

BARE OVERHEAD CONDUCTOR and OPGW



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Version 1-2019

EXCELLENCE IS JUST THE BEGINNING

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Company Introduction

Hengtong Cable Australia is part of the Hengtong Group of companies. Founded in 1991, Hengtong Group is an international company with a diverse range of areas covering, Optical Fibre, Power, Marine and Offshore Cable, EPC Turnkey service and maintenance, as well as internet of things, big data and e-commerce, emerging materials and new energy.

Hengtong Group has 70 wholly-owned companies and holding companies (some are listed on various Stock Exchanges: Shanghai, Hong Kong and Indonesia) with 9 manufacturing facilities based in Europe, South America, South Africa, South Asia and Southeast Asia. as well as sales offices in over 30 countries and regions around the world supplying products to over 130 countries.

Hengtong Group is the largest Optical Fibre and Power Cable manufacturer in China and the second largest in the world. It is also in the top 2 largest Optical Fibre communication producers. Hengtong is implementing and transforming to intelligent manufacturing, to make it the most advanced cable manufacturer in the world.

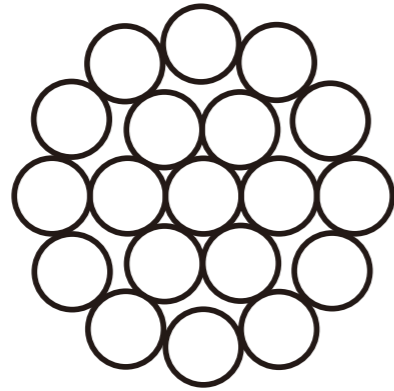
Hengtong High Voltage Park, lays claim to the tallest VCV tower in the world, standing at an incredible 180m high. It currently houses 3 TROESTER VCV extruders and has room for a 4th.

Committing to innovation and social responsibility is at the heart of Hengtong. Hengtong has donated more than 600M RMB to local charities.

Hengtong Group has an annual turnover of USD \$15 Billion and employs some 22,000 people. Hengtong Group has a factory area of 200,000,000m² in China and 400,000m² internationally thus allowing Hengtong Cable Australia the ability to supply projects of any size and type.



All Aluminium Conductors (AAC/1350)



Properties:

Aluminium conductors manufactured to AS 1531

This type of conductor is stranded with 1350 hard-drawn aluminium wire

Structural Parameters:

Code name	Number and diameter of wire	Overall diameter	Calculated area	Approx. mass of conductor	Rated strength, Min	DC resistance at 20°C	AC resistance at 50Hz, 75°C	Calculated elasticity modulus	Coefficient of linear expansion
-	No./mm	mm	mm ²	kg/km	kN	Ω/km	Ω/km	GPa	1/°C
Leo	7/2.50	7.5	34.36	94.3	5.71	0.833	1.0176	65	23E-06
Leonids	7/2.75	8.25	41.58	113	6.72	0.689	0.8417	65	23E-06
Libra	7/3.00	9.0	49.48	135	7.98	0.579	0.7074	65	23E-06
Mars	7/3.75	11.3	77.28	211	11.8	0.370	0.4522	65	23E-06
Mercury	7/4.50	13.5	111.3	304	16.9	0.258	0.3155	65	23E-06
Moon	7/4.75	14.3	124.0	339	18.9	0.232	0.2838	65	23E-06
Neptune	19/3.25	16.3	157.6	433	24.7	0.183	0.2240	65	23E-06
Orion	19/3.50	17.5	182.8	503	28.7	0.157	0.1922	65	23E-06
Pluto	19/3.75	18.8	209.8	576	31.9	0.137	0.1679	65	23E-06
Saturn	37/3.00	21.0	261.6	721	42.2	0.110	0.1350	64	23E-06
Sirius	37/3.25	22.8	307.0	845	48.2	0.094	0.1155	64	23E-06
Taurus	19/4.75	23.8	336.7	924	51.3	0.0857	0.1055	65	23E-06
Triton	37/3.75	26.3	408.5	1120	62.2	0.0706	0.0872	64	23E-06
Uranus	61/3.25	29.3	506.1	1400	75.2	0.0572	0.0710	64	23E-06
Ursula	61/3.50	31.5	586.9	1620	87.3	0.0493	0.0616	64	23E-06
Venus	61/3.75	33.8	673.4	1860	97.2	0.0429	0.0539	64	23E-06

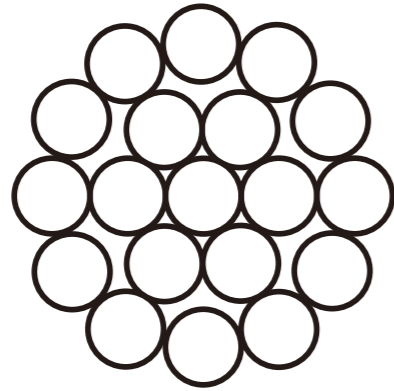
Current Ratings:

Code name	*Current carrying capacity, A							
	35°C ambient temperature				40°C ambient temperature			
	50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature	50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature
Leo	111	149	177	189	83	130	162	175
Leonids	125	168	200	213	92	146	182	197
Libra	139	187	223	238	102	163	204	220
Mars	182	248	296	316	132	215	270	292
Mercury	227	311	372	397	162	269	339	367
Moon	242	333	398	426	172	288	363	393
Neptune	280	387	465	497	196	334	423	459
Orion	306	425	511	547	213	367	465	505
Pluto	332	464	558	597	230	399	507	551
Saturn	379	532	641	686	258	457	583	633
Sirius	416	586	708	759	280	503	644	700
Taurus	438	620	750	804	294	532	681	741
Triton	491	700	848	909	324	598	769	838
Uranus	554	796	967	1039	359	679	877	957
Ursula	603	871	1060	1139	385	742	960	1048
Venus	651	946	1154	1241	410	805	1045	1142

*Note: Current carrying capacity is based to the following conditions

- Frequency: 50Hz
- Solar absorption coefficient: 0.5
- Emissivity: 0.5
- Wind speed: 1.0m/s
- Solar radiation: 1000W/m²
- Current carrying capacity values calculated as per IEC 61597

All Aluminium Alloy Conductors (AAAC/6201)



Properties:

Aluminium conductors manufactured to AS 1531

This type of conductors is stranded with 6201 aluminium alloy wires

Structural Parameters:

