Application

Aluminum Clad Steel Conductor is extensively employed across the electrical and power transmission sectors for diverse applications. Its high strength-to-weight ratio enables its use in overhead power transmission lines, distribution networks, and substation connections, facilitating efficient electricity transfer over long distances.

Characteristic

Aluminum-clad steel is distinguished by its aluminum cladding with a radial thickness not less than 5% of the overall wire diameter. It boasts a conductivity of 20.3% IACS and UTS ranging from 1.27 to 1.34 GPa. Conductors reinforced with aluminum-clad steel exhibit lower electrical resistance and superior corrosion protection compared to those utilizing galvanized steel.

Construction

Galvanized steel wires are concentrically stranded with successive layers having an opposite direction of lay, with the outermost layer being right-handed. Optionally, a larger central wire (king wire) may be included in the conductor, typically with a diameter approximately 5% greater than the surrounding wires, based on conductor design considerations.

Specification

-AS 1222.2 Standard Galvanized Steel Wires

Eastful Cable Lab

We have CNAS Accredited Facility to assure conformity assessment services with a focus on quality, expertise, and customer satisfaction.
CNAS has international mutual recognition among IAF, ILAC, APLAC and PAC.

Accreditation

We meet the requirements of ISO9001, ISO14001, ISO45001 and ISO50001 and our cables have certificate of CCC, RoHS, CASC, UL, cUL, TÜV Rhineland and CCS.

National Green Factory

Our facility has been awarded of National Green Factory by Ministry of Industry and Information Technology of China.
We are committed to the development of high-end, intelligent and green manufacturing industry.

*The overall energy consumption level of green factories is better than the energy efficiency benchmark level.

Technical Parameters

No./Dia of Stranding Wires	Nominal Overall Diameter	Nominal Cross Section Area	Nominal Weight	Breaking Load	Modulus of Elasticity	Coefficient of Linear Expansion
No./mm	mm	mm^2	kg/km	kN	GPa	$\times10^{-6}$/°C
3/2.75	5.9	17.82	118	22.7	159	12.9
3/3.00	6.5	21.21	141	27.0	159	12.9
3/3.25	7.0	24.89	165	31.6	159	12.9
3/3.75	8.1	33.12	220	39.3	159	12.9
7/2.75	8.3	41.58	277	50.1	157	12.9
7/3.00	9.0	49.48	330	59.7	157	12.9
7/3.25	9.8	58.07	387	69.9	157	12.9
7/3.75	11.3	77.28	515	86.9	157	12.9
7/4.25	12.8	99.33	662	105	157	12.9
19/2.75	13.8	112.9	755	136	155	12.9
19/3.00	15.0	134.3	899	162	155	12.9
19/3.25	16.3	157.6	1060	189	155	12.9
19/3.75	18.8	209.8	1410	236	155	12.9
19/4.25	21.3	269.6	1800	286	155	12.9

No./Dia.of Stranding Wires	D.C.Resistance		Continuous Current Carrying Capacity					
	at 20°C	at 75°C	at night in winter			at noon in summer		
			still air	1s/m wind	2s/m wind	still air	1s/m wind	2s/m wind
No./mm	Ω/km	Ω/km	A	A	A	A	A	A
3/2.75	4.80	5.75	48	83	97	38	76	90
3/3.00	4.02	4.82	54	93	108	42	84	100
3/3.25	3.42	4.10	60	103	120	47	93	110
3/3.75	2.58	3.09	72	123	143	56	111	131
7/2.75	2.06	2.47	81	138	161	63	124	148
7/3.00	1.73	2.07	91	154	179	70	138	164
7/3.25	1.47	1.76	102	170	198	77	153	181
7/3.75	1.11	1.33	123	204	237	92	181	215
7/4.25	0.864	1.04	145	238	277	107	211	251
19/2.75	0.764	0.915	158	259	300	116	228	272
19/3.00	0.642	0.769	178	288	335	129	54	302
19/3.25	0.545	0.653	200	320	371	142	280	334
19/3.75	0.411	0.492	244	382	443	172	333	397
19/4.25	0.320	0.383	291	448	519	203	387	462

Note:
The electrical performance characteristics shown above do not take magnetic effects into consideration and are therefore only approximate.
Current ratings are based on the following conditions:
-Conductor temperature rise above ambient of 40°C
-Ambient air temp. of 35°C for summer noon or 10°C for winter night
-Direct solar radiation intensity of 1000 W/m2 for summer noon or zero for winter night
-Diffuse solar radiation intensity of 100 W/m2 for summer noon or zero for winter night
-Ground reflectance of 0.2
-Emissivity and solar absorption coefficient of the conductor surface, 0.5