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POWER CABLES

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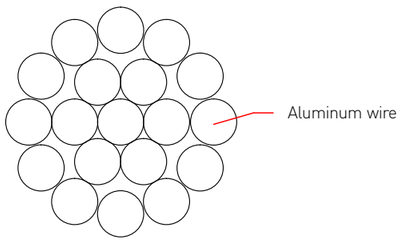
HENGTONG OPTIC-ELECTRIC
A Global Information and Energy Network
Service Provider

All aluminum conductors (AAC)

Standards: IEC, ASTM, EN



Construction

Stranded with hard-drawn aluminum wires.

Application

It is used for overhead power distribution line and overhead feeders

Features

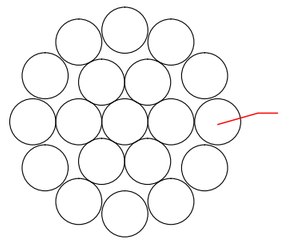
Conductor have no hysteresis losses , The power loss of transmission line is reduced effectively.
The structure of single metal avoids the electrochemical reaction that will happen in the thermometal, so conductors will have a longer service life..

Technical details IEC 61089

Code number	Size of conductor	Structure	Calculated area	Rated strength	DC resistance at 20℃	Overall diameter	Approx.Weight
	mm²	No./mm	mm²	kN	Ω/km	mm	kg/km
10	10	7/1.35	10.02	1.95	2.8634	4.05	27.4
16	16	7/1.71	16.08	3.04	1.7896	5.13	43.8
25	25	7/2.13	24.94	4.50	1.1454	6.39	68.4
40	40	7/2.70	40.08	6.80	0.7159	8.10	109.4
63	63	7/3.39	63.18	10.40	0.4545	10.17	172.3
100	100	19/2.59	100.10	17.00	0.2877	12.95	274.9
125	125	19/2.89	124.64	21.25	0.2302	14.45	343.6
160	160	19/3.27	159.57	26.40	0.1798	16.35	439.8
200	200	19/3.66	199.90	32.00	0.1439	18.30	549.7
250	250	19/4.09	249.63	40.00	0.1151	20.45	687.2
315	315	37/3.29	314.55	51.98	0.0916	23.03	867.9
400	400	37/3.71	399.98	64.00	0.0721	25.97	1102.0
450	450	37/3.94	451.11	72.00	0.0641	27.58	1239.8
500	500	37/4.15	500.48	80.00	0.0577	29.05	1377.5
560	560	37/4.39	560.04	89.60	0.0515	30.73	1542.8
630	630	61/3.63	631.30	100.80	0.0458	32.67	1738.3
710	710	61/3.85	710.14	113.60	0.0407	34.65	1959.0
800	800	61/4.09	801.43	128.00	0.0361	36.81	2207.3
900	900	61/4.33	898.25	144.00	0.0321	38.97	2483.2
1000	1000	61/4.57	1000.58	160.00	0.0289	41.13	2759.1
1120	1120	91/3.96	1120.79	179.20	0.0258	43.56	3093.6
1250	1250	91/4.18	1248.78	200.00	0.0231	45.98	3452.6
1400	1400	91/4.43	1402.62	224.00	0.0207	48.73	3866.9
1500	1500	91/4.58	1499.21	240.00	0.0193	50.38	4143.2

All aluminum alloy conductors with high strength (AAAC)

Standards: IEC, ASTM, EN



Construction

Stranded with aluminum alloy 6201 wires

Application

It is used for overhead power transmission and distribution line and feeders.

Features

The conductors have higher strength than aluminum conductors and excellent ratio of tension and weight.
Conductors have no hysteresis losses , The power loss of transmission line is reduced effectively.
The structure of single metal avoids the electrochemical reaction that will happen in the thermometal, so conductors will have a longer service life.

Type B IEC 61089

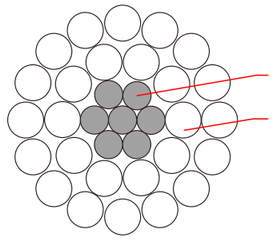
Code number	Size of conductor	Structure	Calculated area	Rated strength	DC resistance at 20℃	Overall diameter	Approx.Weight
	mm²	No./mm	mm²	kN	Ω/km	mm	kg/km
16	18.4	7/1.83	18.41	5.43	1.7896	5.49	50.3
25	28.8	7/2.29	28.83	8.50	1.1454	6.87	78.8
40	46.0	7/2.89	45.92	13.57	0.7159	8.67	125.8
63	72.5	7/3.63	72.44	21.39	0.4545	10.89	198.3
100	115	19/2.78	115.33	33.93	0.2877	13.90	316.1
125	144	19/3.10	143.41	42.48	0.2302	15.50	395.8
160	184	19/3.51	183.85	54.28	0.1798	17.55	505.7
200	230	19/3.93	230.48	67.85	0.1439	19.65	632.2
250	288	19/4.39	287.59	84.96	0.1151	21.95	791.6
315	363	37/3.53	362.11	107.09	0.0916	24.71	1000.1
400	460	37/3.98	460.32	135.70	0.0721	27.86	1267.3
450	518	37/4.22	517.51	152.81	0.0641	29.54	1427.1
500	575	37/4.45	575.46	169.63	0.0577	31.15	1584.2
560	645	61/3.67	645.29	190.28	0.0516	33.03	1779.6
630	725	61/3.89	724.97	213.88	0.0458	35.01	2000.4
710	817	61/4.13	817.19	241.02	0.0407	37.17	2254.2
800	921	61/4.38	919.11	271.70	0.0361	39.42	2541.2
900	1036	91/3.81	1037.49	305.62	0.0321	41.91	2861.5
1000	1151	91/4.01	1149.27	339.55	0.0289	44.11	3179.2
1120	1289	91/4.25	1290.95	380.26	0.0258	46.75	3560.3
1250	1439	91/4.49	1440.87	424.51	0.0231	49.39	3974.7

Technical details Type A IEC 61089

Code number	Size of conductor	Structure	Calculated area	Rated strength	DC resistance at 20℃	Overall diameter	Approx.Weight
	mm²	No./mm	mm²	kN	Ω/km	mm	kg/km
16	18.6	7/1.84	18.61	6.05	1.7896	5.52	50.9
25	29.0	7/2.30	29.08	9.43	1.1454	6.90	79.3
40	46.5	7/2.91	46.56	15.11	0.7159	8.73	127.2
63	73.2	7/3.65	73.24	23.06	0.4545	10.95	200.2
100	116	19/2.79	116.16	37.70	0.2877	13.95	318.8
125	145	19/3.12	145.26	47.13	0.2302	15.60	398.5
160	186	19/3.53	185.95	58.59	0.1798	17.65	511.2
200	232	19/3.95	232.83	73.08	0.1439	19.75	637.7
250	290	19/4.41	290.22	91.35	0.1151	22.05	797.1
315	366	37/3.55	366.23	115.29	0.0916	24.85	1008.4
400	465	37/4.00	464.96	146.48	0.0721	28.00	1281.1
450	523	37/4.24	522.43	164.75	0.0641	29.68	1440.9
500	581	37/4.47	580.64	183.02	0.0577	31.29	1600.7
560	651	61/3.69	652.34	205.07	0.0516	33.21	1796.2
630	732	61/3.91	732.44	230.58	0.0458	35.19	2019.7
710	825	61/4.15	825.12	259.88	0.0407	37.35	2276.3
800	930	61/4.40	927.53	292.95	0.0361	39.60	2566.0
900	1046	91/3.83	1048.41	329.49	0.0321	42.13	2889.2
1000	1162	91/4.03	1160.76	366.03	0.0289	44.33	3209.6
1120	1301	91/4.27	1303.13	409.82	0.0258	46.97	3593.5

Aluminum conductors, steel reinforced (ACSR)

Standards: IEC, ASTM



Construction

Stranded with the steel wires and aluminum wires

Application

It is used for overhead power transmission and distribution line.

Features

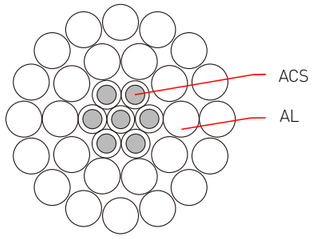
This kind of conductors has better conduct performance, excellent tensile strength, good mechanic property and is widely used.