Code name	Number and diameter of wire	Overall diameter	Calculated area	Approx. mass of conductor	Rated strength, Min	DC resistance at 20°C	AC resistance at 50Hz, 75°C	Calculated elasticity modulus	Coefficient of linear expansion
-	No./mm	mm	mm ²	kg/km	kN	Ω/km	Ω/km	GPa	1/°C
Diamond	7/2.50	7.50	34.36	94.3	9.64	0.967	1.1585	65	23E-06
Dolomite	7/2.75	8.25	41.58	113	11.6	0.799	0.9572	65	23E-06
Emerald	7/3.00	9.00	49.48	135	13.9	0.671	0.8039	65	23E-06
Garnet	7/3.75	11.3	77.28	211	21.7	0.430	0.5153	65	23E-06
Jade	7/4.50	13.5	111.3	304	31.2	0.298	0.3573	65	23E-06
Jasper	7/4.75	14.3	124.0	339	34.8	0.268	0.3214	65	23E-06
Opal	19/3.25	16.3	157.6	433	44.2	0.212	0.2543	65	23E-06
Patronite	19/3.50	17.5	182.8	503	51.3	0.183	0.2196	65	23E-06
Pearl	19/3.75	18.8	209.8	576	58.8	0.159	0.1909	65	23E-06
Ruby	37/3.00	21.0	261.6	721	73.5	0.128	0.1539	64	23E-06
Ruthenium	37/3.25	22.8	307.0	845	86.1	0.109	0.1312	64	23E-06
Rutile	19/4.75	23.8	336.7	924	94.4	0.0991	0.1194	65	23E-06
Sapphire	37/3.75	26.3	408.5	1120	115	0.0819	0.0989	64	23E-06
Spinel	61/3.25	29.3	506.1	1400	135	0.0662	0.0803	64	23E-06
Tantalum	61/3.50	31.5	586.9	1620	156	0.0572	0.0697	64	23E-06
Topaz	61/3.75	33.8	673.4	1860	179	0.0498	0.0610	64	23E-06

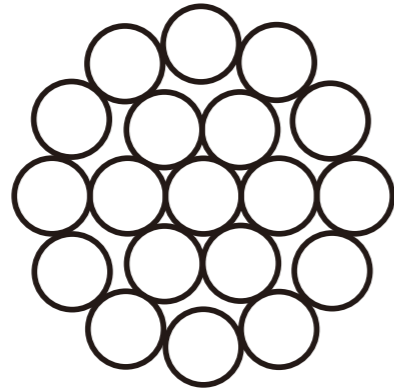
Current Ratings:

Code name	*Current carrying capacity, A							
	35°C ambient temperature				40°C ambient temperature			
	50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature	50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature
Diamond	104	140	166	177	77	122	152	164
Dolomite	117	157	187	200	86	137	171	185
Emerald	130	175	209	223	96	153	191	206
Garnet	170	232	277	296	123	201	253	274
Jade	212	292	349	373	152	252	318	345
Jasper	226	312	374	400	161	270	341	370
Opal	261	362	436	466	184	313	397	430
Patronite	285	397	478	512	199	342	435	472
Pearl	310	434	523	560	215	373	475	517
Ruby	353	497	600	643	241	427	545	593
Ruthenium	388	549	664	712	262	471	603	657
Rutile	410	582	705	756	275	499	640	697
Sapphire	459	655	795	854	303	561	722	787
Spinel	519	747	909	977	336	638	824	899
Tantalum	564	817	995	1070	360	696	902	985
Topaz	610	888	1085	1167	384	755	982	1074

*Note: Current carrying capacity is based to the following conditions

- Frequency: 50Hz
- Solar absorption coefficient: 0.5
- Emissivity: 0.5
- Wind speed: 1.0m/s
- Solar radiation: 1000W/m²
- Current carrying capacity values calculated as per IEC 61597

All Aluminium Alloy Conductors (AAAC/1120)



Properties:

Aluminium conductors manufactured to AS 1531

This type of conductors is stranded with 1120 aluminium alloy wires

Structural Parameters:

Code name	Number and diameter of wire	Overall diameter	Calculated area	Approx. mass of conductor	Rated strength, Min	DC resistance at 20°C	AC resistance at 50Hz, 75°C	Calculated elasticity modulus	Coefficient of linear expansion
-	No./mm	mm	mm ²	kg/km	kN	Ω/km	Ω/km	GPa	1/°C
Chlorine	7/2.50	7.50	34.36	94.3	8.18	0.864	1.0493	65	23E-06
Chromium	7/2.75	8.25	41.58	113	9.91	0.713	0.8659	65	23E-06
Fluorine	7/3.00	9.0	49.48	135	11.8	0.599	0.7275	65	23E-06
Helium	7/3.75	11.3	77.28	211	17.6	0.38	0.4617	65	23E-06
Hydrogen	7/4.50	13.5	111.3	304	24.3	0.266	0.3234	65	23E-06
Iodine	7/4.75	14.3	124.0	339	27.1	0.239	0.2906	65	23E-06
Krypton	19/3.25	16.3	157.6	433	37.4	0.189	0.2299	65	23E-06
Lutetium	19/3.50	17.5	182.8	503	41.7	0.163	0.1984	65	23E-06
Neon	19/3.75	18.8	209.8	576	47.8	0.142	0.1729	65	23E-06
Nitrogen	37/3.00	21.0	261.6	721	62.2	0.114	0.1390	64	23E-06
Nobelium	37/3.25	22.8	307.0	845	72.8	0.0973	0.1189	64	23E-06
Oxygen	19/4.75	23.8	336.7	924	73.6	0.0884	0.1081	65	23E-06
Phosphorus	37/3.75	26.3	408.5	1120	93.1	0.0731	0.0897	64	23E-06
Selenium	61/3.25	29.3	506.1	1400	114	0.0592	0.0730	64	23E-06
Silicon	61/3.50	31.5	586.9	1620	127	0.0511	0.0634	64	23E-06
Sulfur	61/3.75	33.8	673.4	1860	145	0.0444	0.0554	64	23E-06

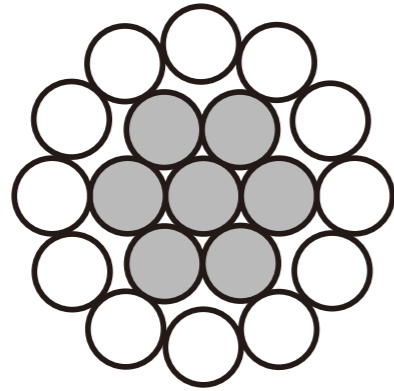
Current Ratings:

