius

4 AS/AC WIRE

4-1 • ALUMINUM-CLAD STEEL WIRE/ALUMINUM CONDUCTORS

Conductor	Diameter of Conductor (inches)	Design of Conductor Aluminum Wires No.- Dia.	Design of Conductor AS Wires No.- Dia.	Minimum Breaking Strength (lbs.)	Weight lbs./1,000 ft.	Weight lbs./Mile	Cross Section Square inches
No. 4 Awg Aluminum Equivalent							
No. 4-6/1	.245	6- .0187	1- .0817	1,783	52.40	276.70	.0367
No. 4-5/2	.261	5- .0871	2- .0817	2,830	69.70	368.00	.0417
No. 4-4/3	.281	4- .0937	3- .0937	4,305	92.40	487.90	.0438
No. 4-3/4	.307	3- .1022	4- .1022	6,325	123.70	652.10	.0574
No. 4-2/5	.340	2- .1133	5- .1133	9,314	169.40	894.40	.0706
No. 3 Awg Aluminum Equivalent							
No. 3-6/1	.275	6- .0918	1- .0918	2,228	66.10	349.00	.0463
No. 3-5/2	.293	5- .0978	2- .0978	3,551	87.80	463.70	.0526
No. 3-4/3	.316	4- .1053	3- .1053	5,397	116.50	615.10	.0609
No. 3-3/4	.344	3- .1147	4- .1147	7,966	155.90	823.20	.0723
No. 3-2/5	.382	2- .1273	5- .1273	11,730	213.50	1,127.00	.0890
No. 2 Awg Aluminum Equivalent							
No. 2-6/1	.309	6- .1030	1- .1030	2,760	83.30	439.80	.0584
No. 2-5/2	.330	5- .1099	2- .1099	4,336	110.80	585.00	.0663
No. 2-4/3	.355	4- .1182	3- .1182	6,785	146.90	775.60	.0768
No. 2-3/4	.386	3- .1288	4- .1288	9,793	196.60	1,038.00	.0912
No. 2-2/5	.429	2- .1429	5- .1429	14,060	269.30	1,422.00	.1123
No. 1 Awg Aluminum Equivalent							
No. 1-6/1	.347	6- .1157	1- .1157	3,450	105.10	554.90	.0736
No. 1-5/2	.370	5- .1234	2- .1234	5,539	139.70	737.60	.0837
No. 1-4/3	.398	4- .1327	3- .1327	8,344	185.30	978.40	.0969
No. 1-3/4	.434	3- .1446	4- .1446	11,740	247.90	1,309.00	.1150
No. 1-2/5	.482	2- .1605	5- .1605	16,800	339.60	1,793.00	.1416
No. 1/0 Awg Aluminum Equivalent							
No. 1/0-6/1	.390	6- .1300	1- .1300	4,246	132.60	700.10	.0929
No. 1/0-5/2	.416	5- .1385	2- .1385	6,712	176.10	929.80	.1055
No. 1/0-4/3	.447	4- .1490	3- .1490	10,020	233.50	1,233.00	.1221
No. 1/0-3/4	.487	3- .1624	4- .1624	14,000	312.60	1,651.00	.1450
No. 1/0-2/5	.541	2- .1802	5- .1802	20,030	428.00	2,260.00	.1785
No. 2/0 Awg Aluminum Equivalent							
No. 2/0-6/1	.438	6- .1459	1- .1459	5,135	167.10	882.30	.1171
No. 2/0-5/2	.467	5- .1556	2- .1556	8,040	221.10	1,173.00	.1330
No. 2/0-4/3	.502	4- .1674	3- .1674	12,000	294.60	1,555.00	.1541
No. 2/0-3/4	.547	3- .1824	4- .1824	16,750	394.30	2,082.00	.1829
No. 3/0 Awg Aluminum Equivalent							
No. 3/0-6/1	.492	6- .1639	1- .1639	6,305	210.70	1,112.00	.1476
No. 3/0-5/2	.524	5- .1747	2- .1747	9,705	280.60	1,482.00	.1677
No. 3/0-4/3	.564	4- .1880	3- .1880	14,380	371.40	1,961.00	.1942
No. 4/0 Awg Aluminum Equivalent							
No. 4/0-6/1	.552	6- .1840	1- .1840	7,685	265.70	1,403.00	.1861
No. 4/0-15/4	.575	15- .1150	4- .1150	10,870	305.40	1,613.00	.1974

Specifications: ASTM B549, ASTM B230, and ASTM B502

All weights, measurements, and values are nominal.
All ASTM specifications are per the latest addition.
Made in U.S.A.

