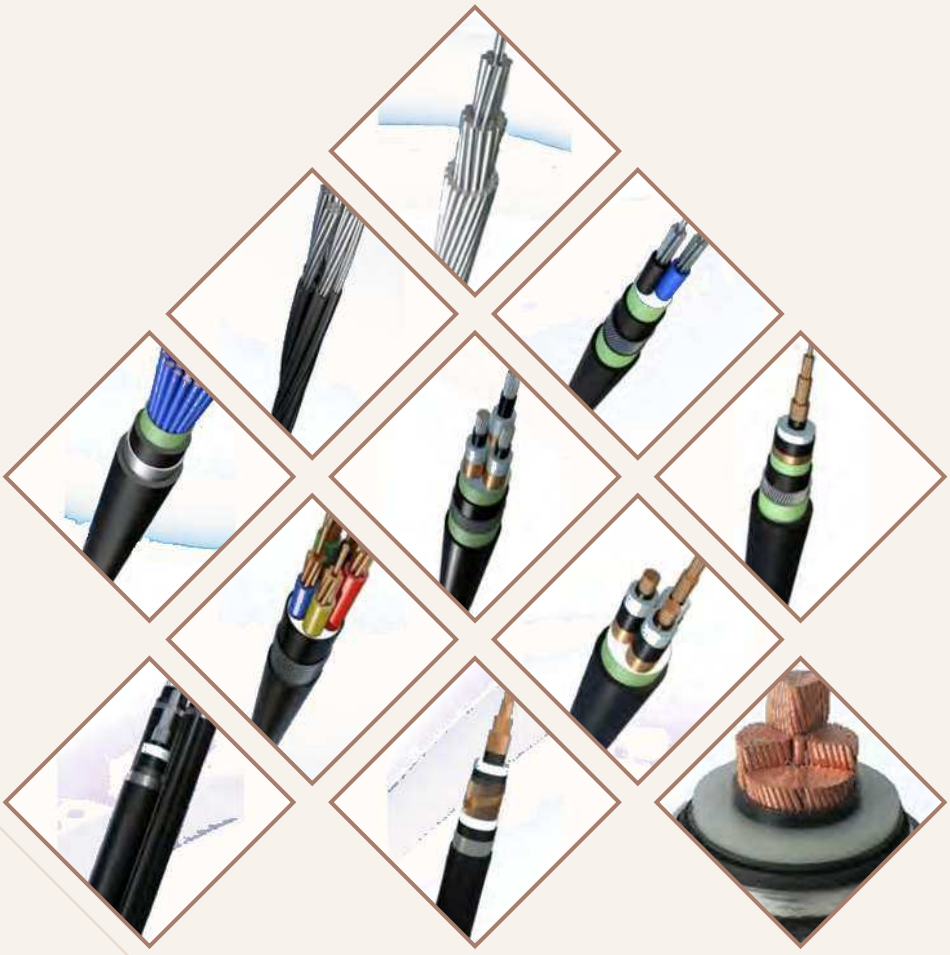
IMPERIUM
GLOBAL SOLUTIONS

CABLE & CONDUCTOR

PRODUCT CATALOGUE

OVERHEAD CONDUCTORS · POWER CABLES · MINING · SOLAR · SUBMARINE



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About Imperium Global Solutions

Imperium Global Solutions offers a comprehensive range of cables and conductors for power transmission and distribution, industrial installations, infrastructure, mining and renewable-energy projects. This catalogue brings together our product families, from bare overhead conductors and insulated aerial cables to medium- and high-voltage power cables, solar and submarine cables, together with the technical characteristics needed to select the right product.

Most products can be designed and produced according to the specific requirements of the customer, in line with international standards such as IEC, ASTM, BS, DIN, NFC, AS/NZS, CSA, UL and GB/T. Contact us with the details of your project and we will help you find the most suitable solution.

PRODUCT FAMILIES

1. Bare Conductor
2. Overhead Insulated Cable
3. UL Listed Cable
4. Cables & Wires for Electric Equipment
5. PVC Insulated Cables 450/750 V
6. Rubber Insulated Cables 450/750 V
7. Power Cables 0.6/1 kV – 500 kV
8. URD Cable
9. Concentric Cable
10. Mining Cable
11. Solar Cable
12. Submarine Cable
13. Other Cables

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1.1AAC/AAAC Conductor

Application:

AAC:Mainly for bare conductors usually used in overhead lines.
AAAC:Used as bare overhead conductor for primary and secondary distribution. Designed utilizing a high strength aluminum alloy to achieve a high strength-to-weight ratio; affords better sag characteristic. Aluminum alloy gives AAAC higher resistance to corrosion than ACSR.

Applicable standards:

AAC: ASTM B 231, BS EN-50182, AS/NZS 1531, DIN 48201, CSA 61089, IEC 61089, GB/T 1179,BS215 or the standards agreed by both of the customers and us.

AAAC: ASTM B-399, BS EN-50182, AS/NZS 1531, DIN 48201, CSA 61089, IEC 61089, GB/T 1179,BS3242, NFC 34-125 or the standards agreed by both of the customers and us.

Production Scope:

Max. Cross-Section 5000MCM/2500mm^2, Max. Stranded number 127Nos.

Construction:

For AAC: Aluminium wires, concentrically stranded;
For AAAC: Aluminum alloy wires, concentrically stranded.
* We can design and produce according to client's requirement.





Technical characteristics of AAC / British Sizes-BS 215

Code Name	Nominal Aluminum Area	Stranding and Wire Diameter	Overall Diameter	Mass per unit length	Rated strength,Min	Maximum D.C. Resistance at 20°C
	mm^2	No/mm	mm	kg/km	KN	Ω/km
Midge	22	7/2.06	6.18	64	3.99	1.2270
Aphis	25	7/3.35	7.20	73	4.11	1.0810
Gnat	25	7/2.21	6.60	73	4.59	1.0660
Weevil	30	3/3.66	7.90	86	4.86	0.9082
Mosquito	35	7/2.59	7.80	101	6.03	0.7762
Ladybird	40	7/2.79	8.40	117	6.87	0.6689
Ant	50	7/3.10	9.30	145	8.28	0.5419
Fly	60	7/3.40	10.20	174	9.90	0.4505
Bluebottle	70	7/3.66	11.00	202	11.34	0.3881
Earwig	75	7/3.78	11.40	215	11.94	0.3644
Grasshopper	80	7/3.91	11.70	230	12.78	0.3406
Clegg	90	7/4.17	12.50	262	14.53	0.2994
Wasp	100	7/4.39	13.17	290	16.00	0.2702
Beetle	100	19/2.67	13.40	293	17.42	0.2704
Bee	125	7/4.90	14.70	361	19.94	0.2169
Cricket	150	7/5.36	16.10	432	23.85	0.1818
Hornet	150	19/3.25	16.25	434	25.70	0.1825
Caterpillar	175	19/3.53	17.70	512	28.63	0.1547
Chafer	200	19/3.78	18.90	587	32.40	0.1349
Spider	225	19/3.99	20.00	652	36.01	0.1211
Cockroach	250	19/4.22	21.10	731	40.40	0.1083
Butterfly	300	19/4.65	23.25	888	48.75	0.0892
Moth	350	19/5.00	25.00	1027	56.37	0.0771
Drone	350	37/3.58	25.10	1029	57.45	0.0774
Locust	400	19/5.36	26.80	1179	64.73	0.0671
Centipede	400	37/3.78	26.46	1145	63.10	0.0694
Maybug	450	37/4.09	28.60	1342	74.01	0.0593
Scorpion	500	37/4.27	29.90	1460	79.98	0.0544
Cicada	600	37/4.65	32.60	1733	94.95	0.0459
Tarantula	750	37/5.23	36.60	2191	120.10	0.0363

