

Application

High Temperature Thermal Resistant Alloy Conductor : Aluminum-Zirconium wires (Type-AT1 or AT3), concentrically stranded over a steel core having a small gap between the Steel core & thermal-resistant aluminum alloy layer. These combination offers best Mechanical as well as Electrical Characteristics. Extra High Strength Galvanized Steel (EST); or aluminum-clad Extra High Strength Steel (AW). Additional corrosion protection is achieved as High Temperature Grease is applied in Between GAP of Conductor.

Standard

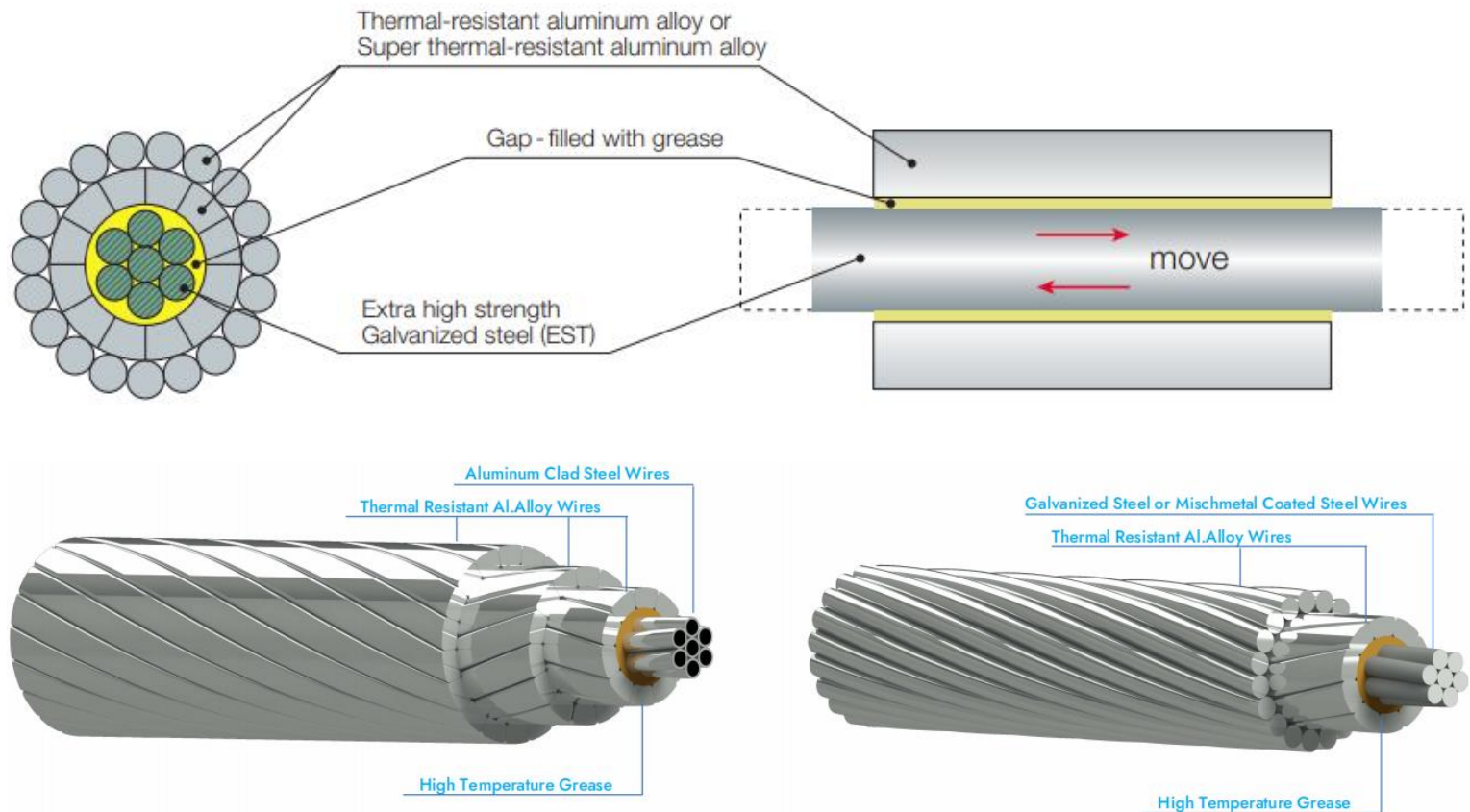
Basic design to:

Thermal-resistant aluminium alloy wires (Type-AT3 or AT1) for overhead line conductor as per IEC 62004

- Concentric lay stranded overhead electrical conductors IEC 61089, IEC 62420
- Zinc-coated steel wires for stranded conductors IEC 888, ASTM B957 & more
- Zinc-5% Aluminum-Mischmetal Alloy-Coated Steel Core Wire EN 50540, ASTM B802, ASTM B803 or ASTM B958.
- Aluminium Clad Steel Wires, IEC 61232, ASTM B415, EN 50540 & More

Construction

Aluminium-Zirconium wires (Type-AT3 or AT-1), concentrically stranded over a steel core maintaing gap between the Steel core and first Aluminium Layer.



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
- Limiting the sag increase with the increase of the temperature by the thermal expansion coefficient above knee-point related to the steel core

Construction Parameters

GTACSR & GZTACSR

Conductor Size	Stranding				Cross-Sectional Area			Diameter of Complete Conductor	Weight			Rated Strength		DC Resistance @20°C
	No. of Wires		Wire diameter		TAL	Steel	Total		TAL	Steel	Total with Grease	Extra High Strength	Ultra High Strength	
	TAL	Steel	TAL	Steel										
(mm²)	(No.)	(No.)	(mm)	(mm)	(mm²)	(mm²)	(mm²)	(mm)	(Kg/Km)	(Kg/Km)	(Kg/Km)	(KN)	(KN)	(Ω/Km)
175	8/12	7	3.35 (TW)	2.10	176.20	24.25	200.45	17.50	486.98	189.44	691.42	66.14	66.87	0.1668
190	12/16	7	2.92 (TW)	2.30	187.30	29.08	216.38	18.20	517.66	227.24	761.90	74.44	75.46	0.1569
195	20/12	7	2.40(R) 2.88 (TW)	2.20	168.80	26.61	195.41	18.06	466.53	207.91	690.44	69.51	70.31	0.1741
218	18/12	7	2.78(R) 2.94 (TW)	2.25	190.50	27.83	218.33	19.10	526.51	217.47	759.98	74.47	75.31	0.1542
240	8/12	7	4.02 (TW)	2.40	253.40	31.67	285.07	20.60	700.35	247.43	964.78	88.34	89.45	0.1159
248	12/8	7	3.71 (TW)	2.40	216.12	31.67	247.79	19.40	597.32	247.43	862.75	83.00	84.11	0.1360
287	18/12	7	3.15(R) 3.43 (TW)	2.55	251.00	35.75	286.75	21.77	693.72	279.33	993.04	94.85	96.10	0.1171
287	20/12	7	2.90(R) 3.55 (TW)	2.55	251.00	35.75	286.75	21.77	693.72	279.33	993.04	95.33	96.58	0.1171
310	16/12	7	3.90(R) 3.69 (TW)	2.80	319.40	43.10	362.50	24.40	882.76	336.78	1241.54	116.10	117.60	0.0920
400	18/12	7	3.90(R) 4.45 (TW)	2.80	401.40	43.10	444.50	26.90	1109.40	336.78	1468.18	129.16	130.67	0.0732
410	14/12	7	4.90(R) 3.99 (TW)	3.00	414.00	49.48	463.48	27.60	1144.22	386.61	1554.83	138.95	140.68	0.0710
439	15/12	7	4.50(R) 4.04 (TW)	2.90	392.50	46.24	438.74	26.84	1084.80	361.27	1469.07	132.44	134.06	0.0749
462	14/12	7	4.90(R) 3.99 (TW)	2.95	414.30	47.84	462.14	27.60	1145.05	373.83	1542.88	136.47	138.14	0.0709
540	24/14/10	7	3.55(R) 3.98 (TW)	3.10	536.20	52.83	589.03	31.30	1483.12	412.81	1920.93	164.15	166.00	0.0548
620	16/12/12	7	4.80 (TW) 4.75 (TW) 3.47 (TW)	3.20	615.70	56.30	672.00	31.50	1703.01	439.88	2168.89	177.96	179.93	0.0478

