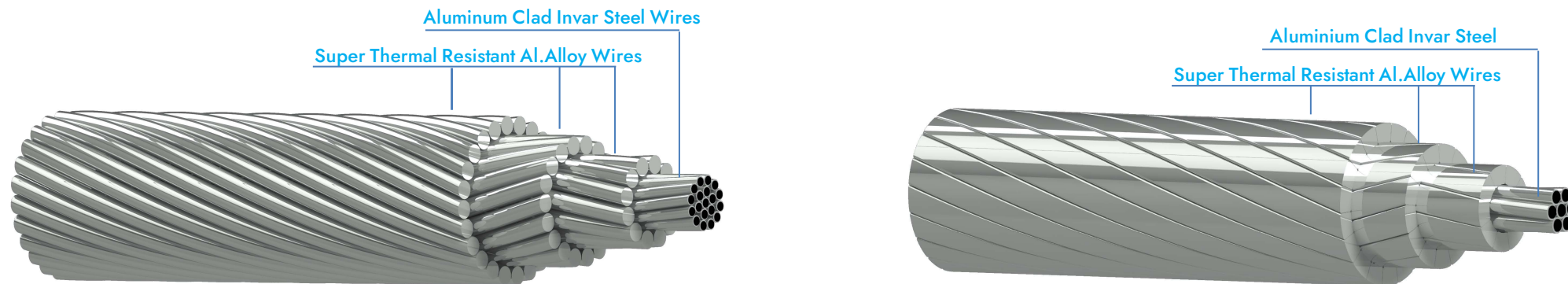


SUPER THERMAL RESISTANT ALUMINUM ALLOY CONDUCTOR, ALUMINUM CLAD INVAR REINFORCED (STACIR & STACIR/TW)

High Temperature Thermal Resistant Alloy Conductor : These are high ampacity conductors with inner core composed of Aluminum clad Invar Steel (Ni-Fe Alloy) & outer layer composed of Super Thermal Resistant Aluminium alloy with round or trapezoidal shaped wires.

Construction

Aluminium-Zirconium wires (Type-AT3), concentrically stranded over a Aluminum Clad Invar Steel core.



Values based on following Specifications:

- Thermal-resistant aluminium alloy wires (Type-AT3) for overhead line conductor as per IEC 62004
- Concentric lay overhead electrical stranded conductors IEC 61089, IEC 62219 or ASTM B779
- Aluminium-clad steel wires for electrical purposes IEC 1232, JCS 1404 & More.

Features:

- These can operate upto 210°C with specified strength loss,
- Can carry 100~150% more current as that of ACSR of the same size.
- For uprating lines, no modifications or reinforcement is required to the existing towers

Available with Non-Specular (Dull) Surface Finish and Color Coated as per customized requirements.

SUPER THERMAL RESISTANT ALUMINUM ALLOY CONDUCTOR, ALUMINUM CLAD INVAR REINFORCED (STACIR)

Conductor Size	Stranding				Cross-Sectional Area			Diameter of Complete Conductor	Weight			Rated Strength	DC Resistance @ 20°C	Current Capacity			
	No. of Wires		Wire diameter		STAL	Invar	Total		STAL	Steel	Total						
	STAL	Invar	STAL	Invar													
(mm ²)	(No.)	(No.)	(mm)	(mm)	(mm ²)	(mm ²)	(mm ²)	(mm)	(Kg/Km)	(Kg/Km)	(Kg/Km)	(KN)	(Ω/Km)	(Ampere)	(Ampere)	(Ampere)	
200	30	7	2.60	2.60	159.28	37.17	196.44	18.20	439.31	265.01	704.32	65.38	0.1746	403	690	850	
240	30	7	2.90	2.90	198.16	46.24	244.39	20.30	546.54	329.69	876.23	79.92	0.1403	460	794	980	
300	30	7	3.20	3.20	241.27	56.30	297.57	22.40	665.47	401.43	1066.90	94.82	0.1153	518	901	1114	
300	30	7	3.20	3.20	241.27	56.30	297.57	22.40	665.47	401.43	1066.90	94.82	0.1153	518	901	1114	
380	26	7	4.00	3.10	326.73	52.83	379.56	25.30	902.22	376.73	1278.95	104.26	0.0866	612	1076	1335	
380	26	7	4.00	3.10	326.73	52.83	379.56	25.30	902.22	376.73	1278.95	104.26	0.0866	612	1076	1335	
480	26	7	4.50	3.50	413.51	67.35	480.86	28.50	1141.87	480.23	1622.10	132.42	0.0684	704	1253	1559	
480	26	7	4.50	3.50	413.51	67.35	480.86	28.50	1141.87	480.23	1622.10	132.42	0.0684	704	1253	1559	
520	45	7	3.70	2.47	483.85	33.54	517.39	29.61	1337.00	239.17	1576.17	113.10	0.0597	748	1336	1665	
520	45	7	3.70	2.47	483.85	33.54	517.39	29.61	1337.00	239.17	1576.17	113.10	0.0597	748	1336	1665	
590	54	7	3.50	3.50	519.54	67.35	586.89	31.50	1437.04	480.23	1917.27	150.84	0.0549	790	1419	1771	
600	54	7	3.53	3.53	528.49	68.51	596.99	31.77	1461.78	488.50	1950.28	152.20	0.0540	797	1434	1791	
630	54	19	3.63	2.18	558.85	70.92	629.77	32.68	1545.78	507.40	2053.17	163.93	0.0511	824	1486	1857	
690	54	7	3.80	3.80	612.42	79.39	691.81	34.20	1693.95	566.08	2260.03	176.38	0.0466	869	1576	1972	
710	54	19	3.85	2.31	628.65	79.63	708.27	34.65	1738.82	569.72	2308.54	182.37	0.0454	883	1602	2006	
730	45	7	4.40	2.90	684.24	46.24	730.48	35.10	1890.75	329.69	2220.44	155.82	0.0423	914	1663	2084	
770	54	7	4.00	4.00	678.59	87.96	766.55	36.00	1876.95	627.24	2504.19	193.40	0.0421	922	1682	2108	
800	54	19	4.09	2.45	709.47	89.57	799.04	36.79	1962.37	640.86	2603.23	205.51	0.0403	946	1729	2169	
900	54	19	4.34	2.61	798.85	101.65	900.50	39.09	2209.60	727.30	2936.90	230.40	0.0357	1014	1868	2348	