Technical details IEC 61089

Code number	Size of conductor	Structure		Calculated area			Rated strength			DC resistance at 20℃	Overall diameter	Approx. Weight
		Al	St	Al	St	Total	S1A	S2A	S3A			
	mm²	No./mm	No./mm	mm²	mm²	mm²	kN	kN	kN	Ω/km	mm	kg/km
16	16/3	6/1.84	1/1.84	15.95	2.66	18.61	6.07	6.44	6.82	1.7934	5.52	64.6
25	25/4	6/2.30	1/2.30	24.93	4.15	29.08	9.11	9.69	10.23	1.1477	6.90	100.9
40	40/6	6/2.91	1/2.91	39.91	6.65	46.56	14.38	15.31	16.18	0.7173	8.73	161.7
63	65/10	6/3.66	1/3.66	63.13	10.52	73.65	21.65	22.39	24.18	0.4555	10.98	255.7
100	100/17	6/4.61	1/4.61	100.15	16.69	116.84	34.36	35.53	38.37	0.2869	13.83	405.7
125	125/7	18/2.97	1/2.97	124.70	6.93	131.63	29.15	30.12	31.02	0.2304	14.85	397.5
125	125/20	26/2.47	7/1.92	124.58	20.27	144.85	45.59	48.42	51.26	0.2310	15.64	502.0
160	160/9	18/3.36	1/3.36	159.60	8.87	168.47	36.15	37.39	38.64	0.1800	16.80	508.8
160	160/26	26/2.80	7/2.18	160.10	26.13	186.22	57.77	61.43	65.09	0.1805	17.74	645.7
200	200/11	18/3.76	1/3.76	199.87	11.10	210.97	44.21	44.99	46.88	0.1440	18.80	637.2
200	200/32	26/3.13	7/2.43	200.06	32.46	232.52	70.01	74.55	78.77	0.1444	19.81	805.5
250	250/25	22/3.80	7/2.11	249.51	24.48	273.98	68.64	72.06	75.49	0.1154	21.53	878.6
250	250/40	26/3.50	7/2.72	250.15	40.67	290.82	87.62	93.31	98.60	0.1155	22.16	1007.8
315	315/22	45/2.99	7/1.99	315.97	21.77	337.74	79.02	82.07	85.12	0.0917	23.91	1042.2
315	315/50	26/3.93	7/3.05	315.39	51.14	366.53	106.66	113.82	120.98	0.0917	24.87	1269.5
400	400/28	45/3.36	7/2.24	399.01	27.59	426.59	98.28	102.14	106.00	0.0722	26.88	1316.8
400	400/50	54/3.07	7/3.07	399.73	51.82	451.54	123.00	130.25	137.51	0.0723	27.63	1509.3
450	450/30	45/3.57	7/2.38	450.44	31.14	481.58	107.50	111.86	115.91	0.0642	28.56	1486.6
450	450/60	54/3.26	7/3.26	450.73	58.43	509.16	138.52	146.70	154.88	0.0643	29.34	1701.8
500	500/35	45/3.76	7/2.51	499.67	34.64	534.30	119.49	124.33	128.84	0.0578	30.09	1649.8
500	500/65	54/3.43	7/3.43	498.97	64.68	563.65	153.65	162.70	171.76	0.0578	30.87	1884.0
560	560/40	45/3.98	7/2.65	559.85	38.61	598.46	133.61	139.02	144.04	0.0516	31.83	1847.0
560	560/70	54/3.63	19/2.18	558.85	70.92	629.77	172.57	182.50	192.43	0.0516	32.68	2100.1
630	630/45	45/4.22	7/2.81	629.40	43.41	672.81	150.29	156.37	162.01	0.0459	33.75	2076.5
630	630/80	54/3.85	19/2.31	628.65	79.63	708.27	191.58	202.72	213.08	0.0459	34.65	2361.2
710	710/50	45/4.48	7/2.99	709.35	49.15	758.50	169.63	176.51	182.90	0.0407	35.85	2341.9
710	710/90	54/4.09	19/2.45	709.47	89.57	799.04	215.71	228.25	239.90	0.0407	36.79	2662.4
800	800/35	72/3.76	7/2.51	799.46	34.64	834.10	167.49	172.33	176.84	0.0361	37.61	2479.2
800	800/65	84/3.48	7/3.48	798.97	66.58	865.55	205.24	214.56	223.88	0.0362	38.28	2729.2
800	800/100	54/4.34	19/2.61	798.85	101.65	900.50	243.89	258.12	271.33	0.0362	39.09	3004.1
900	900/40	72/3.99	7/2.66	900.26	38.90	939.16	188.35	193.79	198.85	0.0321	39.90	2791.0
900	900/75	84/3.69	7/3.69	898.30	74.86	973.16	226.34	231.58	244.31	0.0322	40.59	3068.5
1000	1000/45	72/4.21	7/2.80	1002.28	43.10	1045.38	209.14	215.17	220.77	0.0289	42.08	3105.7
1120	1120/50	72/4.45	19/1.78	1119.81	47.28	1167.09	234.52	241.14	247.76	0.0258	44.50	3464.3
1120	1120/90	84/4.12	19/2.47	1119.86	91.04	1210.90	282.99	295.73	307.57	0.0258	45.31	3810.0
1250	1250/50	72/4.70	19/1.88	1249.16	52.74	1301.91	261.71	269.09	276.48	0.0231	47.00	3864.5
1250	1250/100	84/4.35	19/2.61	1248.39	101.65	1350.04	315.89	330.12	343.33	0.0232	47.85	4248.5

Aluminum conductors, aluminum clad steel reinforced (ACSR/AW)

Standards: IEC, ASTM



Construction

Stranded with the aluminum-clad steel wires and aluminum wires

Application

It is used for overhead power transmission and distribution line.

Features

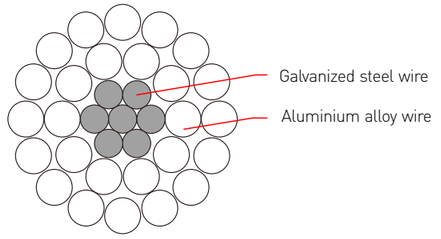
This kind of conductors has better performance of conductivity, excellent tensile strength, good mechanic property and be widely used.

Technical details IEC 61089

Code number	Structure		Calculated area			Rated strength	DC resistance at 20℃	Overall diameter	Approx. weight
	Al	ACS	Al	ACS	Total				
	No./mm	No./mm	mm²	mm²	mm²	kN	Ω/km	mm	kg/km
16	6/1.81	1/1.81	15	2.57	17.6	5.94	1.8337	5.43	59.4
25	6/2.26	1/2.26	24	4.01	28.0	9.02	1.1472	6.78	92.7
40	6/2.85	1/2.85	38	6.38	44.4	14.16	0.7244	8.55	147.4
63	6/3.58	1/3.58	60	10.1	70.1	21.14	0.4588	10.70	232.6
100	6/4.51	1/4.51	96	16.0	112	31.80	0.2869	13.50	369.1
125	18/2.95	1/2.95	123	6.83	130	29.11	0.2309	14.80	384.0
125	26/2.43	7/1.89	121	19.6	141	44.67	0.2291	15.40	462.6
160	18/3.34	1/3.34	158	8.8	167	36.36	0.1798	16.70	492.2
160	26/2.74	7/2.13	153	24.9	178	55.99	0.1812	17.40	588.0
200	18/3.74	1/3.74	198	11.0	209	43.73	0.1434	18.70	617.2
200	26/3.07	7/2.39	192	31.4	223	69.44	0.1444	19.50	738.7
250	22/3.76	7/2.09	244	24.0	268	67.90	0.1153	21.30	831.9
250	26/3.43	7/2.67	240	39.2	279	86.67	0.1155	21.70	922.1
315	45/2.96	7/1.97	310	21.3	331	78.25	0.0916	23.70	995.9
315	26/3.85	7/2.99	303	49.2	352	107.41	0.0915	24.40	1160.2
400	45/3.34	7/2.22	394	27.1	421	97.57	0.0721	26.70	1267.7
400	54/3.02	7/3.02	387	50.1	437	123.99	0.0723	27.20	1400.5
450	45/3.54	7/2.36	443	30.6	474	107.61	0.0641	28.30	1425.2
450	54/3.21	7/3.21	437	56.7	494	140.09	0.0641	28.90	1582.3
500	45/3.73	7/2.49	492	34.1	526	119.58	0.0577	29.90	1582.9
500	54/3.38	7/3.38	485	62.8	548	154.06	0.0577	30.40	1754.4
560	45/3.95	7/2.63	551	38.0	589	133.87	0.0515	31.60	1773.8
560	54/3.58	19/2.15	544	69.0	613	169.75	0.0515	32.20	1959.9
630	45/4.19	7/2.79	620	42.8	663	150.64	0.0458	33.50	1996.0
630	54/3.79	19/2.28	609	77.6	687	190.56	0.0460	34.10	2198.3
710	45/4.44	7/2.96	697	48.2	745	169.28	0.0407	35.50	2241.9
710	54/4.03	19/2.42	689	87.4	776	215.08	0.0407	36.30	2483.4
800	72/3.74	7/2.49	791	34.1	825	167.46	0.0362	37.40	2410.8
800	84/3.45	7/3.45	785	65.4	850	206.79	0.0361	38.00	2604.2
800	54/4.28	19/2.57	777	98.6	876	242.58	0.0361	38.50	2801.0
900	72/3.97	7/2.65	891	38.6	930	188.93	0.0321	39.70	2717.7
900	84/3.66	7/3.66	884	73.7	958	222.42	0.0321	40.30	2930.8
1000	72/4.18	7/2.79	988	42.8	1031	209.45	0.0290	41.80	3012.9
1120	72/4.43	19/1.77	1110	46.8	1157	233.66	0.0258	44.30	3376.4
1120	84/4.08	19/2.45	1098	89.6	1188	283.20	0.0258	44.90	3631.2
1250	72/4.68	19/1.87	1239	52.2	1291	260.78	0.0231	46.80	3768.2
1250	84/4.31	19/2.59	1226	100	1326	316.20	0.0231	47.40	4053.0

Aluminum alloy conductors, steel reinforced (AACSR)

Standards: IEC, ASTM, EN



Construction

The center wire or wires are galvanized steel and the outer layer or layers are aluminum alloy 6201.

Application

It is used for overhead power transmission and distribution line.

Features

This kind of conductors has better performance of conductivity, excellent tensile strength, good mechanic property and be widely used.