Code name	*Current carrying capacity, A							
	35°C ambient temperature				40°C ambient temperature			
	50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature	50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature
Chlorine	109	147	174	186	81	128	159	172
Chromium	123	166	197	210	91	144	180	194
Fluorine	137	185	220	234	101	161	201	217
Helium	180	246	293	313	131	213	267	289
Hydrogen	224	307	367	393	160	266	335	363
Iodine	239	329	394	421	170	284	359	389
Krypton	276	382	458	490	194	330	417	453
Lutetium	301	418	503	538	210	361	458	497
Neon	327	456	549	588	226	393	500	543
Nitrogen	373	523	631	676	254	450	574	624
Nobelium	409	578	698	748	276	496	634	690
Oxygen	432	612	741	794	290	525	673	732
Phosphorus	484	689	836	897	319	590	758	826
Selenium	546	785	954	1024	354	670	865	943
Silicon	593	858	1045	1122	379	731	947	1033
Sulfur	608	884	1078	1159	382	752	976	1067

*Note: Current carrying capacity is based to the following conditions

- Frequency: 50Hz
- Solar absorption coefficient: 0.5
- Emissivity: 0.5
- Wind speed: 1.0m/s
- Solar radiation: 1000W/m²
- Current carrying capacity values calculated as per IEC 61597

Aluminium Conductors, Galvanized Steel Reinforced (ACSR/GZ-1350)



Properties:

Aluminium conductors manufactured to AS 3607

The centre wire or wires are of galvanized steel and the outer layer or layers are of aluminium

Structural Parameters:

Code name	Structure		Overall diameter mm	Calculated area			Approx. mass of conductor kg/km	Rated strength, Min kN	DC resistance at 20°C Ω/km	AC resistance at 50Hz, 75°C Ω/km	Calculated elasticity modulus GPa	Coefficient of linear expansion 1/°C
	Al	ST		Al	ST	Total						
	No./mm	No./mm		mm ²	mm ²	mm ²						
Almond	6/2.50	1/2.50	7.5	29.45	4.91	34.36	119	10.5	0.975	1.1911	83	19.3E-06
Apricot	6/2.75	1/2.75	8.3	35.64	5.94	41.58	144	12.6	0.805	0.9834	83	19.3E-06
Apple	6/3.00	1/3.00	9.0	42.41	7.07	49.48	171	14.9	0.677	0.8271	83	19.3E-06
Banana	6/3.75	1/3.75	11.3	66.27	11.04	77.31	268	22.7	0.433	0.5290	83	19.3E-06
Cherry	6/4.75	7/1.60	14.3	106.32	14.07	120.4	402	33.3	0.271	0.3313	80	19.9E-06
Grape	30/2.50	7/2.50	17.5	147.26	34.36	181.6	677	63.5	0.196	0.2396	88	18.4E-06
Lemon	30/3.00	7/3.00	21.0	212.06	49.48	261.5	973	90.4	0.136	0.1664	88	18.4E-06
Lychee	30/3.25	7/3.25	22.8	248.87	58.07	306.9	1140	105	0.116	0.1420	88	18.4E-06
Lime	30/3.50	7/3.50	24.5	288.63	67.35	356	1320	122	0.1	0.1225	88	18.4E-06
Mango	54/3.00	7/3.00	27.0	381.70	49.48	431.2	1440	119	0.0758	0.0931	78	19.9E-06
Orange	54/3.25	7/3.25	29.3	447.97	58.07	506	1690	137	0.0646	0.0795	78	19.9E-06
Olive	54/3.50	7/3.50	31.5	519.54	67.35	586.9	1960	159	0.0557	0.0688	78	19.9E-06
Pawpaw	54/3.75	19/2.25	33.8	596.41	75.55	672	2240	178	0.0485	0.0601	77	20E-06
Quince	3/1.75	4/1.75	5.3	7.22	9.62	16.84	95	12.7	3.25	3.9703	136	13.9E-06
Raisin	3/2.50	4/2.50	7.5	14.73	19.64	34.36	195	24.4	1.95	2.3822	136	13.9E-06
Sultana	4/3.00	3/3.00	9.0	28.27	21.21	49.48	243	28.3	0.897	1.0958	119	15.2E-06
Walnut	4/3.75	3/3.75	11.3	44.18	33.13	77.31	380	43.8	0.573	0.7000	119	15.2E-06

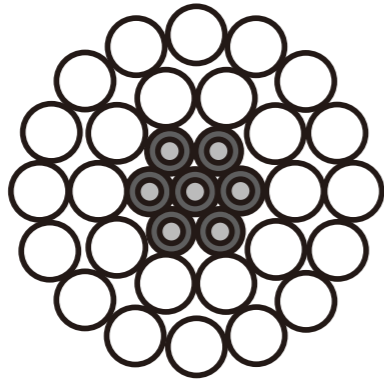
Current Ratings:

Code name	*Current carrying capacity, A							
	35°C ambient temperature				40°C ambient temperature			
	50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature	50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature
Almond	103	138	164	174	76	120	150	161
Apricot	116	156	185	197	86	136	169	183
Apple	128	173	206	220	95	151	188	203
Banana	169	230	274	292	122	199	250	270
Cherry	224	308	369	394	159	266	336	364
Grape	274	381	458	490	191	328	417	452
Lemon	341	479	577	618	233	411	525	570
Lychee	375	529	639	685	253	454	580	631
Lime	409	580	702	752	273	497	637	693
Mango	477	682	826	886	314	583	750	817
Orange	524	753	914	981	340	642	829	904
Olive	571	824	1003	1077	364	702	909	992
Pawpaw	618	897	1094	1176	389	763	991	1082
Quince	52	69	82	87	39	60	75	81
Raisin	73	97	116	123	54	85	106	114
Sultana	112	151	179	191	82	131	163	177
Walnut	147	200	238	254	106	173	217	235

*Note: Current carrying capacity is based to the following conditions

- Frequency: 50Hz
- Solar absorption coefficient: 0.5
- Emissivity: 0.5
- Wind speed: 1.0m/s
- Solar radiation: 1000W/m²
- Current carrying capacity values calculated as per IEC 61597

Aluminium Conductors, Aluminium-clad Steel Reinforced (ACSR/AC-1350)



Properties:

Aluminium conductors manufactured to AS 3607

The centre wire or wires are of aluminium-clad steel and the outer layer or layers are of aluminium

Structural Parameters:

Code name	Structure		Overall diameter	Calculated area			Approx. mass of conductor	Rated strength, Min	DC resistance at 20°C	AC resistance at 50Hz, 75°C	Calculated elasticity modulus	Coefficient of linear expansion
	AI	ACS		AI	ACS	Total						
	No./mm	No./mm	mm	mm ²	mm ²	mm ²	kg/km	kN	Ω/km	Ω/km	GPa	1/°C
Angling	6/2.50	1/2.50	7.5	29.45	4.91	34.36	113	10.6	0.923	1.1276	83	20.1E-06
Aquatics	6/2.75	1/2.75	8.3	35.64	5.94	41.58	137	12.7	0.763	0.9321	83	20.1E-06
Archery	6/3.00	1/3.00	9.0	42.41	7.07	49.48	163	15.1	0.641	0.7831	83	20.1E-06
Baseball	6/3.75	1/3.75	11.3	66.27	11.04	77.31	254	22.3	0.41	0.5010	83	20.1E-06
Bowls	6/4.75	7/1.60	14.3	106.32	14.07	120.4	385	32.7	0.259	0.3167	80	20.6E-06
Cricket	30/2.50	7/2.50	17.5	147.26	34.36	181.6	636	64.4	0.182	0.2225	88	20.6E-06
Darts	30/3.00	7/3.00	21.0	212.06	49.48	261.5	913	91.76	0.126	0.1542	88	20.6E-06
Dice	30/3.25	7/3.25	22.8	248.87	58.07	306.9	1070	106	0.108	0.1322	88	20.6E-06
Diving	30/3.50	7/3.50	24.5	288.63	67.35	356	1240	122	0.0928	0.1137	88	20.6E-06
Golf	54/3.00	7/3.00	27.0	381.70	49.48	431.2	1380	120	0.0726	0.0892	78	20.6E-06
Gymnastics	54/3.25	7/3.25	29.3	447.97	58.07	506	1620	139	0.0619	0.0763	78	20.6E-06
Hurdles	54/3.50	7/3.50	31.5	519.54	67.35	586.9	1880	159	0.0533	0.0659	78	20.6E-06
Lacrosse	54/3.75	19/2.25	33.8	596.41	75.55	672	2150	180	0.0465	0.0577	77	20.7E-06
Skating	3/1.75	4/1.75	5.3	7.22	9.62	16.84	83	12.3	2.75	3.3595	136	15.3E-06
Soccer	3/2.50	4/2.50	7.5	14.73	19.64	34.36	171	24.9	1.34	1.6370	136	15.3E-06
Swimming	4/3.00	3/3.00	9.0	28.27	21.21	49.48	218	28.9	0.807	0.9859	119	16.5E-06
Tennis	4/3.75	3/3.75	11.3	44.18	33.13	77.31	340	42.6	0.517	0.6316	119	16.5E-06

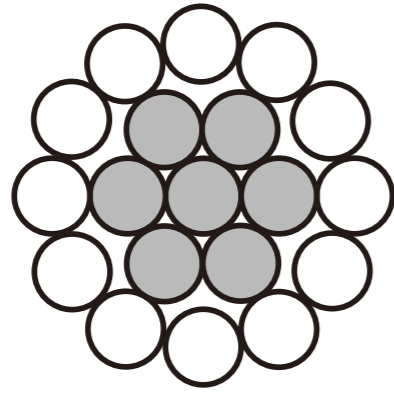
Current Ratings:

Code name	*Current carrying capacity, A							
	35°C ambient temperature				40°C ambient temperature			
	50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature	50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature
Angling	106	142	168	179	79	124	154	166
Aquatics	119	160	190	203	88	139	174	187
Archery	132	178	212	226	97	155	193	209
Baseball	173	236	281	300	126	205	257	278
Bowls	229	315	377	403	163	272	344	372
Cricket	285	395	475	508	198	341	432	469
Darts	354	497	600	642	242	427	545	592
Dice	389	548	662	710	262	470	602	654
Diving	425	602	728	781	284	516	661	720
Golf	488	696	844	906	321	595	766	834
Gymnastics	535	769	934	1002	347	656	847	923
Hurdles	583	842	1025	1101	372	717	929	1013
Lacrosse	630	916	1117	1200	397	779	1011	1104
Skating	57	75	89	95	43	66	81	88
Soccer	88	118	139	149	65	103	127	138
Swimming	118	159	189	201	87	138	172	186
Tennis	154	210	251	267	112	182	229	247

*Note: Current carrying capacity is based to the following conditions

- Frequency: 50Hz
- Solar absorption coefficient: 0.5
- Emissivity: 0.5
- Wind speed: 1.0m/s
- Solar radiation: 1000W/m²
- Current carrying capacity values calculated as per IEC 61597

Aluminium Alloy Conductors, Galvanized Steel Reinforced (AACSR/GZ-6201)



Properties:

Aluminium conductors manufactured to AS 3607

The centre wire or wires are of galvanized steel and the outer layer or layers are of aluminium alloy 6201

Structural Parameters:

Structure		Overall diameter	Calculated area			Approx. mass of conductor	Rated strength, Min	DC resistance at 20°C	AC resistance at 50Hz, 75°C	Calculated elasticity modulus	Coefficient of linear expansion
Alloy	ST		Alloy	ST	Total						
No./mm	No./mm	mm	mm ²	mm ²	mm ²	kg/km	kN	Ω/km	Ω/km	GPa	1/°C
6/3.00	1/3.00	9.0	42.41	7.07	49.48	171	20.2	0.785	0.9404	79	19.3E-06
6/3.75	1/3.75	11.3	66.27	11.04	77.31	268	31.5	0.503	0.6026	79	19.3E-06
6/4.75	7/1.60	14.3	106.32	14.07	120.4	402	47.4	0.313	0.3752	76	20.6E-06
18/3.50	1/3.50	17.5	173.18	9.62	182.8	552	60.8	0.193	0.2315	69	21.4E-06
30/3.00	7/3.00	21.0	212.06	49.48	261.5	973	117	0.158	0.1895	82	18.4E-06
30/3.50	7/3.50	24.5	288.63	67.35	356	1320	158	0.116	0.1393	82	18.4E-06