Technical characteristics of AAC / U.S.A Sizes-ASTMB231

Code Name	Total Area		Stranding and wire diameter	Overall Diameter	Mass per unit length	Rated strength,Min	Maximum D.C. Resistance at 20°C
	AWG or MCM	mm^2	No/mm	mm	Kg/km	KN	Ω/km
Peachbell	6	13.30	7/1.56	4.67	37	2.49	2.1692
Rose	4	21.16	7/1.96	5.89	58	3.96	1.3624
Iris	2	33.61	7/2.47	7.42	93	5.97	0.8577
Pansy	1	42.39	7/2.78	8.33	117	7.32	0.6801
Poppy	1/0	53.48	7/3.12	9.36	147	8.73	0.5390
Aster	2/0	67.42	7/3.50	10.51	186	110	0.4276
Phlox	3/0	85.03	7/3.93	11.80	234	13.47	0.3390
Oxlip	4/0	107.23	7/4.42	13.26	296	16.98	0.2688
Valerian	250	126.71	19/2.91	14.57	349	20.62	0.2275
Sneezewort	250	126.71	7/4.80	14.40	349	20.07	0.2275
Laurel	266.8	135.16	19/3.10	15.05	373	22	0.2133
Daisy	266.8	135.16	7/4.96	14.90	373	21.41	0.2133
Peony	300	152.00	19/3.19	15.97	419	24.03	0.1896
Tulip	336.4	170.45	19/3.38	16.91	470	26.95	0.1691
Daffodil	350	177.35	19/3.45	17.24	489	28.04	0.1625
Canna	397.5	201.42	19/3.67	18.36	555	31.84	0.1431
Goldentuft	450	228.00	19/3.91	19.55	629	34.99	0.1264
Syringa	477	241.68	37/2.88	20.19	666	38.49	0.1193
Cosmos	477	241.68	19/4.02	20.12	666	37.08	0.1193
Hyacinth	500	253.35	37/2.95	20.65	698	40.35	0.1138
Zinnia	500	253.35	19/4.12	20.60	698	38.88	0.1138
Dahlia	556.5	282.00	19/4.35	21.73	777	43.27	0.1022
Mistletoe	556.5	282.00	37/3.12	21.79	777	43.62	0.1022
Meadowsweet	600	304.00	37/3.23	22.63	838	47.03	0.0948
Orchid	636	322.25	37/3.33	23.31	888	49.85	0.0894
Flag	700	354.71	61/2.72	24.48	978	51.46	0.0813
Verbena	700	354.71	37/3.49	24.45	978	54.87	0.0813
Nasturtium	715.5	362.58	61/2.75	24.76	1000	58.74	0.0795
Violet	715.5	362.58	37/3.53	24.74	1000	56.09	0.0795
Cattail	750	380.00	61/2.82	25.35	1048	59.85	0.0759
Petunia	750	380.00	37/3.62	25.32	1048	58.75	0.0759
Lilac	795	402.84	61/2. 90	26.11	1111	63.45	0.0715
Arbutus	795	402.84	37/3.72	26.06	1111	62.32	0.0715
Snapdragon	900	456.06	61/3.09	27.78	1257	69.78	0.0632
Cockscomb	900	456.06	37/3.96	27.73	1257	68.48	0.0632
Goldenrod	954	483.42	61/3.18	28.60	1333	78.96	0.0596
Magnolia	954	483.42	37/4.08	28.55	1333	72.58	0.0596
Camellia	1000	506.71	61/3.25	29.36	1397	77.53	0.0569
Hawkweed	1000	506.71	37/4.18	29.23	1397	76.08	0.0569
Larkspur	1033.5	523.68	61/3.31	29.76	1444	80.12	0.0550
Bluebell	1033.5	523.68	37/4.25	29.72	1444	78.63	0.0550
Marigold	1113	563.93	61/3.43	30.89	1555	86.28	0.0511
Hawthorn	1192.5	604.26	61/3.55	31.05	1666	92.45	0.0477
Narcissus	1272	644.51	61/3.67	33.02	1777	98.61	0.0477
Columbine	1351.5	684.84	61/3.78	34.01	1888	104.78	0.0421
Carnation	1431	725.10	61/3.89	35.03	1999	107.68	0.0398
Gladiolus	1510.5	765.35	61/4.00	35.09	2110	113.65	0.0376
Coreopsis	1590	805.68	61/4.10	36.51	2221	119.64	0.0358
Jessamine	1750	886.71	61/4.30	38.73	2445	131.68	0.0325
Cowslip	2000	1013.42	91/3.77	41.40	2791	153	0.0285
Lupine	2500	1266.67	91/4.21	46.30	3524	187	0.0230
Trilium	3000	1520.13	127/3.90	50.75	4232	225	0.0192
Blue Bonnet	3500	1773.50	127/4.22	54.80	4985	262	0.0166

Technical characteristics of AAAC / NFC34-125

Code Name	Actual section	Stranding and Wire Diamete	Overall Diameter	Mass per unit length	Rated strength,Min	Maximum D.C. Resistance at 20℃
	mm²	No/mm	mm	kg/km	KN	Ω/km
ASTER 22	21.99	7/2.0	6	60.2	7.15	1,498
ASTER 34.4	34.36	7/2.5	7.5	93.5	11.17	0.959
ASTER 54.6	54.55	7/3.15	9.45	148.9	17.73	0.604
ASTER 75.5	75.54	19/2.25	11.3	207.4	24.55	0.438
ASTER 117	116.98	19/2.80	14	321.2	38.02	0.283
ASTER 148	148.01	19/3.15	15.8	406.6	48.12	0.223
ASTER 181.6	181.62	37/2.50	17.5	500.3	59.03	0.183
ASTER 228	227.83	37/2.80	19.6	627.6	74.04	0.146
ASTER 288	288.34	37/3.15	22.1	794.3	93.71	0.115
ASTER 366	366.22	37/3.55	24.9	1.008.9	115.36	0.09
ASTER 570	570.22	61/3.45	31.1	1.576.0	185.33	0.058
ASTER 851	850.66	91/3.45	38	2.360.7	276.47	0.039
ASTER 1144	1143.5	91/4.0	44	3.173.4	360.22	0.029
ASTER 1600	1595.9	127/4.0	52	4.427.5	502.72	0.021