Technical details Type A IEC 61089

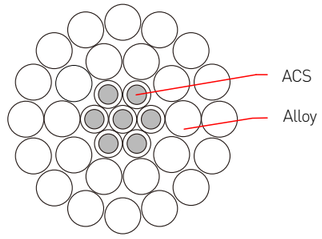
Code number	Size of conductor	Structure		Calculated area			Rated strength			DC resistance at 20℃	Overall diameter	Approx. weight
		Alloy	St	Alloy	St	Total	S1A	S2A	S3A			
	mm²	No./mm	No./mm	mm²	mm²	mm²	kN	kN	kN	Ω/km	mm	kg/km
16	18/3	6/1.98	1/1.98	18.5	3.08	21.6	9.03	9.46	9.89	1.7934	5.94	74.6
25	30/5	6/2.47	1/2.47	28.7	4.79	33.5	13.96	14.63	15.25	1.1477	7.41	116.6
40	40/7	6/3.13	1/3.13	46.2	7.69	53.9	22.03	23.11	24.19	0.7173	9.39	186.6
63	70/12	6/3.92	1/3.92	72.4	12.1	84.5	34.66	35.51	37.56	0.4555	11.76	293.5
100	115/6	18/2.85	1/2.85	115	6.38	121	41.20	42.09	42.92	0.2880	14.25	366.8
125	145/8	18/3.19	1/3.19	144	7.99	152	51.27	52.39	53.51	0.2304	15.95	458.7
125	145/23	26/2.65	7/2.06	143	23.3	166	69.78	73.04	76.31	0.2310	16.78	579.2
160	185/10	18/3.61	1/3.61	184	10.2	194	65.54	66.26	68.00	0.1800	18.05	586.9
160	185/30	26/3.00	7/2.34	184	30.1	214	88.60	92.81	96.73	0.1805	19.02	743.0
200	230/13	18/4.04	1/4.04	231	12.8	244	81.95	82.85	85.03	0.1440	20.20	734.0
200	230/38	26/3.36	7/2.61	231	37.5	269	110.54	115.79	120.66	0.1444	21.27	927.6
250	290/28	22/4.08	7/2.27	288	28.3	316	117.26	121.22	124.90	0.1154	23.13	1014.0
250	290/45	26/3.75	7/2.92	287	46.9	334	138.40	144.96	151.06	0.1155	23.76	1159.9
315	365/25	45/3.20	7/2.14	362	25.2	387	136.54	140.07	143.59	0.0917	25.62	1197.3
315	365/60	26/4.21	7/3.28	362	59.1	421	172.15	180.43	188.71	0.0917	26.68	1462.0
400	460/30	45/3.61	7/2.41	461	31.9	493	172.10	176.57	180.72	0.0722	28.89	1520.3
400	460/60	54/3.29	7/3.29	459	59.5	519	201.16	209.49	217.82	0.0723	29.61	1737.0
450	520/35	45/3.83	7/2.55	518	35.7	554	193.56	198.57	203.22	0.0642	30.63	1708.8
450	520/67	54/3.49	7/3.49	517	67.0	584	226.47	235.85	245.22	0.0643	31.41	1954.1
500	575/40	45/4.04	7/2.69	577	39.8	617	214.98	220.55	225.72	0.0578	32.31	1899.3
500	575/75	54/3.68	7/3.68	574	74.5	649	251.52	256.74	269.39	0.0578	33.12	2171.8
560	645/45	45/4.27	7/2.85	644	44.7	689	241.18	247.43	253.24	0.0516	34.17	2127.9
560	645/80	54/3.90	19/2.34	645	81.7	727	283.42	294.86	305.49	0.0516	35.10	2421.3
630	725/30	72/3.58	7/2.39	725	31.4	756	249.68	254.07	258.15	0.0459	35.81	2248.6
630	725/90	54/4.13	19/2.48	723	91.8	815	318.50	331.35	343.28	0.0459	37.18	2722.9
710	820/35	72/3.80	7/2.53	817	35.2	852	281.13	286.06	290.63	0.0407	37.99	2532.6
710	820/100	54/4.39	19/2.63	817	103.2	920	358.68	373.13	386.55	0.0407	39.49	3067.1
800	920/40	72/4.04	7/2.69	923	39.8	963	317.05	322.62	327.79	0.0361	40.39	2854.4
800	920/75	84/3.74	7/3.74	923	76.9	1000	356.29	361.67	374.74	0.0362	41.14	3146.5
900	1040/45	72/4.28	7/2.85	1036	44.7	1081	356.53	362.78	368.58	0.0321	42.79	3210.4
900	1040/85	84/3.96	7/3.96	1035	86.2	1121	400.46	406.49	421.15	0.0322	43.56	3537.4
1000	1150/95	84/4.18	19/2.51	1153	94.0	1247	446.72	459.88	472.10	0.0289	45.99	3919.1
1120	1300/105	84/4.42	19/2.65	1289	105	1394	499.72	514.39	528.01	0.0258	48.61	4385.4

Technical details Type A IEC 61089

Code number	Size of conductor	Structure		Calculated area			Rated strength			DC resistance at 20℃	Overall diameter	Approx. weight
		Alloy	St	Alloy	St	Total	S1A	S2A	S3A			
	mm²	No./mm	No./mm	mm²	mm²	mm²	kN	kN	kN	Ω/km	mm	kg/km
16	18/3	6/1.99	1/1.99	18.7	3.11	21.8	9.68	10.12	10.55	1.7934	5.97	75.4
25	30/5	6/2.48	1/2.48	29.0	4.83	33.8	14.93	15.61	16.24	1.1477	7.44	117.5
40	40/7	6/3.14	1/3.14	46.5	7.74	54.2	23.63	24.71	25.80	0.7173	9.42	188.3
63	70/12	6/3.94	1/3.94	73.2	12.2	85.4	36.47	37.32	39.40	0.4555	11.82	296.4
100	115/6	18/2.87	1/2.87	116	6.47	122	45.07	45.98	46.82	0.2880	14.35	370.5
125	145/8	18/3.21	1/3.21	146	8.09	154	56.03	57.16	58.29	0.2304	16.05	463.1
125	145/23	26/2.67	7/2.07	146	23.6	170	74.69	77.99	81.28	0.2310	16.89	584.6
160	185/10	18/3.63	1/3.63	186	10.3	196	69.97	70.70	72.46	0.1800	18.15	592.8
160	185/30	26/3.02	7/2.35	186	30.4	216	95.06	99.31	103.26	0.1805	19.13	750.0
200	230/13	18/4.05	1/4.05	232	12.9	245	87.25	88.15	90.34	0.1440	20.25	740.6
200	230/38	26/3.37	7/2.62	232	37.7	270	118.42	123.71	128.61	0.1444	21.34	935.9
250	290/28	22/4.10	7/2.28	290	28.6	319	123.93	127.93	131.65	0.1154	23.24	1023.7
250	290/45	26/3.77	7/2.93	290	47.2	337	145.16	151.76	157.90	0.1155	23.87	1170.1
315	365/25	45/3.22	7/2.15	366	25.4	391	148.68	152.24	155.80	0.0917	25.77	1208.8
315	365/60	26/4.23	7/3.29	365	59.5	425	180.75	189.08	197.41	0.0917	26.79	1474.5
400	460/30	45/3.63	7/2.42	466	32.2	498	183.18	187.69	191.87	0.0722	29.04	1534.5
400	460/60	54/3.31	7/3.31	465	60.2	525	217.38	225.82	234.25	0.0723	29.79	1754.8
450	520/35	45/3.85	7/2.56	524	36.0	560	205.82	210.86	215.55	0.0642	30.78	1724.8
450	520/67	54/3.51	7/3.51	523	67.7	591	239.25	243.99	255.51	0.0643	31.59	1973.9
500	575/40	45/4.05	7/2.70	580	40.1	620	228.71	234.32	239.53	0.0578	32.40	1916.9
500	575/75	54/3.70	7/3.70	581	75.3	656	265.81	271.07	283.87	0.0578	33.30	2193.4
560	645/45	45/4.29	7/2.86	650	45.0	695	256.33	262.63	268.47	0.0516	34.32	2147.5
560	645/80	54/3.92	19/2.35	652	82.4	734	299.01	310.55	321.26	0.0516	35.27	2443.9
630	725/30	72/3.60	7/2.40	733	31.7	765	266.68	271.11	275.23	0.0459	36.00	2269.7
630	725/90	54/4.15	19/2.49	730	92.5	823	336.05	349.01	361.04	0.0459	37.35	2747.9
710	820/35	72/3.82	7/2.55	825	35.7	861	300.63	305.63	310.28	0.0407	38.21	2558.5
710	820/100	54/4.41	19/2.65	825	105	930	379.34	394.01	407.63	0.0407	39.71	3101.0
800	920/40	72/4.05	7/2.70	928	40.1	968	338.64	344.25	349.46	0.0361	40.50	2881.1
800	920/75	84/3.75	7/3.75	928	77.3	1005	377.99	383.41	396.55	0.0362	41.25	3174.0
900	1040/45	72/4.30	7/2.87	1046	45.3	1091	381.11	387.45	393.34	0.0321	43.01	3242.7
900	1040/85	84/3.98	7/3.98	1045	87.1	1132	425.29	431.38	446.19	0.0322	43.78	3571.7
1000	1150/95	84/4.20	19/2.52	1164	94.8	1259	474.06	487.33	499.65	0.0289	46.20	3955.3
1120	1300/105	84/4.44	19/2.66	1301	106	1407	530.18	544.97	558.69	0.0258	48.82	4425.6

Aluminum alloy conductors, aluminum-clad steel reinforced (AACSR/AW)

Standards: IEC, ASTM



Construction

Stranded with the steel (aluminum-clad steel) wires and aluminum alloy wires

Application

It is used for overhead power transmission and distribution line.

Features

This kind of conductors has better performance of conductivity, excellent tensile strength, good mechanic property and be widely used.