5-1 • ACSR/AS (AW) CONDUCTOR ASTM B-549

Code Word	Size (AWG or kcmil)	Stranding (AL/AS)	Diameter			Weight lbs./1,000 ft.			Minimum Breaking Strength (lbs.)	Resistance – Ω/1,000 ft.		Allowable Ampacity+ (Amps)
			Individual Wires		Complete Cable							
			AL	AS(AW)		AL	AS	Total		DC@20°C	AC@75°C	
Swan/AW	4	6/1	.0834	.0834	.250	39	16	55	1,780	.3917	.4770	145
Swanate/AW	4	7/1	.0772	.1029	.257	39	24	63	2,280	.3814	.4642	148
Sparrow/AW	2	6/1	.1052	.1052	.316	62	25	87	2,760	.2462	.2997	194
Sparate/AW	2	7/1	.0974	.1299	.325	62	38	100	3,510	.2396	.2917	198
Raven/AW	1/0	6/1	.1327	.1327	.398	99	39	138	4,250	.1547	.1884	260
Quail/AW	2/0	6/1	.1490	.1490	.447	124	50	174	5,130	.1227	.1494	301
Pigeon/AW	3/0	6/1	.1672	.1672	.502	156	63	219	6,300	.0975	.1188	347
Penguin/AW	4/0	6/1	.1878	.1878	.563	197	79	277	7,690	.0773	.0942	402
Waxwing/AW	266.8	18/1	.1217	.1217	.609	250	33	283	6,820	.0636	.0778	451
Partridge/AW	266.8	26/7	.1013	.0788	.642	251	98	349	10,800	.0617	.0754	465
Merlin/AW	336.4	18/1	.1367	.1367	.684	315	42	359	8,540	.0504	.0618	522
Linnet/AW	336.4	26/7	.1138	.0885	.721	317	123	440	13,500	.0490	.0599	537
Chickadee/AW	397.5	18/1	.1486	.1486	.743	373	50	422	9,780	.0427	.0523	580
Ibis/AW	397.5	26/7	.1236	.0961	.783	374	146	520	15,800	.0414	.0507	597
Pelican/AW	477	18/1	.1628	.1628	.814	447	59	507	11,500	.0356	.0434	651
Hawk/AW	477	26/7	.1355	.1054	.858	449	175	624	18,900	.0345	.0423	669
Osprey/AW	556.5	18/1	.1758	.1758	.879	522	69	591	13,200	.0305	.0375	715
Dove/AW	556.5	26/7	.1463	.1138	.927	524	204	728	21,900	.0296	.0363	737
Peacock/AW	605	24/7	.1588	.1059	.953	570	177	746	21,000	.0275	.0338	770
Kingbird/AW	363	18/1	.1880	.1880	.940	596	79	675	15,000	.0267	.0327	778
Rook/AW	363	24/7	.1628	.1085	.977	599	186	785	22,000	.0262	.0322	794
Grosbeak/AW	363	26/7	.1564	.1216	.990	599	233	832	24,800	.0259	.0318	801
Tern/AW	795	45/7	.1329	.0886	1.063	749	124	873	21,500	.0214	.0264	896
Drake/AW	795	26/7	.1749	.1360	1.108	749	292	1,040	30,500	.0207	.0255	922
Canary/AW	900	54/7	.1291	.1291	1.162	848	263	1,111	31,000	.0185	.0229	986
Rail/AW	954	45/7	.1456	.0971	1.165	899	149	1,047	25,400	.0178	.0221	1,003
Cardinal/AW	954	54/7	.1329	.1329	1.196	899	279	1,177	32,900	.0174	.0216	1,022
Ortolan/AW	1033.5	45/7	.1515	.1010	1.212	973	161	1,134	27,200	.0164	.0204	1,054
Curlew/AW	1033.5	54/7	.1383	.1383	1.244	973	302	1,275	35,200	.0161	.0200	1,074
Bluejay/AW	1113	45/7	.1573	.1049	1.259	1,048	173	1,222	29,300	.0161	.0191	1,103
Bunting/AW	1192.5	45/7	.1628	.1085	1.302	1,125	186	1,311	31,300	.0143	.0192	1,150
Bittern/AW	1272	45/7	.1681	.1121	1.345	1,200	198	1,398	33,400	.0134	.0179	1,192
Pheasant/AW	1272	54/19	.1535	.0921	1.382	1,204	364	1,568	42,400	.0132	.0165	1,216
Bobolink/AW	1431	45/7	.1783	.1189	1.427	1,348	223	1,571	37,600	.0119	.0150	1,283
Lapwing/AW	1590	45/7	.1880	.1253	1.504	1,498	248	1,745	41,800	.0107	.0137	1,365