Technical characteristics of AAAC / U.S.A Sizes-ASTMB399

Code Name	Conductor size		Stranding and Wire Diamete	Section area	Overall Diameter	Mass per unit length	Rated strength Min	Maximum D.C. Resistance at 20℃
	Nominal	Actual	No./mm	mm^2	mm	Kg/km	KN	Ω/km
	AWG (MCM)	mm2						
Akron	30.58	15.5	7/1.68	15.51	5.04	42.7	4.92	2.15980
Alton	48.69	24.7	7/2.12	24.67	6.35	67.56	7.84	1.58600
Ames	77.47	39.3	7/2.67	39.26	8.02	107.50	12.5	0.85470
Azusa	123.3	62.5	7/3. 37	62.46	10.11	171.00	19.0	0.53650
Anaheim	155.4	78.7	7/3.78	78.75	11.35	215.16	24.0	0.42640
Amherst	195.7	99.2	7/4.25	99.20	12.75	271.50	30.2	0.33730
Alliance	246.9	125.1	7/4.77	125.10	14.30	342.60	38.1	0.26780
Butte	312.8	158.6	19/3.26	158.50	16.31	434.00	46.7	0.21120
Canton	394.5	199.9	19/3.66	199.00	18.31	547.40	59.0	0.16760
Cairo	456.4	236.4	19/3.98	235.80	19.89	645.70	69.6	0.14310
Darien	559.5	283.5	19/4.36	283.50	21.79	776.30	83.6	0.11810
Elgin	652.4	330.6	19/4.71	330.60	23.55	970.60	97.5	0.10120
Flint	740.8	375.4	37/3.59	375.40	25.15	1028.00	108	0.08944
Greeley	927.2	469.8	37/4.02	469.80	28.14	1287.00	136	0.07133

1.2 ACSR/AACSR /TACSR /ACSR-AW Conductor

Application:

ACSR. AACSR.ACSR/AW:Used for overhead transmission and distribution lines. Also, as neutral messenger for low voltage multiplex cables.
TACSR:It is especially suitable for busbars for large current transmission such as substations and power plants, which can save project investment.

Applicable Standards:

ASTM B-232, ASTM B 549 BS EN-50182, CSA C 61089, AS/NZS 3607, DIN 48204, IEC 61089, GB/T 1179.CSA C49.2-10,ASTM B711or the standards agreed by both of the customers and us.

Production Scope:

Max. cross-section 3500MCM/1750mm2, Max. Stranded Number 127Nos.

Construction:

For ACSR: Aluminium wires,concentrically stranded around galvanize coated steel core wire.
For AACSR: Aluminium alloy wires, concentrically stranded around galvanize coated steel core wire.
For TACSR: Thermal resistant aluminium alloy wires, concentrically stranded around galvanize coated steel core wire.
For ACSR/AW: Aluminium wires,concentrically stranded around aluminium clad steel reinforced galvanize coated steel
* We can design and produce according to client's requirement.





Technical characteristics of ACSR / U.S.A Sizes - ASTM B232

Code name	Area				Stranding and wire diameter		Overall diameter	Mass per unit length	Rated strength, Min	Maximum D.C. Resistance at 20°C
	Aluminum		Steel	Total	Aluminum	Steel				
	AWG or MCM	mm^2	mm^2	mm^2	No/mm	No/mm	mm	kg/km	KN	Ω/km
wren	8	8.34	1.39	9.73	6/1.33	1/1.33	3.99	33.7	3.08	3.4304
Turkey	6	13.29	2.19	15.48	6/1.68	1/1.68	5.04	54.0	5.24	2.1586
Swan	4	21.16	3.55	24.71	6/2.12	1/2.12	6.36	85.0	8.32	1.3557
Swante	4	21.16	5.35	26.50	7/1.96	1/2.61	6.53	100.0	10.53	1.3557
Swallow	3	26.69	4.45	31.14	6/2.38	1/2.38	7.14	107.9	10.21	1.0712
Sparrow	2	33.61	5.61	39.22	6/2.67	1/2.67	8.01	136.0	12.70	0.8535
Sparate	2	33.61	8.52	42.13	7/2.47	1/3.30	8.24	159.0	16.11	0.8535
Robin	1	42.39	7.10	49.49	6/3.00	1/3.00	9.00	171.0	15.85	0.6767
Raven	0	53.48	8.90	62.38	6/3.37	1/3.37	10.11	216.0	19.32	0.5364
Quail	2/0	67.42	11.23	78.65	6/3.78	1/3.78	11.34	273.0	23.62	0.4255
Pigeon	3/0	85.03	14.19	99.22	6/4.25	1/4.25	12.75	343.0	29.41	0.3373
Penguin	4/0	107.23	17.87	125.10	6/4.77	1/4.77	14.31	433.0	37.06	0.2675
Waxwing	266.800	135.16	7.48	142.64	18/3.09	1/3.09	15.45	431.0	30.27	0.2133
Partridge	266.800	135.16	22.00	157.16	26/2.57	7/2.00	16.28	546.0	50.29	0.2143
Ostrich	300.000	152.00	24.71	176.71	26/2.73	7/2.12	17.28	614.0	56.52	0.1906
Merlin	336.400	170.45	9.48	179.93	18/3.47	1/3.47	17.35	544.0	38.23	0.1691
Linnet	336.400	170.45	27.81	198.26	26/2.89	7/2.25	18.31	689.0	62.71	0.1699
Oriole	336.400	170.45	39.81	210.26	30/2.69	7/2.69	18.83	784.0	77.45	0.1704
Chickadee	397.500	201.42	11. 16	212.58	18/3.77	1/3.77	18.85	642.0	43.99	0.1431
Brant	397.500	201.42	26.13	227.55	24/3.27	7/2.18	19.61	762.0	64.69	0.1438
Ibis	397.500	201.42	32.77	234.19	26/3.14	7/2.44	19.88	814.0	72.11	0.1438
Lark	397.500	201.42	46.97	248.39	30/2.92	7/2.92	20.44	927.0	88.69	0.1442
Pelican	477.000	241.68	13.42	255.10	18/4.12	1/4.14	20.70	771.0	52.16	0.1193
Flicker	477.000	241.68	31.29	272.97	24/3.58	7/2.39	21.49	915.0	76.66	0.1199
Hawk	477.000	241.68	39.42	281.10	26/3.44	7/2.67	21.79	978.0	86.65	0.1199
Hen	477.000	241.68	56.39	298.07	30/3.20	7/3.20	22.40	1112.0	105.34	0.1201
Osprey	556.500	282.00	15.68	297.68	18/4.47	1/4.47	22.35	899.0	60.88	0.1022
Parakeet	556.500	282.00	36.58	318.58	24/3.87	7/2.58	23.22	1067.0	88.22	0.1027
Dove	556.500	282.00	45.94	327.94	26/3.72	7/2.89	23.55	1140.0	101.03	0.1027
Eagle	556.500	282.00	65.81	347.81	30/3.46	7/3.46	24.21	1298.0	133.92	0.1030
Peacock	605.000	306.58	39.74	346.32	24/4.03	7/2.69	24.20	1160.0	95.88	0.0945
Squab	605.000	306.58	49.94	356.52	26/3.87	7/3.01	24.51	1240.0	108.41	0.0945
Wood duck	605.000	306.58	71.55	378.13	30/3.16	7/3.61	25.25	1411.0	128.84	0.0947
Teal	605.000	306.58	69.87	376.45	30/3.61	19/2.16	25.24	1399.0	133.59	0.0947
Kingbird	636.000	322.26	17.90	340.16	18/4.78	1/4.78	23.88	1028.0	69.56	0.0895
Rook	636.000	322.26	41.81	364.07	24/4.14	7/2.76	24.84	1219.0	100.83	0.0899
Grosbeak	636.000	322.26	52.45	374.71	26/3.97	7/3.09	25.15	1302.0	111.8	0.0899
Scoter	636.000	322.26	75.22	394.48	30/3.70	7/3.70	25.88	1484.0	135.44	0.0901
Egret	636.000	322.26	73.55	395.81	30/3.70	19/2.22	25.90	1470.0	140.55	0.0901
Swift	636.000	322.26	8.96	331.22	36/3.38	1/3.38	23.62	958.0	60.52	0.0895
Flamingo	666.600	337.74	43.81	381.55	24/4.23	7/2.82	25.40	1278.0	105.66	0.0858