Technical details Type B IEC 61089

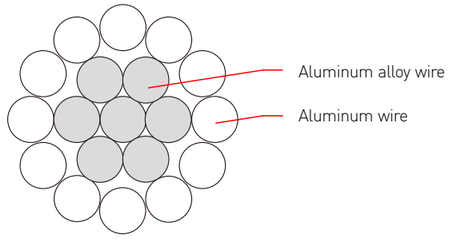
Code number	Size of conductor	Structure		Calculated area			Rated strength	DC resistance at 20℃	Overall diameter	Approx. Weight
		Alloy	ACS	Alloy	ACS	Total				
	mm²	No./mm	No./mm	mm²	mm²	mm²	kN	Ω/km	mm	kg/km
16	15/5	6/1.93	1/1.93	17.6	2.93	20.5	8.69	1.7632	5.79	67.6
25	25/5	6/2.41	1/2.41	27.4	4.56	32.0	13.55	1.1326	7.23	105.4
40	45/10	6/3.05	1/3.05	43.8	7.31	51.1	21.70	0.7084	9.15	168.9
63	70/10	6/3.83	1/3.83	69.1	11.52	80.6	33.07	0.4491	11.5	266.2
100	110/20	6/4.83	1/4.83	110	18.32	128	50.75	0.2821	14.5	423.2
125	140/10	18/3.16	1/3.16	141	7.84	149	51.05	0.2301	15.8	440.6
125	135/20	26/2.59	7/2.02	137	22.4	159	67.33	0.2280	16.4	526.2
160	180/10	18/3.58	1/3.58	181	10.1	191	64.93	0.1793	17.9	565.5
160	175/30	26/2.93	7/2.28	175	28.6	204	86.01	0.1785	18.6	672.8
200	227/10	18/4.00	1/4.00	226	12.6	239	80.56	0.1436	20.0	706.0
200	220/35	26/3.28	7/2.55	220	35.8	256	107.71	0.1421	20.8	842.6
250	280/30	22/4.02	7/2.24	279	27.6	307	115.48	0.1146	22.8	951.9
250	275/45	26/3.67	7/2.85	275	44.7	320	134.73	0.1136	23.2	1054.2
315	355/25	45/3.17	7/2.11	355	24.5	380	134.15	0.0912	25.4	1142.3
315	345/55	26/4.12	7/3.20	347	56.3	403	169.81	0.0901	26.1	1328.7
400	450/30	45/3.57	7/2.38	450	31.1	481	170.25	0.0720	28.6	1449.4
400	445/60	54/3.23	7/3.23	442	57.4	499	199.36	0.0717	29.1	1602.1
450	560/35	45/3.79	7/2.53	508	35.2	543	191.99	0.0637	30.3	1634.2
450	500/65	54/3.43	7/3.43	499	64.7	564	223.52	0.0635	30.9	1806.7
500	565/40	45/4.00	7/2.66	565	38.9	604	213.50	0.0573	32.0	1818.4
500	555/70	54/3.62	7/3.62	556	72.1	628	246.09	0.0570	32.6	2012.5
560	630/45	45/4.23	7/2.82	632	43.7	676	239.02	0.0512	33.8	2034.9
560	630/75	54/3.83	19/2.30	622	78.9	701	278.26	0.0510	34.5	2243.1
630	710/50	45/4.49	7/2.99	713	49.2	762	269.17	0.0454	35.9	2292.0
630	700/90	54/4.06	19/2.44	699	88.8	788	312.84	0.0454	36.6	2521.6
710	800/55	45/4.76	7/3.17	801	55.3	856	302.53	0.0404	38.1	2576.0
710	790/100	54/4.31	19/2.59	788	100	888	352.53	0.0403	38.8	2841.4
800	910/40	72/4.01	7/2.67	909	39.2	948	315.27	0.0360	40.1	2771.5
800	900/75	84/3.69	7/3.69	898	74.9	973	347.34	0.0359	40.6	2979.0
800	890/115	54/4.58	19/2.75	890	113	1003	397.86	0.0356	41.2	3207.4
900	1025/45	72/4.25	7/2.84	1021	44.3	1065	354.52	0.0321	42.5	3115.3
900	1015/85	84/3.92	7/3.92	1014	84.5	1099	391.99	0.0318	43.1	3362.0
1000	1140/50	72/4.48	7/2.99	1135	49.2	1184	393.79	0.0288	44.8	3460.8
1120	1275/55	72/4.75	19/1.90	1276	53.9	1330	441.03	0.0257	47.5	3882.5
1120	1260/100	84/4.37	19/2.62	1260	102	1362	494.58	0.0256	48.1	4163.5
1250	1420/60	72/5.01	19/2.01	1419	60.3	1479	491.07	0.0231	50.1	4321.6
1250	1405/115	84/4.62	19/2.77	1408	115	1523	552.81	0.0229	50.8	4653.7

Technical details Type A IEC 61089

Code number	Size of conductor	Structure		Calculated area			Rated strength	DC resistance at 20℃	Overall diameter	Approx. Weight
		Alloy	ACS	Alloy	ACS	Total				
	mm²	No./mm	No./mm	mm²	mm²	mm²	kN	Ω/km	mm	kg/km
16	15/5	6/1.94	1/1.94	17.7	2.96	20.7	9.32	1.7684	5.82	68.3
25	25/5	6/2.42	1/2.42	27.6	4.60	32.2	14.49	1.1343	7.26	106.3
40	45/10	6/3.07	1/3.07	44.4	7.40	51.8	23.31	0.7051	9.21	171.0
63	70/10	6/3.85	1/3.85	69.9	11.64	81.5	34.81	0.4479	11.6	269.0
100	110/20	6/4.85	1/4.85	111	18.47	129	53.39	0.2821	14.6	426.7
125	140/20	18/3.18	1/3.18	143	7.94	151	55.99	0.2290	15.9	446.1
125	135/20	26/2.61	7/2.03	139	22.7	162	72.40	0.2268	16.5	533.7
160	180/10	18/3.60	1/3.60	183	10.2	193	69.32	0.1790	18.0	571.9
160	180/30	26/2.95	7/2.29	178	28.8	207	92.35	0.1772	18.7	681.0
200	230/15	18/4.02	1/4.02	228	12.7	241	85.92	0.1436	20.1	713.1
200	220/35	26/3.30	7/2.56	222	36.0	258	115.51	0.1420	20.9	851.9
250	280/30	22/4.04	7/2.25	282	27.8	310	122.23	0.1144	22.9	961.2
250	275/45	26/3.69	7/2.87	278	45.3	323	141.92	0.1134	23.4	1066.7
315	360/25	45/3.19	7/2.12	360	24.7	385	146.54	0.0908	25.5	1156.2
315	350/55	26/4.14	7/3.22	350	57.0	407	178.65	0.0901	26.2	1342.6
400	455/30	45/3.59	7/2.39	456	31.4	487	181.16	0.0717	28.7	1465.1
400	450/60	54/3.25	7/3.25	448	58.1	506	215.27	0.0714	29.3	1622.0
450	515/35	45/3.81	7/2.54	513	35.5	549	204.17	0.0637	30.5	1650.9
450	505/65	54/3.45	7/3.45	505	65.4	570	241.28	0.0633	31.1	1827.8
500	570/40	45/4.01	7/2.68	568	39.5	608	226.41	0.0575	32.1	1830.1
500	560/70	54/3.63	7/3.63	559	72.4	631	258.62	0.0572	32.7	2023.5
560	640/45	45/4.25	7/2.83	638	44.0	682	253.93	0.0512	34.0	2053.5
560	630/80	54/3.85	19/2.31	629	79.6	709	293.58	0.0509	34.7	2265.7
630	720/50	45/4.51	7/3.00	719	49.5	769	285.82	0.0455	36.1	2311.8
630	705/90	54/4.08	19/2.45	706	89.6	796	329.87	0.0453	36.7	2545.4
710	810/55	45/4.78	7/3.19	808	56.0	864	321.51	0.0404	38.3	2599.3
710	800/100	54/4.33	19/2.60	795	101	896	371.53	0.0403	39.0	2866.9
800	920/40	72/4.03	7/2.69	918	39.8	958	337.03	0.0360	40.3	2800.5
800	910/75	84/3.71	7/3.71	908	75.7	984	369.28	0.0359	40.8	3011.4
800	900/115	54/4.60	19/2.76	897	114	1011	419.09	0.0357	41.4	3234.4
900	1035/45	72/4.27	7/2.85	1031	44.7	1076	378.37	0.0320	42.7	3144.0
900	1020/85	84/3.93	7/3.93	1019	84.9	1104	414.37	0.0319	43.2	3379.2
1000	1150/50	72/4.50	7/3.00	1145	49.5	1195	420.09	0.0289	45.0	3491.0
1120	1290/55	72/4.77	19/1.91	1287	54.4	1341	470.62	0.0257	47.7	3916.1
1120	1270/105	84/4.39	19/2.63	1271	103	1374	524.37	0.0256	48.3	4200.8
1250	1435/60	72/5.04	19/2.01	1436	60.3	1496	524.82	0.0230	50.4	4368.7
1250	1420/115	84/4.64	19/2.78	1420	115	1535	585.82	0.0229	51.0	4693.0

Aluminum conductor, aluminum alloy reinforced (ACAR)

Standards: IEC, ASTM



Construction

Concentrically stranded with aluminum-alloy 6201 wires as the core and aluminum wires as the outer layers. In some constructions, aluminum alloy wires and aluminum wires can be in the same layer.

Application

It is used for overhead power transmission and distribution line.

Features

This kind of conductors has no hysteresis loss ,no electrochemical corrosion, and has lower power trans resistance;
It has the features of light weight, high strength, excellent ratio of tension and weight.

Recommended standard stranding

Total no. of wires	No.of aluminum wires/No.of alloy wires			
7	4/3	-	-	-
19	15/4	12/7	-	-
37	33/4	30/7	24/13	18/19
61	54/7	48/13	42/19	33/28
91	-	72/19	63/28	54/37

Technical details Type B IEC 61089

Code number	Size of conductor	Structure		Calculated area			Rated strength	DC resistance at 20℃	Overall diameter	Approx. Weight
		Al	Alloy	Al	Alloy	Total				
	mm²	No./mm	No./mm	mm²	mm²	mm²	kN	Ω/km	mm	kg/km
16	10/7	4/1.76	3/1.76	9.73	7.30	17.03	3.85	1.7896	5.28	46.6
25	15/10	4/2.20	3/2.20	15.21	11.40	26.61	5.93	1.1454	6.60	72.8
40	24/20	4/2.78	3/2.78	24.28	18.21	42.49	9.23	0.7159	8.34	116.2
63	40/30	4/3.49	3/3.49	38.27	28.70	66.96	14.36	0.4545	10.47	183.2
100	60/45	4/4.40	3/4.40	60.82	45.62	106.44	22.52	0.2863	13.20	291.2
125	80/50	12/2.97	7/2.97	83.14	48.50	131.63	27.72	0.2302	14.85	361.8
160	105/60	12/3.36	7/3.36	106.40	62.07	168.47	34.95	0.1798	16.80	463.1
200	135/80	12/3.76	7/3.76	133.24	77.73	210.97	43.10	0.1439	18.80	579.8
250	170/95	12/4.21	7/4.21	167.05	97.44	264.49	54.04	0.1151	21.05	726.9
250	130/140	18/3.04	19/3.04	130.65	137.91	268.56	60.21	0.1154	21.28	739.9
315	265/60	30/3.34	7/3.34	262.85	61.33	324.18	60.56	0.0916	23.38	893.2
315	165/175	18/3.42	19/3.42	165.35	174.54	339.90	76.20	0.0916	23.94	936.5
400	335/80	30/3.76	7/3.76	333.11	77.73	410.84	75.08	0.0721	26.32	1131.8
400	210/220	18/3.85	19/3.85	209.55	221.19	430.74	95.52	0.0721	26.95	1186.7
450	375/85	30/3.99	7/3.99	375.11	87.53	462.63	84.55	0.0641	27.93	1274.6
450	235/250	18/4.08	19/4.08	235.33	248.41	483.74	107.27	0.0641	28.56	1332.8
500	415/95	30/4.21	7/4.21	417.62	97.44	515.06	94.13	0.0577	29.47	1419.1
500	260/275	18/4.31	19/4.31	262.61	277.20	539.82	119.70	0.0577	30.17	1487.2
560	465/110	30/4.45	7/4.45	466.59	108.87	575.46	105.16	0.0515	31.15	1585.4