Conductor temperature of 75°C ambient temperature 25°C, emissivity 0.5, wind 2ft/sec., in sun.

All weights, measurements, and values are nominal.
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 Made in U.S.A.

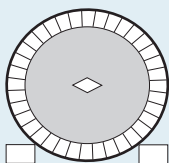
6-1 • PERFORMANCE OF AS WIRE

Standard		Abbreviation	Minimum Tensile Strength kgf/mm ²	Minimum Conductivity at 20°C (%IACS)	Modulus of Elasticity kgf/mm ²	Coefficient of Linear Expansion (x 10 ⁻⁶ /°C)
IEC 61232		AS/IEC	1,070-1,340 MPa	20.3	162 GPa	13.0 x 10 ⁻⁶ K ⁻¹
ASTM B-415 ASTM B-502		AS/ASTM	109-137	20.3	162 GPa	12.6
DIN 48200-Teil 8		AD/DIN	1,080 ~ 1,370 N/mm ²	20.3	162 GPa	12.6
ONORM E4031		AS/ONORM	1,080 ~ 1,370 N/mm ²	20.3	162 GPa	12.6
NORMA ESPANOLA UNE 21-059 / 21-060		AS/UNE	1,080 ~ 1,370 N/mm ²	20.3	162 GPa	12.6
Australian Standard 1220-part 3 / 1222 part 2		AS/ASTM	1.19 ~ 1.34 GPa	20.3	162 GPa	12.6
Japan Federation of Electric Power Co. A241, A220		AS/JFEPC	130 ~ 135	20.3 ~ 23.0	14,600 ~ 14,700	12.9
JCS 1389-2014	14% Conductivity	14 AS	160	14	17,300	12
	20% Conductivity	20 AS	135	20.3	15,800	12.6
	23% Conductivity	23AS/130	130	23	15,200	12.9
		23AS/125	125		15,200	12.9
	27% Conductivity	27 AS	110	27	14,300	13.4
	30% Conductivity	30 AS	90	30	13,500	13.8
	35% Conductivity	35 AS	70	35	12,400	14.5
	40% Conductivity	40 AS	70	40	11,100	15.5

JCS: Japanese Cable Makers Association Standard

All weights, measurements, and values are nominal.
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Made in U.S.A.

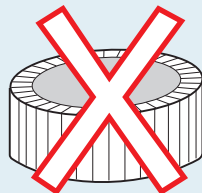
REEL HANDLING



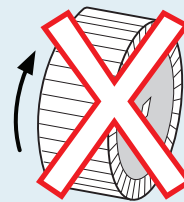
Use blocks
on both sides.



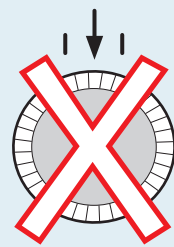
Use crane
or forklift.



Do not lay flat.



Do not roll in
opposite direction.



Do not drop.