Technical characteristics of ACSR / U.S.A Sizes - ASTM B232

Code name	Area				Stranding and wire diameter		Overall diameter	Mass per unit length	Rated strength, Min	Maximum D.C. Resistance at 20°C
	Aluminum		Steel	Total	Aluminum	Steel				
	AWG or MCM	mm^2	mm^2	mm^2	No/mm	No/mm	mm	kg/km	KN	Ω/km
Gannet	666.600	337.74	55.03	392.77	26/4.07	7/3.16	25.76	1365.0	117.33	0.0858
Stilt	715.500	362.58	46.97	409.55	24/4.39	7/2.92	26.31	1372.0	113.35	0.0799
Starling	715.500	362.58	59.03	421.61	26/4.21	7/3.28	26.68	1466.0	125.91	0.0799
Redwing	715.500	362.58	82.58	445.16	30/3.92	19/2.35	27.43	1653.0	153.94	0.0801
Tern	795.000	402.84	27.87	430.71	45/3.38	7/2.25	27.03	1333.0	97.37	0.0719
Condor	795.000	402.84	52.19	455.03	54/3.08	7/3.08	27.72	1524.0	124.45	0.0791
Cuckoo	795.000	402.84	52.19	455.03	24/4.62	7/3.08	27.74	1522.0	123.94	0.0719
Drake	795.000	402.84	65.51	468.45	26/4.44	7/3.45	28.11	1628	139.92	0.0719
Coot	795.000	402.84	11.16	414.00	36/3.77	1/3.77	26.41	1198	74.85	0.0716
Mallard	795.000	402.84	91.87	484.71	30/4.14	19/2.48	28.96	1838	171.15	0.0721
Ruddy	900.000	456.06	31.54	487.60	45/3.59	7/2.40	28.73	1510	109.31	0.0635
Canary	900.000	456.06	59.10	515.16	54/3.28	7/3.28	29.52	1724	140.95	0.0635
Rail	954.000	483.42	33.42	516.84	45/3.70	7/2.47	29.61	1601	115.85	0.0599
Catbird	954.000	483.42	13.42	496. 84	36/4.14	1/4.14	28.95	1438	87.66	0.0596
Cardinal	954.000	483.42	62.65	546. 07	54/3.38	7/3.38	30.42	1829	149.36	0.0599
Ortolan	1033.500	523.68	36.19	559. 87	45/3.85	7/2.57	30.81	1734	123.1	0.0533
Tanager	1033.500	523.68	14.51	538.19	36/4.30	1/4.30	30.12	1556	94.93	0.0550
Curlew	1033.500	523.68	67.87	591.55	54/3.52	7/3.52	31.68	1981	161.8	0.0553
Bluejay	1113.000	563.93	39.03	602.96	45/4.00	7/2.66	31.98	1868	132.63	0.0514
Finch.	1113.000	563.93	71.55	635.48	54/3.65	19/2.19	32.85	2130	174.41	0.0516
Bunting	1192.500	604.26	41.55	645.81	48/4.14	7/2.76	33.12	2001	141.79	0.0479
Grackle	1192.500	604.26	76.58	680.84	54/3.77	19/2.27	33.97	2282	186.78	0.0482
Bittern	1272.000	644.51	44.52	689.03	45/4.27	7/2.85	34.17	2134	151.48	0.0449
Pheasant	1272.000	644.51	81.63	726.19	54/3.90	19/2.34	35.10	2433	194.0	0.0452
Skylark	1272.000	644.51	17.87	662.38	36/4.78	1/4.78	33.42	1917	115.85	0.0447
Dipper	1351.500	684.84	47.10	731.94	45/4.40	7/2.92	35.16	2266	160.7	0.0423
Martin	1351.500	684.84	88.71	771.55	54/4.02	19/2.41	36.17	2585	206.05	0.0425
Bobolink	1431.000	725.10	50.32	775.42	45/4.53	7/3.02	36.24	2402	170.71	0.0399
Plover	1431.000	725.10	91.87	816.97	54/4.14	19/2.48	37.24	2738	218.24	0.0401
Nuthatch	1510.500	765.35	52.90	818.25	45/4.65	7/3.10	37.20	2534	177.89	0.0378
Parrot	1510.500	765.35	96.84	862.19	54/4.25	19/2.55	38.25	2890	230.2	0.0380
Lapwing	1590.000	805.68	55.48	861.16	45/4.77	7/3.18	38.16	2667	187.02	0.0360
Falcon	1590.000	805.68	102.10	907.81	54/4.36	19/2.62	39.26	3042	242.55	0.0361
Chukar	1780.000	902.70	73.51	902.72	84/3.70	19/2.22	40.70	3086	226.85	0.0325
BlueBird	2156.000	1092.00	88.80	1092.28	84/4.07	19/2.44	44.76	3733	268.3	0.0268
Kiwi	2167.000	1100.00	47.50	1099.20	72/4.41	7/2.94	44.07	3427	221.6	0.0268
Thrasher	2312.000	1170.80	65.15	1170.80	76/4.43	19/2.09	45.90	3767	253.0	0.0248