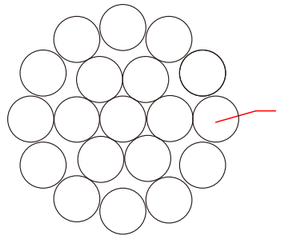
Code number	Size of conductor	Structure		Calculated area			Rated strength	DC resistance at 20℃	Overall diameter	Approx. Weight
		Al	Alloy	Al	Alloy	Total				
	mm²	No./mm	No./mm	mm²	mm²	mm²	kN	Ω/km	mm	kg/km
560	505/65	54/3.45	7/3.45	504.80	65.44	570.24	101.63	0.0516	31.05	1573.4
630	455/205	42/3.71	19/3.71	454.03	205.40	659.43	130.21	0.0458	33.39	1819.4
630	270/420	24/3.79	37/3.79	270.76	417.42	688.18	160.30	0.0458	34.11	1898.8
710	514/230	42/3.94	19/3.94	512.07	231.65	743.73	146.85	0.0407	35.46	2052.1
710	307/470	24/4.02	37/4.02	304.62	469.62	774.24	180.35	0.0407	36.18	2136.2
800	580/260	42/4.18	19/4.18	576.36	260.73	837.09	165.29	0.0361	37.62	2309.6
800	345/530	24/4.27	37/4.27	343.68	529.84	873.53	203.48	0.0361	38.43	2410.2
900	650/295	42/4.43	19/4.43	647.36	292.85	940.22	185.65	0.0321	39.87	2594.2
900	570/390	54/3.66	37/3.66	568.13	389.27	957.40	199.99	0.0321	40.26	2644.4
1000	820/215	72/3.80	19/3.80	816.56	215.48	1032.05	191.04	0.0289	41.80	2850.6
1000	630/430	54/3.85	37/3.85	628.65	430.74	1059.38	221.30	0.0289	42.35	2926.1
1120	915/240	72/4.02	19/4.02	913.85	241.16	1155.01	213.80	0.0258	44.22	3190.2
1120	705/485	54/4.08	37/4.08	706.00	483.74	1189.74	248.53	0.0258	44.88	3286.1
1250	1020/270	72/4.25	19/4.25	1021.41	269.54	1290.95	238.96	0.0231	46.75	3565.7
1250	790/540	54/4.31	37/4.31	787.84	539.82	1327.66	277.34	0.0231	47.41	3667.1
1400	1145/300	72/4.50	19/4.50	1145.11	302.18	1447.30	267.90	0.0207	49.50	3997.6

Technical details Type A IEC 61089

Code number	Size of conductor	Structure		Calculated area			Rated strength	DC resistance at 20℃	Overall diameter	Approx. weight
		Al	Alloy	Al	Alloy	Total				
	mm²	No./mm	No./mm	mm²	mm²	mm²	kN	Ω/km	mm	kg/km
16	10/7	4/1.76	3/1.76	9.73	7.30	17.03	4.05	1.7896	5.28	46.6
25	15/10	4/2.21	3/2.21	15.34	11.51	26.85	6.31	1.1454	6.63	73.5
40	24/20	4/2.79	3/2.79	24.45	18.34	42.80	9.82	0.7159	8.37	117.1
63	40/30	4/3.50	3/3.50	38.48	28.86	67.35	15.26	0.4545	10.50	184.3
100	60/45	4/4.41	3/4.41	61.10	45.82	106.92	23.49	0.2863	13.23	292.4
125	80/50	12/2.98	7/2.98	83.70	48.82	132.52	29.30	0.2302	14.90	364.2
160	105/60	12/3.37	7/3.37	107.04	62.44	169.47	36.94	0.1798	16.85	465.8
200	135/80	12/3.77	7/3.77	133.95	78.14	212.09	44.82	0.1439	18.85	583.0
250	170/95	12/4.21	7/4.21	167.05	97.44	264.49	55.89	0.1151	21.05	726.9
250	130/140	18/3.05	19/3.05	131.51	138.82	270.33	64.56	0.1154	21.35	744.8
315	265/60	30/3.34	7/3.34	262.85	61.33	324.18	62.31	0.0916	23.38	893.2
315	165/175	18/3.43	19/3.43	166.32	175.56	341.89	81.65	0.0916	24.01	941.9
400	335/80	30/3.77	7/3.77	334.88	78.14	413.02	76.96	0.0721	26.39	1137.9
400	210/220	18/3.86	19/3.86	210.64	222.34	432.98	100.24	0.0721	27.02	1192.9
450	375/85	30/3.99	7/3.99	375.11	87.53	462.63	86.21	0.0641	27.93	1274.6
450	235/250	18/4.10	19/4.10	237.65	250.85	488.50	113.09	0.0641	28.70	1345.8
500	415/95	30/4.21	7/4.21	417.62	97.44	515.06	95.98	0.0577	29.47	1419.1
500	260/275	18/4.32	19/4.32	263.83	278.49	542.33	125.55	0.0577	30.24	1494.2
560	465/110	30/4.46	7/4.46	468.69	109.36	578.05	107.72	0.0515	31.22	1592.6
560	505/65	54/3.45	7/3.45	504.80	65.44	570.24	103.50	0.0516	31.05	1573.4
630	455/205	42/3.72	19/3.72	456.48	206.50	662.99	134.83	0.0458	33.48	1829.3
630	270/420	24/3.80	37/3.80	272.19	419.62	691.81	169.12	0.0458	34.20	1908.8
710	514/230	42/3.95	19/3.95	514.68	232.83	747.51	152.02	0.0407	35.55	2062.5
710	307/470	24/4.03	37/4.03	306.13	471.96	778.09	190.21	0.0407	36.27	2146.9
800	580/260	42/4.19	19/4.19	579.12	261.98	841.10	171.06	0.0361	37.71	2320.7
800	345/530	24/4.28	37/4.28	345.29	532.33	877.62	214.55	0.0361	38.52	2421.5
900	650/295	42/4.44	19/4.44	650.29	294.18	944.47	192.08	0.0321	39.96	2605.9
900	570/390	54/3.66	37/3.66	568.13	389.27	957.40	207.39	0.0321	40.26	2644.4
1000	820/215	72/3.80	19/3.80	816.56	215.48	1032.05	195.13	0.0289	41.80	2850.6
1000	630/430	54/3.86	37/3.86	631.92	432.98	1064.90	230.68	0.0289	42.46	2941.3
1120	915/240	72/4.02	19/4.02	913.85	241.16	1155.01	218.38	0.0258	44.22	3190.2
1120	705/485	54/4.09	37/4.09	709.47	486.12	1195.58	258.98	0.0258	44.99	3302.3
1250	1020/270	72/4.25	19/4.25	1021.41	269.54	1290.95	244.09	0.0231	46.75	3565.7
1250	790/540	54/4.32	37/4.32	791.50	542.33	1333.83	288.93	0.0231	47.52	3684.2
1400	1145/300	72/4.50	19/4.50	1145.11	302.18	1447.30	273.65	0.0207	49.50	3997.6

All aluminum alloy conductors with medium strength (AAAC)

Standards: IEC, AS



Construction

Stranded with medium strength aluminum alloy wires

Application

This kind of aluminum alloy conductors is one of the most important energy-saving conductors recommended by state grid corporation to be widely used for overhead power transmission and distribution lines.

Features

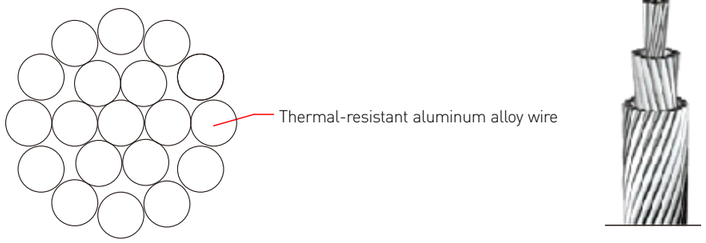
Tensile strength: 20% lower than high-strength alloy 6201.
Conductivity: 2.5% lower than aluminum. But 6% higher than aluminum alloy.

Technical details AS 1531

Code name	Number and diameter of wire	Overall diameter	Calculated area	Approx. mass of conductor	Rated strength, Min	DC resistance at 20℃
	Num./mm	mm	mm2	kg/km	kN	Ω/km
Chlorine	7/2.50	7.50	34.36	94.3	8.18	0.864
Chromium	7/2.75	8.25	41.58	113	9.91	0.713
Fluorine	7/3.00	9.0	49.48	135	11.8	0.599
Helium	7/3.75	11.3	77.28	211	17.6	0.38
Hydrogen	7/4.50	13.5	111.3	304	24.3	0.266
Iodine	7/4.75	14.3	124.0	339	27.1	0.239
Krypton	19/3.25	16.3	157.6	433	37.4	0.189
Lutetium	19/3.50	17.5	182.8	503	41.7	0.163
Neon	19/3.75	18.8	209.8	576	47.8	0.142
Nitrogen	37/3.00	21.0	261.6	721	62.2	0.114
Nobelium	37/3.25	22.8	307.0	845	72.8	0.0973
Oxygen	19/4.75	23.8	336.7	924	73.6	0.0884
Phosphorus	37/3.75	26.3	408.5	1120	93.1	0.0731
Selenium	61/3.25	29.3	506.1	1400	114	0.0592
Silicon	61/3.50	31.5	586.9	1620	127	0.0511
Sulfur	61/3.75	33.8	673.4	1860	145	0.0444

Thermal resistant aluminum alloy conductors (TAAAC)

Standards: IEC



Construction

Stranded with thermal resistant aluminum alloy wires

Application

Thermal resistant aluminum alloy conductor is used in the reform of urban and rural line to update the carrying capacity and save the cost.

Features

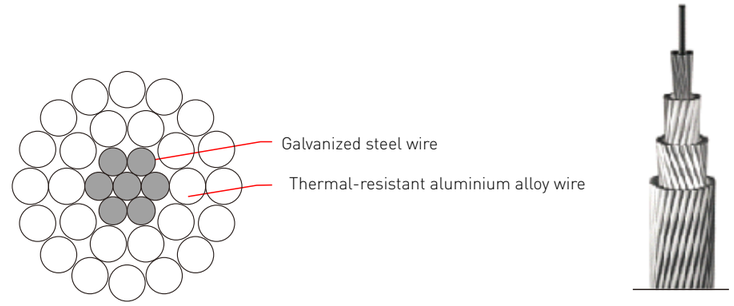
Thermal resistant aluminum alloy conductor has large carrying capacity, the maximum operating temperature can reach up to 150℃, and it can reduce the amount of use tower and saving the cost of transmission line.

