



Stranded Overhead Shield Wire (Ground Wire)

Product Description

The constant, dependable transmission of electrical power is critical to the electric utility industry and their customers. Transmission and distribution lines carrying large blocks of power must be permanently protected from lightning strikes and the occasional fault. Conex Cable's Aluminum-Clad Steel (AS Wire) Overhead Shield Wires, also referred to as Ground Wire, provide the best protection for these vital electrical power lines.

Thick EC 1350 Aluminum-Cladding on each individual wire provides the ideal protection against corrosion as well as providing the conductivity needed for proper operation of protective relays, while reducing temperature rise of the static wire under fault current conditions. Products all meet ASTM B415 / B416.

Features

Conductivity

Because the thick high-grade aluminum coating used on each individual wire is the same as what is used in today's aluminum conductors, Conex Cable's Aluminum-Clad Steel wire has a conductivity of 20.3%. Each Aluminum-Clad Steel product is tested to ASTM standards (ASTM B415), verifying that 25% of each wire's cross-sectional area is coated to ensure the electrical properties of the finished product.

Corrosion Resistance

Conex Cable's Aluminum-Clad Steel has been proven in laboratory and field tests for its excellent corrosion resistance. It provides strength and conductivity in any environment where aluminum is accepted, especially those known to be corrosive from industrial or atmospheric conditions, such as seashore, desert and industrial environments. This is accomplished because of the continuous, strong metallic bond of high grade aluminum to the steel core and will not crack or flake.

Light Weight

Aluminum-Clad Overhead Shield strand is 15% lighter weight than a Zinc or Mischmetal coated strand of equal size. This lighter weight, combined with high strength allows Aluminum-Clad Steel strand to be strung to the same sags as galvanized steel with lower tensions and less stress on the towers or supporting structures.

Application

Overhead Shield (Ground) Wire for:

- Protecting Transmission and Distribution Lines against lightning damage

Specifications

- ASTM B415 – Single-End
- ASTM B416 – Stranded Wire

Packaging

- Hand Coils and Non-Returnable Wood Reels are Standard
- Safety Dispensers are Available for Hand Coils

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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	12.930	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.