ACSR Technical characteristics / BS215

Code name	Nominal aluminum area mm^2	Stranding and wire diameter		Sectional area of aluminum	Sectional area of Steel	Total sectional area	Overall diameter	Mass per unit length	Rated strength,Min	Maximum D.C. Resistance at 20°C
		Aluminum	Steel							
		No/mm	No/mm	mm^2	mm^2	mm^2	mm	kg/km	KN	Ω/km
Mole	10	6/1.50	1/1.50	10.6	1.77	12.4	4.50	43	4.14	2.7060
Squirrel	20	6/2.11	1/2.11	20.9	3.50	24.4	6.33	85	7.88	1.3680
Gopher	25	6/2.36	1/2.36	26.2	4.37	30.6	7.08	106	9.61	1.0930
Weasel	30	6/2.59	1/2.59	31.6	5.27	36.9	7.77	128	11.46	0.9077
Fox	35	6/2.79	1/2.79	36.7	6.11	42.8	8.37	149	13.20	0.7822
Ferret	40	6/3.00	1/3.00	42.4	7.07	49.5	9.00	172	15.20	0.6766
Rabbit	50	6/3.35	1/3.35	52.9	8.81	61.7	10.05	214	18.35	0.5426
Mink	60	6/3.66	1/3.66	63.1	10.50	73.6	10.98	255	21.80	0.4545
Skunk	60	12/2.59	7/2.59	63.2	36.90	100.1	12.95	465	53.00	0.4567
Beaver	70	6/3.99	1/3.99	75.0	12.50	87.5	11.97	302	25.70	0.3825
Horse	70	12/2.79	7/2.79	73.4	42.83	116.2	13.95	538	61.2	0.3936
Racoon	75	6/4.1	1/4.1	78.8	13.10	92.0	12.30	320	27.2	0.3622
Otter	80	6/4.22	1/4.22	83.9	13.98	97.9	13.98	339	28.8	0.3419
Cat	90	6/4.50	1/4.50	95.4	15.90	111.3	15.90	386	32.7	0.3007
Hare	100	6/4.72	1/4.72	105.0	17.50	122.5	17.50	425	36.0	0.2733
Dog	100	6/4.72	7/1.57	105.0	13.60	118.5	14.15	394	32.7	0.2733
Hyena	100	7/4.39	7/1.93	105.8	20.40	126.2	14.57	450	40.9	0.2712
Leopard	125	6/5.28	7/1.75	131.3	16.80	148.1	15.81	492	40.7	0.2184
Coyote	125	26/2.54	7/1.91	132.1	20.10	152.2	15.89	522	46.4	0.2187
Congar	125	18/3.05	1/3.05	130.3	7.20	137.5	15.25	419	29.8	0.2189
Tiger	125	30/2.36	7/2.36	131.1	30.60	161.7	16.52	602	58.0	0.2202
Dingo	150	18/3.35	1/3.35	158.7	8.80	167.5	16.75	506	35.7	0.1815
Wolf	150	30/2.59	7/2.59	158.1	36.80	194.9	18.13	726	69.2	0.1828
Caracal	175	18/3.61	1/3.61	184.3	10.20	194.5	18.05	587	41.1	0.1563
Lynx	175	30/2.79	7/2.79	183.4	42.80	226.2	19.53	842	79.8	0.1576
Jaguar	200	18/3.86	1/3.86	210.6	11.70	222.3	19.30	671	46.65	0.1367
Panther	200	30/3.00	7/3.00	212.1	49.40	261.5	21.00	974	92.25	0.1363
Lion	225	30/3.18	7/3.18	238.5	55.70	294.2	22.26	1095	100.6	0.1212
Bear	250	30/3.35	7/3.35	264.4	61.70	326.1	23.45	1213	111.1	0.1093
Goat	300	30/3.71	7/3.71	324.3	75.70	400.0	25.97	1489	135.7	0.0891
Sheep	350	30/3.99	7/3.99	375.1	87.50	462.6	27.93	1718	155.9	0.0770
Antilope	350	54/2.97	7/2.97	374.1	48.50	422.6	26.73	1411	118.2	0.0773
Bison	350	54/3.00	7/3.00	381.7	49.50	431.2	27.00	1444	120.9	0.0757
Deer	400	30/4.27	7/4.27	429.6	100.20	529.8	28.89	1971	178.5	0.0673
Zebra	400	54/3.18	7/3.18	428.9	55.60	484.5	28.62	1621	131.9	0.0674
ELK	450	30/4.50	7/4.50	477.1	111.30	588.5	31.50	2190	198.2	0.0606
Camel	450	54/3.35	7/3.35	476.0	61.70	537.7	30.15	1799	145.7	0.0607
Moose	500	54/3.53	7/3.53	528.5	68.50	597.0	31.77	1999	161.1	0.0547
Finch	500	54/3.65	19/2.29	565.0	78.30	643.30	33.35	2243	180.7	0.0512

Technical characteristics of ACSR/AW / U.S.A Sizes - ASTM B549

Code name	Area				Stranding and wire diameter		Overall diameter	Mass per unit length	Rated strength,Min	Maximum D.C. Resistance at 20°C
	Aluminum		AW	Total	Aluminum	Steel				
	AWG or MCM	mm^2	mm^2	mm^2	No/mm	No/mm	mm	kg/km	KN	Ω/km
Swanate/AW	4	21.16	5.35	26.51	7/1.96	1/2.61	6.53	93.0	10.1	1.2490
Sparrow/AW	2	33.61	5.61	39.22	6/2.67	1/2.67	8.01	129.0	12.3	0.8079
Sparate/AW	2	33.61	8.52	42.13	7/2.47	1/3.30	8.24	148.0	15.60	0.7861
Robin/AW	1	42.39	7.10	49.49	6/3.00	1/3.00	9.00	163.0	15.3	0.6404
Raven/AW	1/0	53.48	8.90	62.38	6/3.37	1/3.37	10.11	206.0	18.9	0.5078
Quail/AW	2/0	67.42	11.23	78.65	6/3.78	1/3.78	11.34	259.0	22.80	0.4028
Pigeon/AW	3/0	85.03	14.19	99.22	6/4.25	1/4.25	12.75	327.0	28	0.3193
Penguin/AW	4/0	107.23	17.87	125.10	6/4.77	1/4.77	14.31	412.0	34.2	0.2532
Waxwing/AW	266.800	135.19	7.48	142.64	18/3.09	1/3.09	15.45	421.0	30.3	0.2094
Partridge /AW	266.800	135.19	21.99	157.18	26/2.57	7/2.00	16.28	519.0	48.0	0.2023
Ostrich/AW	300.000	152.01	24.70	176.71	26/2.73	7/2.12	17.28	583.0	53.8	0.1800
Merlin/AW	336.400	170.45	9.48	179.93	18/3.47	1/3.47	17.35	532.0	38	0.1660
Linnet/AW	336.400	170.45	21.81	198.26	26/2.89	7/2.25	18.31	656.0	60	0.1610
Oriole /AW	336.400	170.45	39.81	210.26	30/2.69	7/2.69	18.83	737.0	74.3	0.1578
Chickadee/AW	397.500	201.42	11.16	212.58	18/3.77	1/3.77	18.85	628.0	43.5	0.1405
Brant/AW	397.500	201.42	26.13	227.55	24/3.27	7/2.18	19.62	731.0	62.7	0.1373
Ibis/AW	397.500	201.42	32.77	234.19	26/3.14	7/2.44	19.88	775.0	70.3	0.1363
Lark/AW	397.500	201.42	46.97	248.39	30/2.92	7/2.92	20.44	869.0	87.2	0.1335
Pelican/AW	477.000	241.70	13.42	255.12	18/4.14	1/4.14	20.70	755.0	51.2	0.1171
Flicker/AW	477.000	241.70	31.29	272.99	24/3.58	7/2.39	21.49	877.0	74.3	0.1148
Hawk/AW	477.000	241.70	39.42	281.12	26/3.44	7/2.67	21.80	929.0	84.1	0.1136
Hen/AW	477.000	241.70	56.39	298.09	30/3.20	7/3.20	22.40	1043.0	104.1	0.1113
Osprey/AW	556.500	281.98	15.68	297.66	18/4.47	1/4.47	22.35	880.0	58.7	0.1003
Parakeet/AW	556.500	281.98	36.58	318.56	24/3.87	7/2.58	23.22	1022.0	85.8	0.0984
Dove/AW	556.500	281.98	45.94	327.92	26/3.72	7/2.89	23.55	1083.0	97.4	0.0973
Eagle /AW	556.500	281.98	65.81	347.79	30/3.46	7/3.46	24.21	1217.0	119.2	0.0954
Peacock /AW	605.000	306.55	39.74	346.29	24/4.03	7/2.69	24.20	1112.0	93.4	0.0905
Squab/AW	605.000	306.55	49.94	356.49	26/3.87	7/3.01	24.51	1177.0	105	0.0995
Wood duck /AW	605.000	306.55	71.55	378.10	30/3.61	7/3.61	25.25	1323.0	126.3	0.0877
Teal/AW	605.000	306.55	69.62	376.17	30/3.61	19/2.16	25.24	1314.0	126.8	0.0876
Kingbird/AW	636.000	322.26	17.90	340.16	18/4.78	1/4.78	23.88	1006.0	66.7	0.0878
Grosbeak/AW	636.000	322.26	52.45	374.71	26/3.97	7/3.09	25.15	1238.0	110.3	0.0852
Flamingo/AW	666.600	337.77	43.81	381.58	24/4.23	7/2.82	25.40	1225.0	102.7	0.0821
Gannet/AW	666.600	337.77	55.03	392.77	26/4.07	7/3.16	25.76	1298.0	115.6	0.0813
Stilt/AW	715.500	362.54	46.97	409.51	24/4.39	7/2.92	26.31	1314.0	110.3	0.0765
Starling/AW	715.500	362.54	59.03	421.57	26/4.21	7/3.28	26.68	1393.0	122.3	0.0757
Redwing/AW	715.500	362.54	82.58	445.12	30/3.92	19/2.35	27.43	1552.0	148.6	0.0743
Tern/AW	795.000	402.83	27.87	430.70	45/3.38	7/2.25	27.03	1298.0	95.6	0.0702
Condor/AW	795.000	402.83	52.19	456.03	54/3.08	7/3.08	27.72	1458.0	123.7	0.0689