Technical details

Code name	Number and diameter of wire	Overall diameter	Calculated area	Approx. mass of conductor	Rated strength, Min	DC resistance at 20℃
–	Num./mm	mm	mm2	kg/km	kN	Ω/km
10	7/1.35	4.05	10.02	27.4	1.69	2.9053
16	7/1.71	5.13	16.08	44.0	2.72	1.8104
25	7/2.13	6.39	24.94	68.3	4.21	1.1673
35	7/2.52	7.56	34.91	95.6	5.90	0.8339
50	7/3.02	9.06	50.14	137.3	8.12	0.5806
70	7/3.57	10.71	70.07	191.9	11.35	0.4155
95	7/4.16	12.48	95.14	260.5	15.41	0.3060
150	19/3.17	15.85	149.96	412.6	24.29	0.1951
210	19/3.75	18.75	209.85	577.4	34.00	0.1394
240	19/4.01	20.05	239.96	660.3	38.15	0.1219
300	37/3.21	22.47	299.44	825.9	47.61	0.0979
400	37/3.71	25.97	399.98	1103.2	63.60	0.0733
500	37/4.15	29.05	500.48	1380.4	79.58	0.0586
630	61/3.63	32.67	631.30	1743.8	100.38	0.0465
800	61/4.09	36.81	801.43	2213.7	127.43	0.0366

Thermal resistant aluminum alloy conductors, steel reinforced (TACSR)

Standards: IEC



Construction

Stranded with steel wires and thermal resistant aluminum alloy wires.

Application

This kind of conductors is used in the reform of urban and rural line to update the carrying capacity and save the cost.

Features

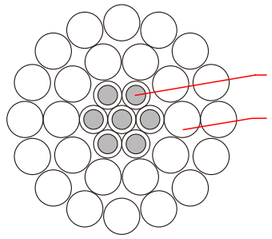
Thermal resistant aluminum alloy conductor has large carrying capacity, the maximum operating temperature can reach up to 150℃, and it can reduce the amount of use tower and saving the cost of transmission line.

Technical details

Size of conductor	Structure		Calculated area			Overall diameter	Approx. weight	Rated strength			DC resistance at 20℃
	AT1	St	AT 1	St	Total			G1A	G2A	G3A	
mm^2	No./mm	No./mm	mm^2	mm^2	mm^2	mm^2	kg/km	kN	kN	kN	Ω/km
150/20	24/2.78	7/1.85	145.68	18.82	164.49	16.67	548.5	46.20	48.83	51.47	0.2014
185/30	26/2.98	7/2.32	181.34	29.59	210.93	18.88	731.4	63.11	67.25	71.10	0.1619
240/30	24/3.60	7/2.40	244.29	31.67	275.96	21.60	920.7	75.68	80.11	84.23	0.1201
240/40	26/3.42	7/2.66	238.85	38.90	277.75	21.66	962.7	83.04	88.49	93.54	0.1229
300/25	48/2.85	7/2.22	306.21	27.10	333.31	23.76	1057.0	82.53	86.33	90.12	0.0959
300/40	24/3.99	7/2.66	300.09	38.90	338.99	23.94	1131.0	92.06	97.51	102.56	0.0977
300/50	26/3.83	7/2.98	299.54	48.82	348.37	24.26	1207.7	103.29	110.12	116.47	0.0980
400/25	45/3.33	7/2.22	391.91	27.10	419.01	26.64	1293.5	95.19	98.99	102.78	0.0750
400/35	48/3.22	7/2.50	390.88	34.36	425.24	26.82	1347.5	102.49	107.31	111.77	0.0752
400/50	54/3.07	7/3.07	399.73	51.82	451.54	27.63	1509.3	121.75	129.01	136.26	0.0736
400/65	26/4.42	7/3.44	398.94	65.06	464.00	28.00	1608.7	135.00	144.10	153.21	0.0736
400/95	30/4.16	19/2.50	407.75	93.27	501.02	29.14	1854.3	171.16	184.21	196.34	0.0719
500/35	45/3.76	7/2.51	499.67	34.64	534.30	30.09	1649.8	120.43	125.28	129.78	0.0588
500/45	48/3.60	7/2.80	488.58	43.10	531.68	30.00	1685.5	128.29	134.32	139.93	0.0601
500/65	54/3.44	7/3.44	501.88	65.06	566.94	30.96	1895.0	152.87	161.98	171.09	0.0586
630/45	45/4.22	7/2.81	629.40	43.41	672.81	33.75	2076.5	149.56	155.64	161.28	0.0467
630/55	48/4.12	7/3.20	639.92	56.30	696.22	34.32	2206.4	163.67	171.56	179.44	0.0459
630/80	54/3.83	19/2.30	622.13	78.94	701.07	34.48	2337.8	188.91	199.96	210.23	0.0473
720/50	45/4.53	7/3.02	725.27	50.14	775.41	36.24	2393.7	170.47	177.49	184.51	0.0405
800/55	45/4.80	7/3.20	814.30	56.30	870.60	38.40	2687.5	191.40	199.28	207.16	0.0361
800/70	48/4.63	7/3.60	808.15	71.25	879.41	38.58	2787.6	206.87	211.86	223.97	0.0364
900/75	84/3.69	7/3.69	898.30	74.86	973.16	40.59	3068.5	227.87	233.11	245.84	0.0328
1440/120	84/4.67	19/2.80	1438.81	116.99	1555.80	51.36	4895.2	362.14	378.52	393.73	0.0205

Thermal resistant aluminum alloy conductors, aluminum-clad steel reinforced (TACSR/AS)

Standards: IEC



Construction

Stranded with aluminum-clad steel wires and thermal resistant aluminum alloy wires.

Application

This kind of conductors is used in the reform of urban and rural line to update the carrying capacity and save the cost.

Features

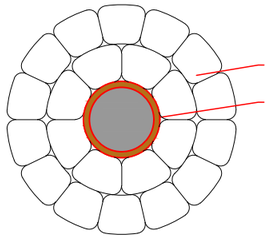
Thermal resistant aluminum alloy conductor has large carrying capacity, the maximum operating temperature can reach up to 150℃, and it can reduce the amount of use tower and saving the cost of transmission line.

Technical details

Size of conductor	Structure		Calculated area			Overall diameter	Approx. weight	Rated strength	DC resistance at 20℃
	AT1	ACS	AT1	ACS	Total				
mm^2	No./mm	No./mm	mm^2	mm^2	mm^2	mm	kg/km	kN	Ω/km
150/20	24/2.78	7/1.85	145.68	18.82	164.49	16.67	16.67	46.77	0.1924
185/30	26/2.98	7/2.32	181.34	29.59	210.93	18.88	18.88	64.89	0.1535
240/30	24/3.60	7/2.40	244.29	31.67	275.96	21.60	21.60	77.58	0.1151
240/40	26/3.42	7/2.66	238.85	38.90	277.75	21.66	21.66	85.37	0.1163
300/25	48/2.85	7/2.22	306.21	27.10	333.31	23.76	23.76	83.35	0.0932
300/40	24/3.99	7/2.66	300.09	38.90	338.99	23.94	23.94	94.39	0.0936
300/50	26/3.83	7/2.98	299.54	48.82	348.37	24.26	24.26	106.21	0.0927
400/25	45/3.33	7/2.22	391.91	27.10	419.01	26.64	26.64	96.01	0.0732
400/35	48/3.22	7/2.50	390.88	34.36	425.24	26.82	26.82	104.55	0.0729
400/50	54/3.07	7/3.07	399.73	51.82	451.54	27.63	27.63	126.94	0.0704
400/65	26/4.42	7/3.44	398.94	65.06	464.00	28.00	28.00	140.20	0.0697
400/95	30/4.16	19/2.50	407.75	93.27	501.02	29.14	29.14	176.76	0.0666
500/35	45/3.76	7/2.51	499.67	34.64	534.30	30.09	30.09	122.51	0.0574
500/45	48/3.60	7/2.80	488.58	43.10	531.68	30.00	30.00	130.87	0.0583
500/65	54/3.44	7/3.44	501.88	65.06	566.94	30.96	30.96	158.08	0.0561
630/45	45/4.22	7/2.81	629.40	43.41	672.81	33.75	33.75	152.17	0.0456
630/55	48/4.12	7/3.20	639.92	56.30	696.22	34.32	34.32	169.31	0.0446
630/80	54/3.83	19/2.30	622.13	78.94	701.07	34.48	34.48	193.65	0.0453
720/50	45/4.53	7/3.02	725.27	50.14	775.41	36.24	36.24	175.49	0.0396
800/55	45/4.80	7/3.20	814.30	56.30	870.60	38.40	38.40	197.03	0.0352
800/70	48/4.63	7/3.60	808.15	71.25	879.41	38.58	38.58	209.72	0.0353
900/75	84/3.69	7/3.69	898.30	74.86	973.16	40.59	40.59	227.87	0.0319
1440/120	84/4.67	19/2.80	1438.81	116.99	1555.80	51.36	51.36	369.16	0.0199

Aluminum conductors, carbon fiber core reinforced (JLRX1/F)

Standards: IEC, ASTM, GB



Construction

Stranded with the composite core and annealed trapezoidal aluminum wires.

Application

It is widely used in remoulding the old transmission lines and building the new transmission lines. And also is the ideal product to take place of the conventinal overhead bare conductors.

Features

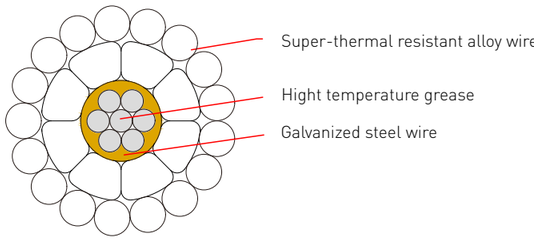
Compared with conventional conductors, it has the advantages of light weight, high tensile, low loss, heat-resistant, low sag and large current carrying capacity to ensure the energy saving, environmental protection and safety during transmission.