GTACSR/AW & GZTACSR/AW

Conductor Size	Cross-Sectional Area			Stranding				Diameter of Complete Conductor	Weight			Rated Strength		DC Resistance @20°C
	STAL	Steel	Total	No. of STAL Wires	No. of STAL Layers	No. of Steel Wires	Dia. of Steel Wires		STAL	Steel	Total	High Strength	Extra High Strength	

(mm ²)	(mm ²)	(m m ²)	(mm ²)	(No .)	(No.)	(No .)	(mm)	(mm)	(Kg/ Km)	(Kg/ Km)	(Kg/ Km)	(KN)	(KN)	(Ω/Km)
175	8/12	7	3.35 (TW)	2.10	176. 20	24.2 5	200. 45	17.50	486.9 8	160.4 6	647.4 4	57.65	62.26	0.1593
190	12/16	7	2.92 (TW)	2.30	187. 30	29.0 8	216. 38	18.20	517.6 6	192.4 8	710.1 4	65.28	69.93	0.1490
195	20/12	7	2.40(R) 2.8 8(TW)	2.20	168. 80	26.6 1	195. 41	18.06	466.5 3	176.1 1	642.6 4	60.20	65.25	0.1652
218	18/12	7	2.78(R) 2. 94(TW)	2.25	190. 50	27.8 3	218. 33	19.10	526.5 1	184.2 1	710.7 2	64.73	70.02	0.1470
240	8/12	7	4.02 (TW)	2.40	253. 40	31.6 7	285. 07	20.60	700.3 5	209.5 9	909.9 4	78.36	83.43	0.1112
248	12/8	7	3.71(TW)	2.40	216. 12	31.6 7	247. 79	19.40	597.3 2	209.5 9	806.9 1	73.03	78.09	0.1295
287	18/12	7	3.15(R) 3. 43(TW)	2.55	251. 00	35.7 5	286. 75	21.77	693.7 2	236.6 0	930.3 2	83.59	89.31	0.1117
287	20/12	7	2.90(R) 3.5 5(TW)	2.55	251. 00	35.7 5	286. 75	21.77	693.7 2	26.60	720.3 2	84.07	89.79	0.1117
310	16/12	7	3.90(R) 3.6 9(TW)	2.80	319. 40	43.1 0	362. 50	24.40	882.7 6	285.2 7	1168. 03	102.5 2	109.4 1	0.0880
400	18/12	7	3.90(R) 4.4 5(TW)	2.80	401. 40	43.1 0	444. 50	26.90	1109. 40	285.2 7	1394. 67	115.5 9	122.4 8	0.0706
410	14/12	7	4.90(R) 3.9 9(TW)	3.00	414. 00	49.4 8	463. 48	27.60	1144. 22	327.4 8	1471. 70	123.3 6	131.2 8	0.0682
439	15/12	7	4.50(R) 4. 04(TW)	2.90	392. 50	46.2 4	438. 74	26.84	1084. 80	306.0 0	1390. 80	117.8 7	125.2 7	0.0720
462	14/12	7	4.90(R) 3.9 9(TW)	2.95	414. 30	47.8 4	462. 14	27.60	1145. 05	316.6 5	1461. 70	121.4 0	129.0 5	0.0682
540	24/14/ 10	7	3.55(R) 3.9 8(TW)	3.10	536. 20	52.8 3	589. 03	31.30	1483. 12	349.6 7	1832. 79	149.3 6	156.2 3	0.0536
620	16/12/ 12	7	4.80(TW) 4.75(TW) 3.47(TW)	3.20	615. 70	56.3 0	672. 00	31.50	1703. 01	372.6 0	2075. 61	162.1 9	169.5 1	0.0467