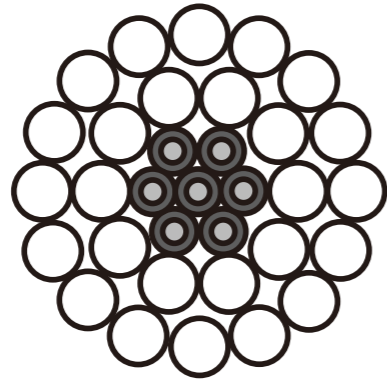
Current Ratings:

Structure		*Current carrying capacity, A							
Alloy	ST	35°C ambient temperature				40°C ambient temperature			
		50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature	50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature
6/3.00	1/3.00	120	162	193	206	88	141	176	191
6/3.75	1/3.75	157	215	256	274	114	186	234	253
6/4.75	7/1.60	209	289	346	370	149	250	315	342
18/3.50	1/3.50	278	387	465	498	194	333	423	460
30/3.00	7/3.00	318	448	540	579	217	385	491	534
30/3.50	7/3.50	382	543	658	705	255	465	597	650

*Note: Current carrying capacity is based to the following conditions

- Frequency: 50Hz
- Solar absorption coefficient: 0.5
- Emissivity: 0.5
- Wind speed: 1.0m/s
- Solar radiation: 1000W/m²
- Current carrying capacity values calculated as per IEC 61597

Aluminium Alloy Conductors, Aluminium-clad Steel Reinforced (AACSR/AC-6201)



Properties:

Aluminium conductors manufactured to AS 3607

The centre wire or wires are of aluminium-clad steel and the outer layer or layers are of aluminium alloy 6201

Structural Parameters:

Structure		Overall diameter mm	Calculated area			Approx. mass of conductor kg/km	Rated strength, Min kN	DC resistance at 20°C Ω/km	AC resistance at 50Hz, 75°C Ω/km	Calculated elasticity modulus GPa	Coefficient of linear expansion 1/°C
Alloy No./mm	ACS No./mm		Alloy mm ²	ACS mm ²	Total mm ²						
6/3.00	1/3.00	9.0	42.41	7.07	49.48	163	20.3	0.737	0.8829	79	20.1E-06
6/3.75	1/3.75	11.3	66.27	11.04	77.31	254	31.1	0.472	0.5655	79	20.1E-06
6/4.75	7/1.60	14.3	106.32	14.07	120.4	385	46.8	0.298	0.3572	76	20.6E-06
18/3.50	1/3.50	17.5	173.18	9.62	182.8	540	60.8	0.189	0.2267	69	21.8E-06
30/3.00	7/3.00	21.0	212.06	49.48	261.5	913	118	0.145	0.1739	82	19.4E-06
30/3.50	7/3.50	24.5	288.63	67.35	356	1240	158	0.106	0.1293	82	19.4E-06

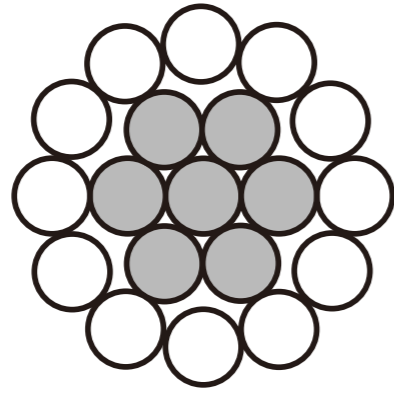
Current Ratings:

Structure		*Current carrying capacity, A							
Alloy No./mm	ACS No./mm	35°C ambient temperature				40°C ambient temperature			
		50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature	50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature
6/3.00	1/3.00	124	167	199	213	91	146	182	197
6/3.75	1/3.75	162	222	265	283	118	192	241	261
6/4.75	7/1.60	215	296	355	379	153	256	323	351
18/3.50	1/3.50	281	391	470	503	196	337	428	465
30/3.00	7/3.00	332	467	564	605	227	401	513	558
30/3.50	7/3.50	400	568	688	738	267	486	624	680

*Note: Current carrying capacity is based to the following conditions

- Frequency: 50Hz
- Solar absorption coefficient: 0.5
- Emissivity: 0.5
- Wind speed: 1.0m/s
- Solar radiation: 1000W/m²
- Current carrying capacity values calculated as per IEC 61597

Aluminium Alloy Conductors, Galvanized Steel Reinforced (AACSR/GZ-1120)



Properties:

Aluminium conductors manufactured to AS 3607

The centre wire or wires are of galvanized steel and the outer layer or layers are of aluminium alloy 1120

Structural Parameters:

Code name	Structure		Overall diameter mm	Calculated area			Approx. mass of conductor kg/km	Rated strength, Min kN	DC resistance at 20°C Ω/km	AC resistance at 50Hz, 75°C Ω/km	Calculated elasticity modulus GPa	Coefficient of linear expansion 1/°C
	Alloy	ST		Alloy	ST	Total						
	No./mm	No./mm		mm ²	mm ²	mm ²						
Apple	6/3.00	1/3.00	9.0	42.41	7.07	49.48	171	18.3	0.700	0.8502	79	19.3E-06
Banana	6/3.75	1/3.75	11.3	66.27	11.04	77.31	268	27.9	0.448	0.5442	79	19.3E-06
Cherry	6/4.75	7/1.60	14.3	106.32	14.07	120.4	402	40.7	0.279	0.3391	76	19.9E-06
Pig	18/3.50	1/3.50	17.5	173.18	9.62	182.8	552	51.5	0.173	0.2105	69	21.4E-06
Grape	30/2.50	7/2.50	17.5	147.26	34.36	181.6	677	74.4	0.203	0.2467	82	18.4E-06
Lemon	30/3.00	7/3.00	21.0	212.06	49.48	261.5	973	107	0.141	0.1715	82	18.4E-06
Lychee	30/3.25	7/3.25	22.8	248.87	58.07	306.9	1140	126	0.120	0.1460	82	18.4E-06
Lime	30/3.50	7/3.50	24.5	288.63	67.35	356	1320	143	0.104	0.1266	82	18.4E-06
Mango	54/3.00	7/3.00	27.0	381.70	49.48	431.2	1440	149	0.0784	0.0957	75	19.9E-06
Orange	54/3.25	7/3.25	29.3	447.97	58.07	506.0	1690	174	0.0669	0.0819	75	19.9E-06
Olive	54/3.50	7/3.50	31.5	519.54	67.35	586.9	1960	197	0.0578	0.0709	75	19.9E-06