Technical characteristics of ACSR/AW / U.S.A Sizes - ASTM B549

Code name	Area				Stranding and wire diameter		Overall diameter	Mass per unit length	Rated strength,Min	Maximum D.C. Resistance at 20°C
	Aluminum		AW	Total	Aluminum	Steel				
	AWG or MCM	mm^2	mm^2	mm^2	No/mm	No/mm	mm	kg/km	KN	Ω/km
Cuckoo/AW	795.000	402.83	52.19	456.03	24/4.62	7/3.08	27.74	1460.0	122.3	0.0689
Drake/AW	795.000	402.83	65.61	468.45	26/4.44	7/3.45	28.11	1549.0	135.7	0.0681
Coot/AW	795.000	402.83	414.00	414.00	36/3.77	1/3.77	26.41	1183.0	73.8	0.0709
Mallard/AW	795.000	402.83	494.71	494.71	30/4.14	19/2.48	28.96	1726.0	165	0.0669
Ruddy/AW	900.000	456.03	31.54	487.57	45/3.59	7/2.40	28.73	1470.0	106.8	0.0620
Canary/AW	900.000	456.03	59.10	515.13	54/3.28	7/3.28	29.52	1653	137.9	0.0608
Rail/AW	954.000	483.39	33.42	516.81	45/3.70	7/2.47	29.61	1558	113	0.0585
Catbird/AW	954.000	483.39	13.42	496.81	36/4.14	1/4.14	28.95	1420	86.7	0.0591
Cardinal/AW	954.000	483.39	62.65	546.04	54/3.38	7/3.38	30.42	1752	146.3	0.0574
Ortolan/AW	1033.500	523.67	36.19	559.86	45/3.85	7/2.57	30.81	1688	120.5	0.0540
Tanager/AW	1033.500	523.67	14.51	538.18	36/4.30	1/4.30	30.12	1537	93.9	0.0545
Curlew/AW	1033.500	523.67	67.87	591.54	54/3.52	7/3.52	31.66	1896	158.3	0.0530
Bluejay/AW	1113.000	563.96	38.90	602.86	45/4.00	7/2.66	31.86	1819	130.3	0.0502
Martin/AW	1351.500	684.81	88.71	771.52	54/4.02	19/2.41	36.17	2478	200.6	0.0407
Lapwing/AW	1590.000	805.65	55.48	861.13	45/4.77	7/3.18	38.16	2598	185.9	0.0351
Falcon/AW	1590.000	805.65	102.13	907.78	54/4.36	19/2.62	39.26	2917	235.7	0.0345

Technical characteristics of AACSR / U.S.A Sizes - ASTM B711

AL Alloy Area	Steel Area	Conductor Area	Stranding and wire diameter		Overall diameter	Mass per unit length	Rated strength Min	Maximum D.C. Resistance at 20°C
			Aluminum	Steel				
mm^2	mm^2	mm^2	No/mm	No/mm	mm	kg/km	KN	Ω/km
140	23	163	26/2.62	7/2.04	16.60	565	74.9	0.2400
140	33	173	30/2.44	7/2.44	17.10	643	87.4	0.2400
160	26	186	26/2.80	7/2.18	17.70	646	85.5	0.2100
160	38	198	30/2.61	7/2.61	18.30	736	100	0.2100
180	29	209	26/2.97	7/2.31	18.80	731	195	0.1870
180	42	222	30/2.76	7/2.76	19.30	823	112	0.1870
200	32	232	26/3.13	7/2.43	19.80	800	105	0.1680
200	47	247	30/2.91	7/2.91	20.40	915	124	0.1680
224	36	260	26/3.31	7/2.57	21.00	900	115	0.1500
224	52	276	30/3.08	7/3.08	21.60	1025	139	0.1500
250	41	291	26/3.50	7/2.72	22.20	1008	128	0.1350
250	58	308	30/3.26	7/3.26	22.80	1149	152	0.1350
280	46	326	26/3.70	7/2.88	23.40	1127	144	0.1200
280	65	345	30/3.45	7/3.45	24.20	1286	171	0.1200
315	52	367	26/3.93	7/3.06	24.90	1272	162	0.1070
315	72	387	30/3.66	19/2.20	25.60	1438	190	0.1070
355	58	413	26/4.17	7/3.24	26.40	1430	182	0.0950
355	81	436	30/3.88	19/2.33	27.20	1614	210	0.0950
400	65	465	26/4.43	7/3.45	28.10	1616	206	0.0842
400	91	491	30/4.12	19/2.47	28.80	1818	237	0.0842
450	59	509	54/3.26	19/1.98	29.50	1706	208	0.0748
500	63	563	54/3.43	19/2.06	30.90	1878	228	0.0673
560	71	631	54/3.63	19/2.18	32.70	2104	256	0.0601
630	80	710	54/3.85	19/2.31	34.60	2365	285	0.0534
710	90	800	54/4.09	19/2.45	36.80	2664	321	0.0474
800	101	901	54/4.34	19/2.60	39.00	3003	361	0.0420
900	73	973	84/3.69	19/2.21	40.60	3060	353	0.0374
1000	81	1081	84/3.89	19/2.33	42.80	3400	389	0.0337
1120	91	1211	84/4.12	19/2.47	45.30	3816	437	0.0300
1250	102	1352	84/4.35	19/2.61	47.80	4255	489	0.0270