Technical details

Size of conductor	Diameter		Al	Calculated area mm^2			Rated strength	Approx. weight	DC resistance at 20℃
	Core	Conductor							
mm^2	mm	mm	No.	Al	Core	Total	kN	kg/km	Ω/km
150/25	6.0	15.54	15	150	28.3	178.3	69.7	468.6	0.1861
150/35	7.0	15.95	15	150	38.5	188.5	91.7	488.3	0.1861
185/25	6.0	17.01	16	185	28.3	213.3	71.7	565.4	0.1509
185/30	6.5	17.19	16	185	33.2	218.2	82.3	574.9	0.1509
210/35	7.0	18.34	16	210	38.5	248.5	95.2	653.9	0.1329
210/50	8.0	18.75	16	210	50.3	260.3	120.6	676.7	0.1329
240/30	6.5	19.26	16	240	33.2	273.2	85.5	725.8	0.1163
240/40	7.5	19.62	16	240	44.2	284.2	109.2	747.0	0.1163
300/25	6.0	21.14	16	300	28.3	328.3	78.4	883.1	0.0931
300/40	7.5	21.61	16	300	44.2	344.2	112.7	913.7	0.0931
300/50	8.0	21.79	16	300	50.3	350.3	125.8	925.5	0.0931
300/70	9.5	22.38	16	300	70.9	370.9	170.3	965.3	0.0931
400/35	7.0	24.43	22	400	38.5	438.5	106.1	1176.4	0.0698
400/40	7.5	24.57	22	400	44.2	444.2	118.4	1187.4	0.0698
400/50	8.0	24.73	22	400	50.3	450.3	131.6	1199.2	0.0698
400/70	9.5	25.26	22	400	70.9	470.9	176.0	1238.9	0.0698
500/35	7.0	27.08	22	500	38.5	538.5	111.9	1453.0	0.0558
500/50	8.0	27.36	22	500	50.3	550.3	137.3	1475.8	0.0558
500/70	9.5	27.84	22	500	70.9	570.9	181.8	1515.5	0.0558
630/40	7.5	30.31	36	630	44.2	674.2	131.7	1830.8	0.0445
630/55	8.5	30.57	36	630	56.7	686.7	158.6	1854.9	0.0445
800/55	8.5	34.17	36	800	56.7	856.7	168.4	2326.7	0.0351
800/70	9.5	34.43	36	800	70.9	870.9	199.1	2354.1	0.0351

Gap type super-thermal resistant aluminum alloy conductors, extra high strength steel reinforced (GZTACSR)

Standards: IEC



Construction

Stranded with the extra high strength steel wires and super-thermal resistant aluminum alloy wires.

Application

GZTACSR is widely used in capacity-increasing project of transmission lines

Features

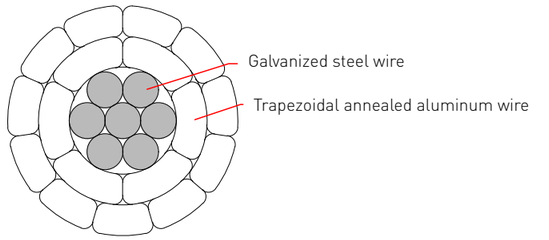
The current carrying capacity of GZTACSR at 150 ℃ is 1.6 times larger than that of the ACSR at 70 ℃
The current carrying capacity of GZTACSR at 210 ℃ is twice larger than that of the ACSR at 70 ℃ .

Technical details

Size of conductor	Calculated area mm2		Diameter mm		Rated strength kN		DC resistance at 20℃	Approx. weight
mm^2	AT3	EST	Construction I	Construction II	Conductor	Steel	Ω/km	kg/km
185/30	197.6	31.67	19.7	18.7	81.1	50.5	0.1483	801
240/30	250.6	31.67	20.6	20.6	89.7	50.5	0.1170	948
260/40	265.3	43.11	22.6	21.7	109.3	68.7	0.1106	1084
300/40	290.2	43.11	23.7	22.4	113.2	68.7	0.1010	1147
370/40	370.5	40.08	26.0	24.8	121	63.8	0.0792	1348
400/50	408.3	49.48	27.5	26.1	141.6	78.8	0.0718	1523
450/50	444.71	49.48	28.4	27.2	147.4	78.8	0.0660	1644
500/60	523.5	63.55	31.2	29.5	183.3	101.2	0.0560	1951
630/50	642.7	52.83	34.0	32	186	84.2	0.0456	2195

Shaped wire compact concentric-lay-stranded aluminum conductors, coated-steel supported (ACSS/TW)

Standards: ASTM



Construction

Stranded with the galvanized steel wires and trapezoidal annealed aluminum wires.

Application

It is used for project of power distribution line transformation.

Features

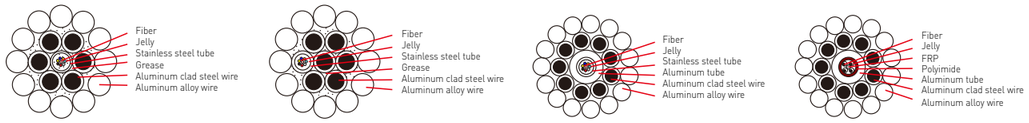
Conductivity of annealed aluminum is 2% higher than that of hard aluminum.
Compared with the same diameter of ACSR, it has larger aluminum areas and more current carrying capacity.

Technical details

Size	Code name	Structure				Overall diameter	Approx. mass	Rated strength, Min		DC resistance at 20℃
		ST		Al						
		Number of ST	Diameter of ST	Number of Al	Number of Al layers			ACSS/HS/TW ACSS/MS/TW	ACSS/GA/TW ACSS/MA/TW	
MCM	–	No.	mm	No.	No.	mm	Kg/km	kN	kN	Ω/km
477	Flicker	Flicker	2.39	18	2	19.81	910.66	63.12	57.79	0.1157
477	Hawk	Hawk	2.67	18	2	20.07	974.64	76.01	69.35	0.1153
556.5	Parakeet	Parakeet	2.58	18	2	21.34	1062.43	73.79	67.57	0.0992
556.5	Dove	Dove	2.89	20	2	21.59	1136.83	88.46	80.9	0.0988
636	Rook	Rook	2.76	18	2	22.61	1217.18	84.46	76.9	0.0868
636	Grosbeak	Grosbeak	3.09	20	2	23.11	1299.02	99.57	92.02	0.0864
795	Tern	Tern	2.25	17	2	24.38	1325.81	67.57	63.12	0.0699
795	Puffin	Puffin	2.81	18	2	24.89	1449.31	91.57	84.02	0.0696
795	Condor	Condor	3.08	20	2	25.15	1517.76	103.58	96.46	0.0694
795	Drake	Drake	3.45	20	2	25.65	1623.41	124.47	115.13	0.0692
954	Phoenix	Phoenix	2.13	30	3	26.67	1529.66	67.57	63.12	0.0587
954	Rail	Rail	2.47	32	3	26.92	1598.11	80.02	74.24	0.0586
954	Cardinal	Cardinal	3.38	20	2	27.43	1825.78	124.47	115.58	0.0578
1033	Snowbird	Snowbird	2.21	30	3	27.69	1657.63	72.9	68.46	0.0542
1033	Ortolan	Ortolan	2.57	32	3	27.94	1730.54	86.68	80.46	0.0541
1033.5	Curlew	Curlew	3.51	21	2	28.70	1973.09	134.69	125.36	0.0534
1113	Avocet	Avocet	2.3	30	3	28.70	1784.11	77.79	72.46	0.0503
1113	Bluejay	Bluejay	2.66	33	3	28.96	1864.46	93.35	86.68	0.0502
1113	Finch	Finch	2.19	38	3	30.23	2123.38	147.58	135.14	0.0499
1192.5	Oxbird	Oxbird	2.38	30	3	29.72	1912.08	83.13	77.79	0.0469
1192.5	Bunting	Bunting	2.76	33	3	29.97	1996.90	100.02	92.91	0.0468
1192.5	Grackle	Grackle	2.27	38	3	30.99	2275.15	157.81	144.92	0.0466
1272	Scissortail	Scissortail	2.46	30	3	30.48	2040.05	88.91	83.13	0.0440
1272	Bittern	Bittern	2.85	35	3	30.99	2130.82	106.69	99.13	0.0439
1272	Pheasant	Pheasant	2.34	39	3	32.00	2425.44	165.81	151.58	0.0437
1351.5	Dipper	Dipper	2.93	35	3	32.00	2263.25	113.35	105.35	0.0413
1351.5	Martin	Martin	2.41	39	3	33.02	2577.22	176.03	160.92	0.0411
1431	Bobolink	Bobolink	3.02	36	3	32.77	2397.17	120.02	111.58	0.0390
1431	Plover	Plover	2.48	39	3	34.04	2728.99	186.26	170.7	0.0388
1590	Lawping	Lawping	3.18	36	3	34.54	2663.52	131.58	124.02	0.0351
1590	Falcon	Falcon	2.62	42	3	35.81	3032.54	207.15	189.37	0.0349
1780	Chukar	Chukar	2.22	37	3	36.83	3066.77	169.81	156.92	0.0313
2156	Bluebird	Bluebird	2.44	64	4	40.89	3737.86	202.26	187.15	0.0260

Optical fiber composite overhead ground wire (OPGW)

Standards: IEC 60794-4, IEEE 1138-2009



Technical data

Temperature range:
During installation: -10°C up to +50°C
Transportation and Operation: -40°C up to +80°C
Voltage rating: 35-1100kV
Minimum bending radius:
During installation: 15D
During Operation: 20D
D is external diameter of OPGW cable

Construction

Optical unit: stainless steel tube; Aluminum clad stainless steel tube; Aluminum clad PBT tube.
Single wire: ACS wire; AA wire; GSW.

Identification

Fiber No.	1	2	3	4	5	6
Colour	Blue	Orange	Green	Brown	Gray	White
Fiber No.	7	8	9	10	11	12
Colour	Red	Black (clear)	Yellow	Purple	Pink	Aqua

Application

Optical fiber composite overhead ground wire(OPGW) adds fiber into it and at the same time, maintains all the original performance and functions of the existing overhead ground wire, which opens up the high-performance optical transmission channel, giving it both lightening-resistant and communications functions. It is a kind of wire that combines the functions of overhead ground wire and communications capabilities.