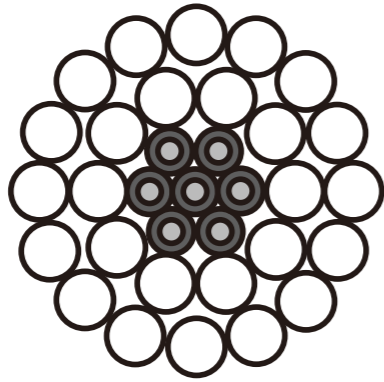
Current Ratings:

Code name	*Current carrying capacity, A							
	35°C ambient temperature				40°C ambient temperature			
	50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature	50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature
Apple	127	171	203	217	93	149	186	201
Banana	166	226	270	288	120	196	246	267
Cherry	221	304	364	389	157	263	332	360
Pig	292	406	488	523	204	350	444	482
Grape	270	375	451	483	188	323	410	446
Lemon	335	471	568	609	229	405	517	562
Lychee	369	521	630	675	249	447	572	623
Lime	402	570	690	740	268	488	626	682
Mango	470	672	815	874	309	574	739	806
Orange	516	741	901	967	334	633	817	891
Olive	561	811	988	1061	359	691	895	977

*Note: Current carrying capacity is based to the following conditions

- Frequency: 50Hz
- Solar absorption coefficient: 0.5
- Emissivity: 0.5
- Wind speed: 1.0m/s
- Solar radiation: 1000W/m²
- Current carrying capacity values calculated as per IEC 61597

Aluminium Alloy Conductors, Aluminium-clad Steel Reinforced (AACSR/AC-1120)



Properties:

Aluminium conductors manufactured to AS 3607

The centre wire or wires are of aluminium-clad steel and the outer layer or layers are of aluminium alloy 1120

Structural Parameters:

Structure		Overall diameter	Calculated area			Approx. mass of conductor	Rated strength, Min	DC resistance at 20°C	AC resistance at 50Hz, 75°C	Calculated elasticity modulus	Coefficient of linear expansion
Alloy	ACS		Alloy	ACS	Total						
No./mm	No./mm	mm	mm ²	mm ²	mm ²	kg/km	kN	Ω/km	Ω/km	GPa	1/°C
6/3.00	1/3.00	9.0	42.41	7.07	49.48	163	18.4	0.662	0.8040	79	20.1E-06
6/3.75	1/3.75	11.3	66.27	11.04	77.31	254	27.6	0.424	0.5150	79	20.1E-06
6/4.75	7/1.60	14.3	106.32	14.07	120.4	385	40.0	0.267	0.3245	76	20.6E-06
18/3.50	1/3.50	17.5	173.18	9.62	182.8	540	51.5	0.169	0.2056	69	21.8E-06
30/2.50	7/2.50	17.5	147.26	34.36	181.6	636	75.2	0.188	0.2285	82	19.4E-06
30/3.00	7/3.00	21.0	212.06	49.48	261.5	913	108	0.130	0.1581	82	19.4E-06
30/3.25	7/3.25	22.8	248.87	58.07	306.9	1070	127	0.111	0.1351	82	19.4E-06
30/3.50	7/3.50	24.5	288.63	67.35	356	1240	143	0.0961	0.1170	82	19.4E-06
54/3.00	7/3.00	27.0	381.70	49.48	431.2	1380	150	0.0750	0.0916	75	20.6E-06
54/3.25	7/3.25	29.3	447.97	58.07	506.0	1620	176	0.0639	0.0782	75	20.6E-06
54/3.50	7/3.50	31.5	519.54	67.35	586.9	1880	197	0.0552	0.0678	75	20.6E-06

Current Ratings:

Structure		*Current carrying capacity, A							
Alloy	ACS	35°C ambient temperature				40°C ambient temperature			
		50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature	50°C operation temperature	60°C operation temperature	70°C operation temperature	75°C operation temperature
6/3.00	1/3.00	130	176	209	223	96	153	191	206
6/3.75	1/3.75	171	233	278	298	124	202	254	275
6/4.75	7/1.60	226	311	372	398	161	269	339	368
18/3.50	1/3.50	296	411	494	529	206	354	450	488
30/2.50	7/2.50	280	390	469	501	196	336	426	463
30/3.00	7/3.00	349	491	592	634	238	422	538	585
30/3.25	7/3.25	384	542	655	702	259	465	595	647
30/3.50	7/3.50	418	593	718	770	279	508	652	709
54/3.00	7/3.00	481	687	833	894	316	587	756	823
54/3.25	7/3.25	528	758	922	990	342	647	836	911
54/3.50	7/3.50	574	830	1010	1085	367	707	915	999

*Note: Current carrying capacity is based to the following conditions

- Frequency: 50Hz
- Solar absorption coefficient: 0.5
- Emissivity: 0.5
- Wind speed: 1.0m/s
- Solar radiation: 1000W/m²
- Current carrying capacity values calculated as per IEC 61597

Optical Fibre Composite Overhead Ground Wire (OPGW)

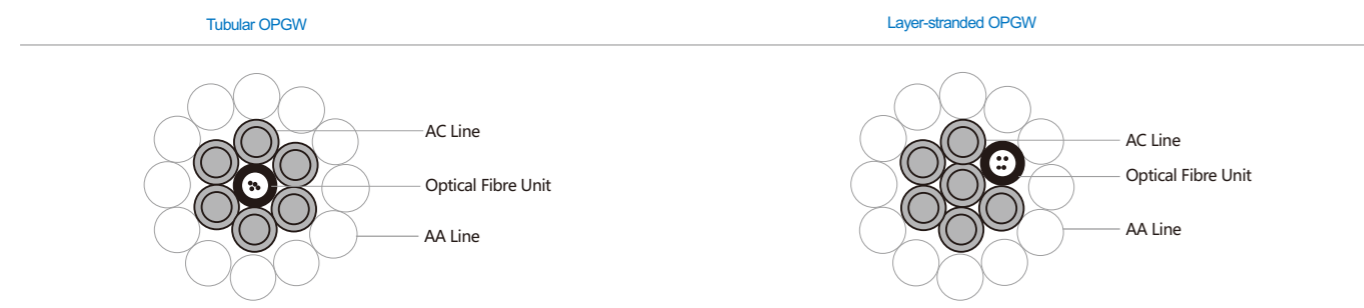


Optical fibre composite overhead ground wire (OPGW) includes fibre and at the same time maintains all the original performance and functions of the existing overhead ground wire which opens up the high-performance optical transmission channel, giving it both lightning-resistant and communication functions.