NOTE :

Current capacity based on referenced conductor temperature, 0.56 m/s wind, 0 m Elevation, 0.45 Emmissivity, 0.80 absorptivity, 45°C Ambient temperature, 1045 W/m² Solar radiation

Customized conductor sizes based on customer's requirement can also be designed.

SUPER THERMAL RESISTANT ALUMINUM ALLOY CONDUCTOR, ALUMINUM CLAD INVAR REINFORCED (STACIR/TW)

Conductor Size	Cross-Sectional Area			Stranding				Diameter of Complete Conductor	Weight			Rated Strength	DC Resistance @ 20°C	Current Capacity		
	STAL	Invar	Total	No. of STAL Wires	No. of STAL Layers	No. of Invar Wires	Dia. of Invar Wires		STAL	Invar	Total			@ 85°C	@ 150°C	@ 210°C
	(mm ²)	(mm ²)	(mm ²)	(No.)	(No.)	(No.)	(mm)		(Kg/Km)	(Kg/Km)	(Kg/Km)			(KN)	(Ω/Km)	(Ampere)
320	322.26	52.49	374.75	20	2	7	3.09	22.88	888.49	374.31	1262.80	100.95	0.0876	596	1039	1287
340	336.85	54.90	391.75	20	2	7	3.16	23.38	928.73	391.46	1320.19	105.55	0.0838	612	1069	1324
390	389.25	50.81	440.06	20	2	7	3.04	24.72	1073.18	362.29	1435.47	109.47	0.0731	662	1163	1442
405	402.83	52.15	454.98	20	2	7	3.08	25.14	1110.62	371.89	1482.51	112.86	0.0706	676	1189	1475
480	479.69	47.20	526.89	35	3	7	2.93	26.98	1329.03	336.55	1665.58	123.00	0.0600	733	1298	1613
490	489.57	63.55	553.13	24	2	7	3.40	27.70	1349.78	453.18	1802.96	136.19	0.0581	759	1347	1676
525	523.67	26.85	550.53	30	3	7	2.21	27.50	1450.88	191.47	1642.35	107.39	0.0556	763	1354	1685
590	586.76	41.28	628.03	33	3	7	2.74	29.40	1625.66	294.31	1919.97	131.16	0.0494	820	1464	1825
625	625.07	79.63	704.69	38	3	19	2.31	31.32	1731.79	569.72	2301.51	177.43	0.0458	862	1549	1935
640	636.97	44.03	681.00	35	3	7	2.83	30.60	1764.78	313.97	2078.75	141.60	0.0455	860	1542	1925
680	676.24	85.95	762.20	39	3	19	2.40	32.58	1873.58	614.97	2488.55	191.75	0.0423	903	1630	2037
690	688.96	47.52	736.48	36	3	7	2.94	31.80	1908.82	338.85	2247.67	151.77	0.0421	899	1620	2024
725	725.09	91.78	816.87	39	3	19	2.48	33.72	2008.91	656.66	2665.57	205.21	0.0395	940	1703	2131
730	726.41	91.78	818.19	39	3	19	2.48	33.75	2012.56	656.66	2669.22	205.41	0.0394	941	1705	2134
740	737.40	51.14	788.54	36	3	7	3.05	32.92	2043.02	364.68	2407.70	162.72	0.0393	936	1692	2117
780	776.92	98.56	875.49	39	3	19	2.57	34.90	2152.52	705.18	2857.70	218.33	0.0368	979	1780	2231
790	789.13	54.55	843.69	36	3	7	3.15	34.05	2186.36	388.98	2575.34	173.95	0.0367	973	1767	2213
820	821.87	108.79	930.65	39	3	19	2.70	36.00	2277.05	778.33	3055.38	235.56	0.0348	1012	1847	2316
840	839.80	58.07	897.88	36	3	7	3.25	35.14	2326.74	414.07	2740.81	185.14	0.0345	1008	1837	2304
880	876.90	111.22	988.11	42	3	19	2.73	37.10	2429.50	795.72	3225.22	246.40	0.0326	1050	1923	2414
890	891.08	61.70	952.78	42	3	7	3.35	36.18	2468.81	439.95	2908.76	195.42	0.0325	1043	1907	2394
900	901.93	73.54	975.47	42	3	19	2.22	36.70	2498.85	526.19	3025.04	213.21	0.0320	1054	1931	2425
980	976.36	123.77	1100.13	42	3	19	2.88	39.12	2705.08	885.56	3590.64	274.28	0.0293	1115	2056	2587
990	987.86	68.90	1056.76	42	3	7	3.54	38.10	2736.95	491.27	3228.22	217.12	0.0293	1105	2035	2560

NOTE :

Current capacity based on referenced conductor temperature, 0.56 m/s wind, 0 m Elevation, 0.45 Emmissivity, 0.80 absorptivity, 45°C Ambient temperature, 1045 W/m² Solar radiation
 Customized conductor sizes based on customer's requirement can also be designed.