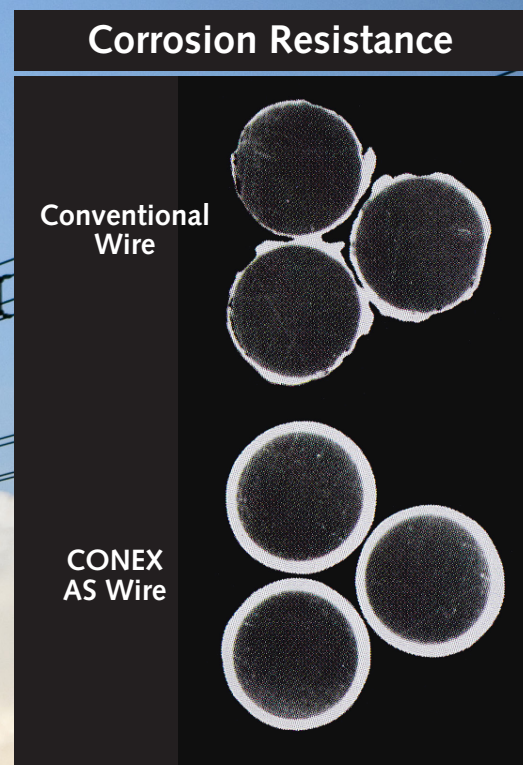
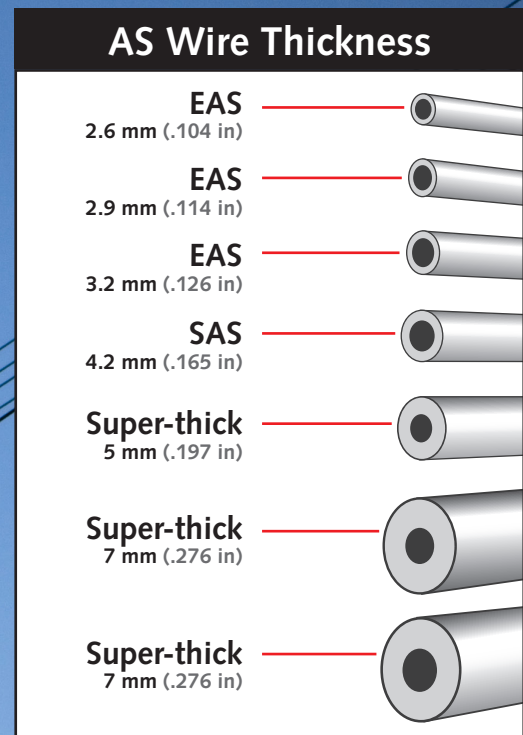
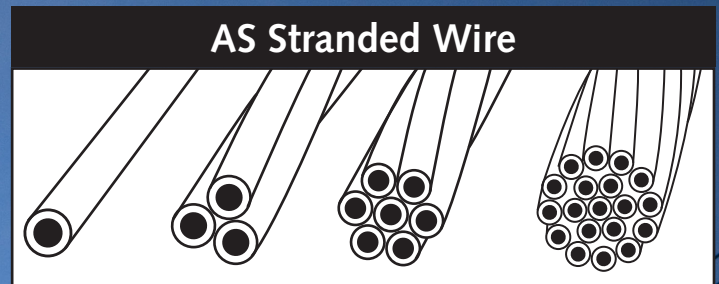
Characteristics of AS Wire

1. Wider variety of properties and size of steel wire, thickness of aluminum cladding and quality of aluminum. (Cross sectional area ratio of the aluminum in AS wire covers approximately 13% to 85%, while that designated in ASTM B415 is fixed at 25%.)
2. Wider range of combinations of tensile strength and conductivity.
3. High corrosion resistance due to thick EC-grade aluminum covering.
4. Sufficiently strong bonding strength at the boundary between aluminum layer and steel core.
5. Lighter in weight than galvanized and aluminized steel wire.
6. Excellent thermal stability for continuous operation in high temperature.
7. Availability of wider variety of products as follows:
 - AS wires of complex cross section.
 - AS wires of approximately 2.05mm to 8mm in diameter.

Corrosion Resistance

The corrosion resistance of bare aluminum conductors for overhead transmission and distribution line is very important when installed in high risk areas such as near the sea, industrial areas, deserts, etc.

The thick, high corrosion resistant EC-grade aluminum covering of AS wire will protect the steel core by its advantageous galvanic action, even if the steel core is partially exposed.



7

GALVANIZED STEEL WIRE STRANDS

7-1 • CLASS A GALVANIZED AND CONZINAL WIRE

(95% Zinc/5% Aluminum + Mischmetal)