Technical characteristics of TACSR / IEC62004,IEC61089

Conductor Area	AL Alloy Area	Steel Area	Total	Stranding and wire diameter		Overall diameter	Mass per unit length	Rated strength Min	Maximum D.C. Resistance at 20°C
				Aluminum	Steel				
mm^2	mm^2	mm^2	mm^2	No/mm	No/mm	mm	kg/km	KN	Ω/km
58	57.73	9.62	67.35	6/3.50	1/3.50	10.50	233.26	23.93	0.5053
80	83.13	13.85	96.98	6/4.20	1/4.20	12.60	335.87	33.72	0.3509
95	95.43	15.90	111.33	6/4.50	4/4.50	13.50	385.57	38.71	0.3057
80	79.64	21.24	100.88	15/2.60	4/2.60	13.00	387.36	46.38	0.3673
100	99.08	26.42	125.50	15/2.90	4/2.90	14.50	481.88	57.40	0.2952
120	120.64	32.17	152.81	15/3.20	4/3.20	16.00	586.75	68.28	0.2425
120	124.64	29.08	153.72	30/2.30	7/2.30	16.10	570.99	66.14	0.2352
160	159.28	37.17	196.45	30/2.60	7/2.60	18.20	729.75	84.53	0.1841
200	198.16	46.24	244.40	30/2.90	7/2.90	20.30	907.84	104.57	0.1480
240	241.27	56.30	297.57	30/3.20	7/3.20	22.40	1105.36	124.38	0.1215
330	326.73	52.83	379.56	26/4.0	7/3.10	25.30	1315.01	131.99	0.0898
410	413.51	67.35	480.86	26/4.50	7/3.50	28.50	1668.10	167.78	0.0710
480	483.85	33.54	517.39	45/3.70	7/2.47	29.61	1599.07	133.76	0.0607
520	519.54	67.35	586.89	54/3.50	7/3.50	31.50	1963.28	186.20	0.0566
560	558.85	70.92	629.77	54/3.63	19/2.18	32.68	2101.78	202.59	0.0526
610	612.42	79.39	691.81	54/3.80	7/3.80	34.20	2314.25	216.71	0.0480
630	628.65	79.63	708.28	54/3.85	19/2.31	34.65	2363.12	223.38	0.0468
680	678.59	87.96	766.55	54/4.00	7/4.00	36.00	2564.24	238.08	0.0433
680	684.24	46.24	730.48	45/4.40	7/2.90	35.10	2252.03	180.47	0.0429
710	709.47	89.57	799.04	54/4.09	19/2.45	36.79	2664.60	251.64	0.0414
800	798.88	101.65	900.50	54/4.34	19/2.61	39.09	3006.53	284.57	0.0368
810	814.30	56.30	870.60	45/4.80	7/3.20	38.40	2690.04	209.07	0.0361
1120	1119.81	47.28	1167.09	72/4.45	19/1.78	44.50	3467.74	252.75	0.0263
1160	1163.77	96.98	1260.75	84/4.20	7/4.20	46.20	3978.92	328.57	0.0253
1250	1248.39	101.65	1350.04	84/4.35	19/2.61	47.85	4252.31	356.05	0.0236
1520	1520.03	126.67	1646.70	84/4.80	7/4.80	52.80	5196.98	418.52	0.0194

1.3 ACAR Conductor

Application:

Aluminum Conductor Alloy Reinforced (ACAR) cable is an excellent conductor choice where current carrying capacity, higher strength and a lower conductor weight are critical to the line design.

Applicable standards:

ASTM B-524, BS EN-50182, CSA C 61089,IEC 61089, GB/T 1179 or the standards agreed by both of the customers and us.

Production Scope:

Max. cross-section 3500MCM/1750mm2, Max. stranded number 127Nos.

Construction:

Aluminum Conductor Alloy Reinforced (ACAR) cable has aluminum wires stranded around aluminum alloy core concentrically.
* We can design and produce according to client's requirement.





Technical characteristics of ACAR / U.S.A Sizes-ASTM B524

Size (KCMIL)	Stranding and wire diameter		Overall diameter	Mass per unit length	Rated strength Min	**Maximum D.C. Resistance at 20°C**
	Aluminum	Aluminum Alloy				
	No/Inches	No/Inches	Inches	lbs.	lbs.	Ω/1000ft
355	12/0.1367	7/0.1367	0.683	332.1	8500	0.0514
466	12/0.1566	7/0.1566	0.783	435.8	11000	0.0392
504	12/0.1628	7/0.1628	0.814	471.1	11900	0.0362
653	12/0.1854	7/0.1854	0.927	611	15400	0.0279
740	30/0.1414	7/0.1414	0.99	692.7	15300	0.024
740	18/0.1414	19/0.1414	0.99	691.6	18800	0.0252
854	30/0.1519	7/0.1519	1.063	799.3	17500	0.0208
854	18/0.1519	19/0.1519	1.063	798.0	21500	0.0218
927	30/0.1583	7/0.1583	1.108	868.2	19000	0.0192
927	18/0.1583	19/0.1583	1.108	866.7	23400	0.0201
1025	30/0.1664	7/0.1664	1.165	959.3	20900	0.0173
1025	18/0.1664	19/0.1664	1.165	957.7	25800	0.0182
1081	30/0.1709	70.1709	1.196	1012.1	22100	0.0164
1081	18/0.1709	19/0.1709	1.196	1010.5	27200	0.0172
1109	30/0.1731	7/0.1731	1.212	1038.4	22700	0.0160
1109	18/0.1731	19/0.1731	1.212	1036.6	27900	0.0168
1172	30/0.1780	7/0.1780	1.246	1097.3	24000	0.0152
1172	18/0.1780	19/0.1780	1.246	1095.5	29500	0.0159
1197	30/0.1799	7/0.1799	1.259	1120.8	24500	0.0148
1197	18/0.1799	19/0.1799	1.259	1118.9	30200	0.0156
1280	30/0.1860	7/0.1860	1.302	1198.5	26200	0.0139
1280	18/0.1860	19/0.1860	1.302	1196.5	32200	0.0146
1361	42/0.1494	19/0.1494	1.344	1273.6	30300	0.0133
1527	42/0.1582	19/0.1582	1.424	1428.8	33600	0.0118
1703	42/0.1671	19/0.1671	1.504	1593.5	37500	0.0106
1933	42/0.1780	19/0.1780	1.602	1808.8	42500	0.0094
2267	42/0.1928	19/0.1928	1.735	2142	49900	0.0081
2493	72/0.1655	19/0.1655	1.821	2356.9	50400	0.0072
2493	54/0.1655	37/0.1655	1.821	2354.5	57600	0.0074

1.4 GSW/ACS/CCS Conductor

Application:

Galvanized Steel Wire (GSW) is used for staying the poles or as the core of ACSR.
Aluminium Clad Steel (ACS) used as lighting conductor ground wire.
Copper Clad Steel (CCS) used as ground wire.

Applicable Standards:

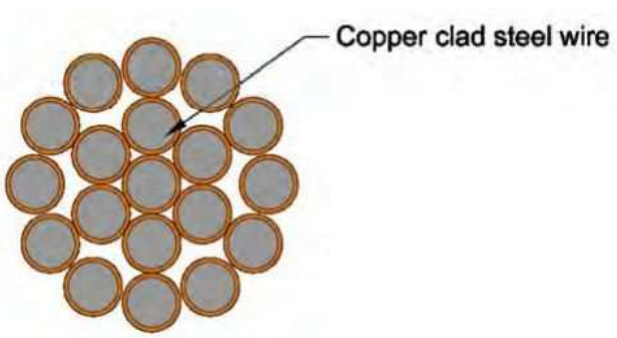
GSW: ASTM A475. BS183. *CAN/CSA-G12*
ACS: ASTM B416. YB/T 124-1997
CCS: ASTM B228 ASTM B910
The standards agreed by both of the customers and us.