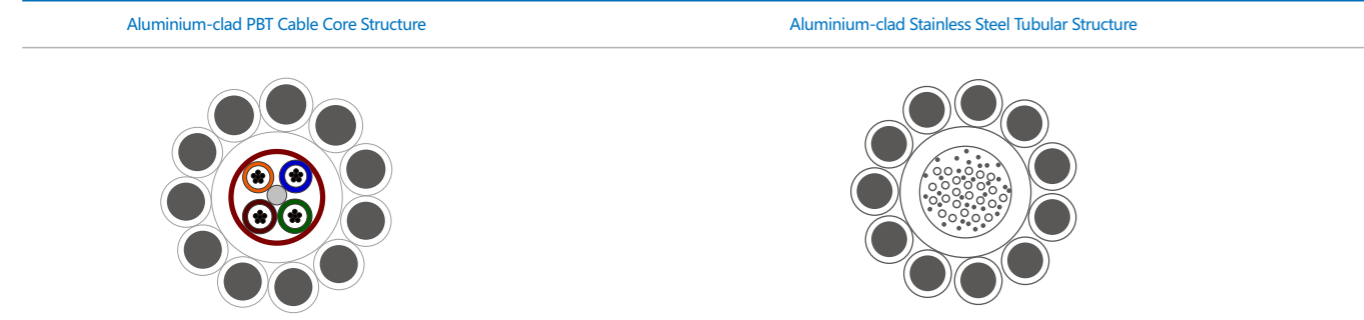
Properties:

Conductor: OPGW
Temperature range: -40°C to 60°C
Voltage rating: 11kV - 1100kV
According to IEEE 1138, IEC 60794-4

OPGW Cable Structure Type:



Aluminium-clad Optical Fibre Unit Structure:



Structure Parameters:

Model			OPGW-24B1-90	OPGW-24B1-100	OPGW-30B1-100	OPGW-30B1-100	OPGW-36B1-135	OPGW-36B1-135	OPGW-36B1-145	OPGW-36B1-145	OPGW-48B1-165	OPGW-48B1-165	
Structure parameters	Center	Center	1	1	1	1	1	1	1	1	1	1	
		Normal diameter	mm	2.6	2.6	2.85	2.85	3.2	3.2	3.3	3.3	3.5	3.8
		Material		20SA	20SA	20SA	20SA	20SA	20SA	20SA	20SA	20SA	20SA
	First layer	PCS		5	5	5	5	5	5	5	5	5	5
		Normal diameter	mm	2.5	2.5	2.75	2.75	3.1	3.1	3.2	3.2	3.4	3.6
		Material		20SA	20SA	20SA	20SA	20SA	40SA	20SA	40SA	20SA	20SA
	Second layer	PCS		12	11	11	11	12	12	12	12	12	12
		Normal diameter	mm	2.5	2.85	3.1	3.1	3.1	3.1	3.2	3.2	3.4	3.6
		Material		20SA	20SA	20SA	LHA2	20SA	40SA	20SA	40SA	20SA	20SA
	Stainless steel tube optical unit	PCS		1	1	1	1	1	1	1	1	1	1
		Normal diameter	mm	2.5	2.5	2.7	2.7	3	3	3.1	3.1	3.3	3.4
		Maximum quantity of optical fibre		24B1	24B1	30B1	30B1	36B1	36B1	36B1	36B1	48B1	48B1
Normal diameter			mm	12.6	13.3	14.55	14.55	15.6	15.6	16.1	16.1	17.1	18.2
Sectional area	Al-clad steel wire	mm ²	88.76	100.03	119.1	36.08	136.35	136.35	145.28	145.28	163.97	184.8	
	AA	mm ²	-	-	-	83.02	-	-	-	-	-	-	
	Total	mm ²	88.76	100.03	119.1	119.1	136.35	136.35	145.28	145.28	163.97	184.8	
Mass per unit length			kg/km	615.4	691.2	819.2	489.3	934.7	662.8	994.6	704.9	1125	1261.9
Rated breaking force			kN	107.04	120.63	143.64	68	164.44	83.45	174.97	88.91	193.32	211.15
20°C DC resistance			Ω/km	0.9718	0.8626	0.7244	0.3421	0.6326	0.3215	0.5937	0.3018	0.526	0.4678
Elastic Modulus			Gpa	162	162	162	94.38	162	109	162	109	162	162
Linear expansion coefficient				13	13	13	17.8	13	15.5	13	15.5	13	15.5
Short circuit current thermal capacity				34.88	44.3	62.8	114.01	82.31	127.76	93.44	145.03	119.03	150.51

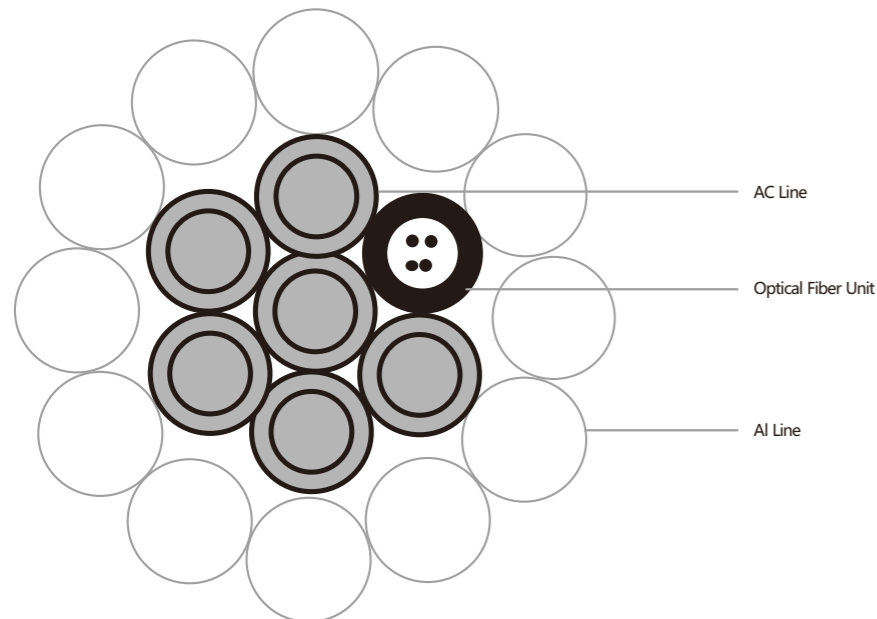
Optical Fibre Composite Overhead Phase Conductor (OPPC)



Optical fibre composite overhead phase conductor (OPPC) is a new type of special power composite cable which combines optical fibre unit and traditional phase conductor in the wire.