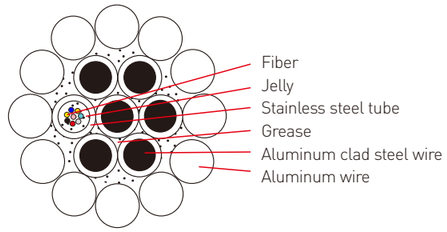
Technical details

Type	Structure parameters						Normal diameter	Sectional area			Mass per unit length	Rated breaking force	20℃ DC resistance	Elastic Modulus	Linear expansion coefficient	Short circuit current thermal capacity
	Center			Outer layer				Al-clad steel wire	AA	Total						
	PCS	Normal diameter	material	PCS	Normal diameter	material										
		mm			mm		mm	mm^2	mm^2	mm^2	kg/km	kN	Ω/km	Gpa	10-6/℃	$kA^2.s$
OPGW-24B1-40[51;8.0]	1	3	SUS	1	3	20SA	9	42.41	-	42.41	303.6	51.15	2.0275	162	13	7.96
OPGW-30B1-50[58;10.3]	1	3.2	SUS	1	3.2	20SA	9.6	48.25	-	48.25	342.7	58.2	1.7819	162	13	10.31
OPGW-36B1-55[64;13.1]	1	3.4	SUS	1	3.4	20SA	10.2	54.48	-	54.48	389.3	64.23	1.5785	162	13	13.14
OPGW-40B1-60[66;14.8]	1	3.5	SUS	1	3.5	20SA	10.5	57.73	-	57.73	411.1	65.98	1.4896	162	13	14.75
OPGW-40B1-60[70;16.5]	1	3.6	SUS	1	3.6	20SA	10.8	61.07	-	61.07	433.4	69.81	1.408	162	13	16.51
OPGW-48B1-70[77;20.5]	1	3.8	SUS	1	3.8	20SA	11.4	68.05	-	68.05	480.1	76.55	1.2636	162	13	20.5

Type	Structure parameters												Normal diameter	Sectional area			Mass per unit length	Rated breaking force	20℃ DC resistance	Elastic Modulus	Linear expansion coefficient	Short circuit current thermal capacity
	Center			first layer			Second layer			Stainless steel tube optical unit				Al-clad steel wire	AA	Total						
	PCS	Normal diameter	material	PCS	Normal diameter	material	PCS	Normal diameter	material	PCS	Normal diameter	maximum quantity of optical fiber										
		mm			mm			mm			mm		mm	mm^2	mm^2	mm^2	kg/km	kN	Ω/km	Gpa		$kA^2.s$ (40-200℃)
OPGW-24B1-90[107;34.9]	1	2.6	20SA	5	2.5	20SA	12	2.5	20SA	1	2.5	24B1	12.6	88.76	-	88.76	615.4	107.04	0.9718	162	13	34.88
OPGW-24B1-100[121;44.3]	1	2.6	20SA	5	2.5	20SA	11	2.85	20SA	1	2.5	24B1	13.3	100.03	-	100.03	691.2	120.63	0.8626	162	13	44.3
OPGW-30B1-100[144;62.8]	1	2.85	20SA	5	2.75	20SA	11	3.1	20SA	1	2.7	30B1	14.55	119.1	-	119.1	819.2	143.64	0.7244	162	13	62.8
OPGW-30B1-100[68;114.0]	1	2.85	20SA	5	2.75	20SA	11	3.1	LHA2	1	2.7	30B1	14.55	36.08	83.02	119.1	489.3	68	0.3421	94.38	17.8	114.01
OPGW-36B1-135[164;82.3]	1	3.2	20SA	5	3.1	20SA	12	3.1	20SA	1	3	36B1	15.6	136.35	-	136.35	934.7	164.44	0.6326	162	13	82.31
OPGW-36B1-135[83;127.8]	1	3.2	20SA	5	3.1	40SA	12	3.1	40SA	1	3	36B1	15.6	136.35	-	136.35	662.8	83.45	0.3215	109	15.5	127.76
OPGW-36B1-145[175;93.4]	1	3.3	20SA	5	3.2	20SA	12	3.2	20SA	1	3.1	36B1	16.1	145.28	-	145.28	994.6	174.97	0.5937	162	13	93.44
OPGW-36B1-145[89;145.0]	1	3.3	20SA	5	3.2	40SA	12	3.2	40SA	1	3.1	36B1	16.1	145.28	-	145.28	704.9	88.91	0.3018	109	15.5	145.03
OPGW-48B1-165[193;119.0]	1	3.5	20SA	5	3.4	20SA	12	3.4	20SA	1	3.3	48B1	17.1	163.97	-	163.97	1125	193.32	0.526	162	13	119.03
OPGW-48B1-165[211;150.5]	1	3.8	20SA	5	3.6	20SA	12	3.6	20SA	1	3.4	48B1	18.2	184.8	-	184.8	1261.9	211.15	0.4678	162	15.5	150.51

Optical fiber composite overhead phase conductor (OPPC)

Standards: IEC 60793, IEC 61089, DL/T 1613-2016



Technical data

Temperature range:
During installation: -10°C up to +50°C
Transportation and Operation: -40°C up to +80°C
Voltage rating: 10-220kV
Minimum bending radius:
During installation: 15D
During installation: 20D
D is external diameter of OPPC cable

Construction

Optical unit: stainless steel tube; Aluminum clad stainless steel tube
Single wire: ACS wire; Al wire; GSW

Identification

Fiber No.	1	2	3	4	5	6
Colour	Blue	Orange	Green	Brown	Gray	White
Fiber No.	7	8	9	10	11	12
Colour	Red	Black (clear)	Yellow	Purple	Pink	Aqua

Application

Optical fiber composite overhead phase conductor (OPPC) is a new type of special power composite cable, which combines optical fiber unit and traditional phase structure in the wire. It makes full use of its own line power system, to avoid conflict with the outside world in aspects such as frequency resources, routing coordination, electromagnetic compatibility, which gives it dual functions of power transmission and communication.

Technical details

Type	Structure parameters															Normal diameter	Sectional area			Mass per unit length	Rated breaking force	20℃ DC resistance	Reference carring capacity			Conductor
	Center			first layer			Second layer			Third layer			Stainless steel tube optical unit				Al-clad steel wire	AA	Total				40 ~ 70℃	40 ~ 80℃	40 ~ 90℃	
	PCS	Normal diameter	material	PCS	Normal diameter	material	PCS	Normal diameter	material	PCS	Normal diameter	material	PCS	Normal diameter	maximum quantity of optical fiber											
		mm			mm			mm			mm			mm		mm	mm^2	mm^2	mm^2	kg/km	kN	Ω/km				
OPPC-16B1-85/25	1	2.3	20AS	5	2.3	20AS	9	2.45	AL	/	/	/	1	2.3	16B1	13.8	84.13	24.93	109.1	410	42.2	0.3106	251	307	352	LGJ-95/15
OPPC-16B1-90/25	1	2.4	20AS	5	2.4	20AS	9	3.6	AL	/	/	/	1	2.4	20B1	14.4	91.61	27.14	118.8	446	45.9	0.2852	265	233	371	LGJ-95/20
OPPC-16B1-95/25	1	3.25	14AS	5	3.25	20AS	12	3.2	AL	/	/	/	1	3.25	48B1	16.5	96.51	49.77	146.3	645	83.3	0.2665	281	345	397	LGJ-95/55
OPPC-16B1-110/25	1	2.35	20AS	5	2.35	20AS	8	4.2	AL	/	/	/	1	2.35	16B1	15.45	110.84	26.02	136.9	491	47.3	0.2101	293	359	415	LGJ-120/20
OPPC-16B1-120/25	1	2.4	20AS	5	2.4	20AS	8	4.35	AL	/	/	/	1	2.4	20B1	15.9	118.89	27.14	146.0	521	49.9	0.2242	305	374	430	LGJ-120/25
OPPC-16B1-150/25	1	2.35	20AS	5	2.35	20AS	11	2.6	AL	17	2.6	AL	1	2.35	16B1	17.45	148.66	26.02	174.7	597	54.1	0.1831	344	423	487	LGJ-150/25
OPPC-16B1-150/30	1	2.55	14AS	5	2.55	14AS	12	2.55	AL	18	2.55	AL	1	2.55	24B1	17.85	153.21	30.64	183.9	659	67.3	0.1799	349	430	195	LGJ-150/35
OPPC-16B1-185/25	1	2.35	20AS	5	2.35	20AS	10	3	AL	16	3	AL	1	2.35	16B1	19.05	183.78	26.02	209.8	693	58.7	0.1496	387	478	552	LGJ-185/45
OPPC-16B1-185/40	1	2.85	14AS	5	2.85	14AS	12	2.8	AL	18	2.8	AL	1	2.85	30B1	19.75	184.73	38.28	223.0	803	82.2	0.1489	391	484	560	LGJ-210/25
OPPC-16B1-210/25	1	2.3	20AS	5	2.3	20AS	9	3.35	AL	15	3.35	AL	1	2.3	16B1	20.3	211.54	24.93	236.5	762	63.9	0.1309	415	515	595	LGJ-210/25
OPPC-16B1-210/30	1	2.55	14AS	5	2.55	14AS	10	3.22	AL	16	3.22	AL	1	2.55	24B1	20.53	211.73	30.64	242.4	819	74.3	0.1317	419	519	601	LGJ-210/35
OPPC-16B1-240/30	1	2.45	20AS	5	2.45	20AS	9	3.6	AL	15	3.6	AL	1	2.45	20B1	21.75	244.29	28.29	272.6	875	73.1	0.1135	456	567	657	LGJ-240/30
OPPC-16B1-240/50	1	3.25	14AS	5	3.25	14AS	12	3.2	AL	18	3.2	AL	1	3.25	48B1	22.56	241.27	49.77	291.0	1045	104.2	0.1141	459	571	663	LGJ-240/55
OPPC-20B1+ 4A1a-400/35	1	2.5	14AS	15	2.5	SUSLG14	10	3.22	HAL	22	3.22	HAL	1	2.5	20B1+A1a	26.82	29.45	390.88	420.3	1321	103.9	0.0725	620	760	869	LGJ-400/35