

Application

TAAAC - The full name: Thermal Resistant Aluminum-alloy Conductors. Urban network capacity transformation, substation, power plant construction and general lines

Standard

- IEC 61089 Round Wire Concentric Lay Overhead Electrical Stranded Conductors
- IEC 62004 Thermal -Resistant Aluminum Alloy Wires For Overhead Line Conductor
- JEC 3406-95

Construction

Thermal resistant aluminum alloy wires (TAL), concentric stranded

Characteristics

(Compared with conventional ACSR)

1. Long-term working temperature of 150°C, short-term temperature up to 180°C, so that the continuous allowable carrying capacity of the same specification of ordinary wire 1.5~1.6 times.
2. Under normal temperature, with ordinary aluminum wire has the same strength, high temperature operation mechanical strength retention rate can be maintained at more than 90%.
3. Compared with ordinary aluminum wire, it has the same creep properties at room temperature or high temperature.
4. There is no significant difference between the salt spray test in laboratory and the outdoor air exposure test.
5. Installation and maintenance are the same as ordinary wire installation procedures, without any special tools, tooling, installation and maintenance are convenient, and the cost is low.

Construction Parameters

Nominal Cross section area	Structure [number x diameter of wire]		Calculation area cross section	Approx. Diameter of conductor	Min. breaking strength	DC Resistance of conductor at 20°C	Approx Mass of conductor	Current Carrying capacity
mm ²	n	mm	mm ²	mm	kN	Ω/km	Kg/km	A
120	19	2.80	117.0	14.00	17.5	0.2493	320.1	566
150	19	3.15	148.1	15.75	22.2	0.1970	405.1	659
200	19	3.65	198.8	18.25	29.2	0.1467	543.9	798
240	19	4.00	238.8	20.00	34.2	0.1220	654.5	897
300	37	3.20	297.6	22.40	44.5	0.0986	816.0	1036
400	37	3.70	397.8	25.90	58.0	0.0737	1097.0	1258
510	37	4.20	512.6	29.40	73.3	0.0571	1413.0	1491
660	61	3.70	655.9	33.30	95.6	0.0448	1812.0	1753
850	61	4.20	845.1	37.80	120.9	0.0342	2334.0	2073
980	61	3.70	978.4	40.70	142.7	0.0302	2714.0	2272
1030	91	3.80	1032.1	41.80	150.5	0.0286	2864.0	2353
1260	91	4.20	1260.8	46.20	180.3	0.0234	3499.0	2672
1600	127	4.00	1595.9	52.00	228.5	0.0186	4440.0	3083
2020	127	4.50	2019.5	58.50	289.0	0.0147	5616.0	3540
2500	127	5.00	2493.7	65.00	357.0	0.0118	6937.0	3988

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Cross Sectional area	Na/Dia of wire	Approximately		DC conductor Resistance at 20 °C, max	Calculated breaking load min		Current Carrying capacity	Standard Delivery length
		Overall diameter	Net weight					
mm ²	Pcs/mm	mm	Kg/km	Ω/km	kgf	n	A	m

CrossSectional area	Na/Dia of wire	Approximately		DC conductor Resistance at 20 °C, max	Calculated breaking load		Current Carrying capacity	Standard Delivery length
		Overall diameter	Net weight		min			
mm ²	Pcs/mm	mm	Kg/km	Ω/km	kgf	n	A	m
150	19/3.20	16	419	0.1910	2270	22268	700	5000
200	19/3.70	18.5	560	0.1430	3030	29724	850	5000
240	19/4.00	20	655	0.1220	3490	34236	945	3000
300	37/3.20	22.4	821	0.0958	4430	43458	1090	3000
400	37/3.70	25.9	1097	0.0737	5890	57780	1325	2000
510	37/4.20	29.4	1414	0.0571	7460	73182	1565	2000
660	61/3.70	33.3	1812	0.0448	9720	95353	1840	1500
850	61/4.20	37.8	2335	0.0347	12300	120663	2175	1000
980	91/3.70	40.7	2716	0.0302	14500	142245	2380	1000
1030	91/3.80	41.8	2865	0.0286	15320	150289	2465	1000
1260	91/4.20	46.2	3501	0.0234	18350	180013	2800	500