Properties:

Conductor: OPPC
Temperature range: -40°C to 70°C
Voltage rating: 10kV - 220kV
According to IEEE 1138, IEC 60794-4

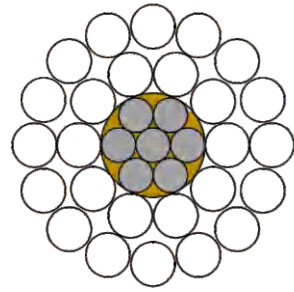


Structure Parameters:

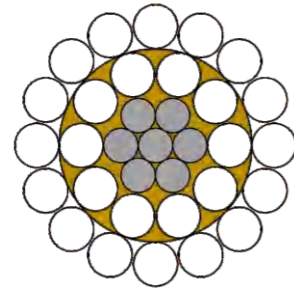
Model			OPPC-16B1-85/25	OPPC-16B1-90/25	OPPC-16B1-95/25	OPPC-16B1-110/25	OPPC-16B1-120/25	OPPC-16B1-150/25	OPPC-16B1-150/30	OPPC-16B1-185/25	OPPC-16B1-185/40	OPPC-16B1-210/25	OPPC-16B1-210/30	OPPC-16B1-240/30	OPPC-16B1-240/50	OPPC-20B1+4A1a-400/35	
Structure parameters	Center	PCS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
		Normal diameter	mm	2.3	2.4	3.25	2.35	2.4	2.35	2.55	2.35	2.85	2.3	2.55	2.45	3.25	2.5
		Material		20AS	20AS	14AS	20AS	20AS	20AS	14AS	20AS	14AS	20AS	14AS	20AS	14AS	14AS
	First layer	PCS	5	5	5	5	5	5	5	5	5	5	5	5	5	5	15
		Normal diameter	mm	2.3	2.4	3.25	2.35	2.4	2.35	2.55	2.35	2.85	2.3	2.55	2.45	3.25	2.5
		Material		20AS	20AS	20AS	20AS	20AS	20AS	14AS	20AS	14AS	20AS	14AS	20AS	14AS	SUSLGI4
	Stainless steel tube optical unit	PCS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		Normal diameter	mm	2.3	2.4	3.25	2.35	2.4	2.35	2.55	2.35	2.85	2.3	2.55	2.45	3.25	2.5
		Maximum quantity of optical fibre		16B1	20B1	48B1	16B1	20B1	16B1	24B1	16B1	30B1	16B1	24B1	20B1	48B1	20B1+A1a
	Second layer	PCS	9	9	12	8	8	11	12	10	12	9	10	9	12	10	10
		Normal diameter	mm	2.45	3.6	3.2	4.2	4.35	2.6	2.55	3	2.8	3.35	3.22	3.6	3.2	3.22
		Material		AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	HAL
	Third layer	PCS	/	/	/	/	/	17	18	16	18	15	16	15	18	22	22
		Normal diameter	mm	/	/	/	/	/	2.6	2.55	3	2.8	3.35	3.22	3.6	3.2	3.22
		Material		/	/	/	/	/	AL	AL	AL	AL	AL	AL	AL	AL	HAL
Normal diameter		mm	13.8	14.4	16.5	15.45	15.9	17.45	17.85	19.05	19.75	20.3	20.53	21.75	22.56	26.82	
Sectional area	Al-clad steel wire	mm ²	84.13	91.61	96.51	110.84	118.89	148.66	153.21	183.78	184.73	211.54	211.73	244.29	241.27	294.5	
	Al	mm ²	24.93	27.14	49.77	26.02	27.14	26.02	30.64	26.02	38.28	24.93	30.64	28.29	49.77	390.88	
	Total	mm ²	109.1	118.8	146.3	136.9	146.0	174.7	183.9	209.8	223.0	236.5	242.4	272.6	291.0	420.3	
Mass per unit length		kg/km	410	446	645	491	521	597	659	693	803	762	819	875	1045	1321	
Rated breaking force		kN	42.2	45.9	83.3	47.3	49.9	54.1	67.3	58.7	82.2	63.9	74.3	73.1	104.2	103.9	
20°C DC resistance		Ω/km	0.3106	0.2852	0.2665	0.2101	0.2242	0.1831	0.1799	0.1496	0.1489	0.1309	0.1317	0.1135	0.1141	0.0725	
Reference carrying capacity	40~70°C		251	265	281	293	305	344	349	387	391	415	419	456	459	620	
	40~80°C		307	233	345	359	374	423	430	478	484	515	519	567	571	760	
	40~90°C		352	371	397	415	430	487	195	552	560	595	601	657	663	869	
Conduct wire			LGI-95/15	LGI-95/20	LGI-95/55	LGI-120/20	LGI-120/25	LGI-150/25	LGI-150/35	LGI-185/45	LGI-210/25	LGI-210/25	LGI-210/35	LGI-240/30	LGI-240/55	LGI-400/35	

Conductor Greasing

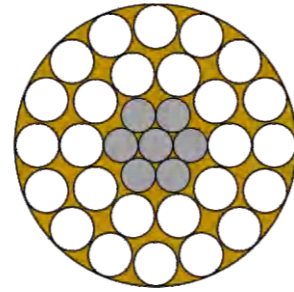
When grease is required for bare conductors to reduce the risk of corrosion, Hengtong has developed a manufacturing application allowing us to calculate and control the required mass of grease following the IEC 61089 Standard. The process eliminates "grease holidays" and other substandard applications of grease which can lead to advanced corrosion and premature conductor aging, a common conductor ailment known to shave 40% to 50% off the conductor lifespan.



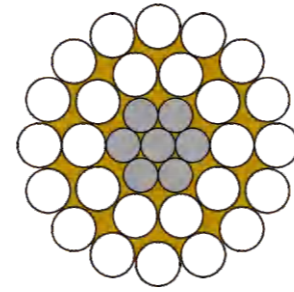
Case 1



Case 2



Case 3



Case 4

Case 1: Steel core only greased.

Case 2: All the conductor is greased except the outer layer.

Case 3: All the conductor is greased including the outer layer.

Case 4: All the conductor is greased except the outer surface of the wires in the outer layer.