Galvanized Steel Strand				Minimum Breaking Strength (lbs.)					Minimum Weight of Coating OZ/SQ. FT.	
Strand Diameter (Inches)	Coated Wire Diameter (Inches)	Wires Per Strand	Strand Weight lbs./1,000 ft.	Utilities Grade	Common Grade	Siemens-Martin Grade	High Strength Grade	Extra-High Strength Grade	Class A	Conzinal
1/4	.120	3	117	3,150	1,860	3,040	4,730	6,740	.85	.85
1/4	.120	3	117	4,500					.85	.85
5/16	.145	3	171	6,500	2,490	4,090	6,350	9,100	.90	.90
3/8	.165	3	220	8,500	3,330	5,560	8,360	11,800	.90	.90
1/4	.080	7	121		1,900	3,150	4,750	6,650	.60	.60
9/32	.093	7	164	4,600	2,570	4,250	6,400	8,950	.70	.70
5/16	.104	7	205		3,200	5,350	8,000	11,200	.80	.80
5/16	.109	7	225	6,000					.80	.80
3/8	.120	7	273	11,500	4,250	6,950	10,800	15,400	.85	.85
7/16	.145	7	399	18,000	5,700	9,350	14,500	20,800	.90	.90
1/2	.165	7	517	25,000	7,400	12,100	18,800	26,900	.90	.90
9/16	.188	7	671		9,600	15,700	24,500	35,000	1.00	1.00
5/8	.207	7	813		11,600	19,100	29,600	42,400	1.00	1.00
1/2	.100	19	504		7,620	12,700	19,100	26,700	.70	.70
9/16	.113	19	637		9,640	16,100	24,100	33,700	.80	.80
5/8	.125	19	796		11,000	18,100	28,100	40,200	.85	.85
3/4	.150	19	1,155		16,000	26,200	40,800	58,300	.90	.90
7/8	.177	19	1,581		21,900	35,900	55,800	79,700	.90	.90
1	.200	19	2,073		28,700	47,000	73,200	104,500	1.00	1.00

All weights, measurements, and values are nominal.
All ASTM specifications are per the latest addition.
Made in U.S.A.

CONZINAL (CONex ZINc ALuminum) 95% Zinc/5% Aluminum plus Mischmetal specifications:

A855/A855M (Guys, Messengers)

A925 (Overhead Ground Wire)

B802/B802M, B803/B803M, B958/B958M (Core Wire in ACSR Conductors)

CONEX CABLE CLASS A Galvanized Steel specifications:

A363 (Zinc Coated Steel Overhead Ground / Shield Wire)

A475 (Zinc Coated Steel Wire Strand for Guys, Messengers)

B498 (Zinc Coated Steel Core Wire in ACSR Conductors)

Development of Galvanized Steel Wire

In 2015, Conex Cable, LLC completed a \$3,500,000 expansion to our manufacturing facility in DeKalb, Illinois. The expansion included the installation of a continuous process for the production of Galvanized Steel Wire. This modern facility utilizes the latest technology, to include the manufacture of both Class A Galvanized (zinc-coated steel) and our brand CONZINAL (CONex ZINc ALuminum), 95% zinc, 5% aluminum plus Mischmetal.

Galvanized Steel is used for the following applications: guy and messenger wires, overhead ground/shield wires on electrical transmission and distribution lines, and as a core wire for ACSR conductors.

Cross-sectional View of CONZINAL



CONZINAL 95% Zinc + 5% Aluminum – Mischmetal Alloy is available per ASTM Standards: A855/A855M for use as guys and messengers, A925 for use as overhead ground/shield wire, and B802/B802M, B803/B803M, B958/B958M for use as core wires in ACSR conductors.

GALVANIZED STEEL STRAND – CLASS A is available per ASTM Standards: A363 (Zinc Coated Steel Overhead Ground Wire) for use as overhead ground/shield wire, A475 (Zinc Coated Steel Wire Strand) for use as guys and messengers, or B498 (Zinc Coated Steel Core Wire) for use in ACSR Conductors.

Conex Cable is now galvanizing, drawing, and stranding our Class A Galvanized and CONZINAL 100% in-house. We manufacture and stock a large variety of sizes and strengths, from utility grade to extra-high strength, for quick delivery. We offer our coated steel wires in 3-wire, 7-wire, and 19-wire constructions. Packaging is available in 250' or 500' hand coils, and reels up to 20,000' lengths. Colored end-wrapping is used for grade identification.



End-wrap Color Code for Grade Identification:

Utilities

Common

Siemens-Martin

High Strength

Extra-High Strength

100% of Galvanizing, Drawing, and Stranding is done in our plant in DeKalb, Illinois, U.S.A.



AS Wire/GS Wire

CONEX
CABLE, L.L.C.

Plant: 816 E. Locust St.
Office: 1007 E. Locust St.
P.O. Box 822
DeKalb, IL 60115 U.S.A.
Ph: 800-877-8089