Production Scope:

Wire dia. from 1.20mm to 5.60mm, Max. Stranded Number: 37 No.s.

Construction:

Galvanized Steel/Aluminum Clad Steel/Copper Clad Steel Wire, concentrically Stranded.
* We can design and produce according to client's requirement.









Technical characteristics of GSW / BS183

No.of wires /Dia.	Overall diameter	Rated strength,Min							Mass per unit length
mm	mm	Grade 350 KN	Grade 480 KN	Grade 700 KN	Grade 850 KN	Grade 1000 KN	Grade 1150 KN	Grade 1300 KN	kg/km
3/1.80	3.9	2.65	3.66	——	——	——	——	——	60
3/2.65	5.7	5.80	7.95	——	——	——	——	——	130
3/3.25	7.0	8.70	11.95	——	——	——	——	——	195
3/4.00	8.6	13.20	18.10	——	——	——	——	——	295
4/1.80	4.4	3.55	4.90	——	——	——	——	——	80
4/2.65	6.4	7.70	10.60	——	——	——	——	——	172
4/3.25	7.9	11.60	15.90	——	——	——	——	——	260
4/4.00	9.7	17.60	24.10	35.20	——	——	——	——	390
5/1.50	4.1	3.10	4.24	6.18	——	——	——	——	69
5/1.80	4.9	4.45	6.10	8.90	——	——	——	——	95
5/2.65	7.2	9.65	13.25	19.30	——	——	——	——	220
5/3.25	8.8	14.50	19.90	29.00	——	——	——	——	320
5/4.00	10.8	22.00	30.15	43.95	——	——	——	——	490
7/0.56	1.7	0.60	0.83	1.20	——	1.70	1.98	2.24	14
7/0.71	2.1	0.97	1.33	1.94	——	2.75	3.19	3.6	28
7/0.85	2.6	1.39	1.90	2.80	——	3.95	4.57	5.15	31
7/0.90	2.7	1.55	2.14	3.10	——	4.45	5.12	5.8	35
7/1.00	3.0	1.92	2.64	3.85	——	5.50	6.32	7.15	43
7/1.25	3.8	3.01	4.10	6.00		8.55	9.88	11.15	67
7/1.40	4.2	3.75	5.17	7.54	9.16	10.75	12.35	14	84
7/1.60	4.8	4.90	6.75	9.85	11.95	14.1	16.20	18.3	110
7/1.80	5.4	6.23	8.55	12.45	——	17.8	20.5	23.2	140
7/2.00	6.0	7.70	10.55	15.4	——	22	25.3	38.6	170
7/2.36	7.1	10.70	14.70	21.4	——	30.6	35.2	39.8	240
7/2.65	8.0	13.50	18.50	27	——	38.6	44.4	50.2	300
7/3.00	9.0	17.30	23.75	34.65	——	49.5	56.9	64.3	392
7/3.15	9.5	19.10	26.20	38.2	——	54.55	62.75	80.9	430
7/3.25	9.8	20.30	27.85	40.65	——	58.05	66.8	75.5	460
7/3.65	11.0	25.60	35.15	51.25	——	73.25	84.2	95.2	570
7/4.00	12.0	30.90	42.2	61.6	——	88	101	114	690
7/4.25	12.8	34.75	47.65	69.5	——	99.3	114	129	780
7/4.75	14.0	43.40	59.45	86.8	——	124	142.7	161.3	970
19/1.00	5.0	5.22	7.16	10.45	——	14.92	17.16	19.4	120
19/1.25	6.3	8.16	11.19	16.32	——	23.32	26.81	30.31	180
19/1.40	7.0	10.24	14.04	20.47	——	29.25	33.64	38.02	230
19/1.60	8.0	13.37	18.34	26.75	——	38.2	43.93	49.66	300
19/2.00	10.0	20.90	28.65	41.78	50.74	59.69	68.64	77.6	470
19/2.50	12.5	32.65	44.80	65.29	79.28	93.27	107.3	121.3	730
19/3.00	15.0	47.00	64.50	94	114.1	134.3	154.5	174.6	1050
19/3.55	17.8	65.80	90.27	131.6	159.9	188	216.3	244.5	1470
19/4.00	20.0	83.55	114.6	167.1	203	238.7	274.6	310.4	1870
19/4.75	23.8	117.85	161.6	235.7	286	336.7	387.2	437.7	2630

Technical characteristics of ACS/ ASTM B416

Code number	Actual section	Stranding and wire diameter	Overall diameter	Rated strength Min	Mass per unit length	Maximum D.C. Resistance at 20°C
	mm2	No/mm	mm	KN	kg/km	Ω/km
37 No.5AWG	620.3	37/4.62	32.34	635.43	4170.0	0.1394
37 No.6AWG	490.9	37/4.11	28.77	534.85	3307.0	0.1757
37 No.7AWG	390.1.4	37/3.67	25.69	448.09	2623.0	0.2216
37 No.8AWG	308.8	37/3.26	22.82	374.67	2080.0	0.2794
37 No.9AWG	246.1	37/2.91	20.37	279.11	1649.0	0.3523
37 No.10AWG	194.9	37/2.59	18.13	235.61	1308.0	0.4443
19 No.5AWG	318.5	19/4.62	23.10	326.39	2129.0	0.2698
19 No.6AWG	252.1	19/4.11	20.55	274.55	1688.0	0.3402
19 No.7AWG	201.0	19/3.67	18.35	230.18	1339.0	0.4290
19 No.8AWG	158.6	19/3.26	16.30	192.41	1062.0	0.5409
19 No.9AWG	126.4	19/2.91	14.55	152.58	842.0	0.6821
19 No.10AWG	100.1	19/2.59	12.95	121.00	667.7	0.8601
7 No.5AWG	117.3	7/4.62	13.86	120.27	781.1	0.7426
7 No.6AWG	92.9	7/4.11	12.33	101.14	619.5	0.9198
7 No.7AWG	74.0	7/3.67	11.01	84.81	491.1	1.1600
7 No.8AWG	58.4	7/3.26	9.78	70.88	389.6	1.4630
7 No.9AWG	46.5	7/2.91	8.73	56.20	308.9	1.8440
7 No.10AWG	36.9	7/2.59	7.77	44.58	245.1	2.3250
7 No.11AWG	29.1	7/2.3	6.90	35.35	194.4	2.9320
7 No.12AWG	23.1	7/2.05	6.15	28.03	154.2	3.6970
3 No.5AWG	50.3	3/4.62	9.96	54.42	334.1	1.6690
3 No.6AWG	39.8	3/4.11	8.86	45.74	265.0	2.1420
3 No.7AWG	31.7	3/3.67	7.90	38.36	210.1	2.7010
3 No.8AWG	25.0	3/3.26	7.04	32.06	166.7	3.4060
3 No.9AWG	19.9	3/2.91	6.27	25.43	132.2	4.2940
3 No.10AWG	15.8	3/2.59	5.59	20.16	104.8	5.4150

Technical characteristics of CCS/ ASTM B228

Size		Overall diameter	Rated strength,Min KN			Nominal Aluminum Area	30% Density Mass	40% Density Mass	Maximum D.C. Resistance at 20°C Ω/1000ft	
Inch	AWG	mm	Grade 40 HS	Grade 30 HS	Grade 30 EHS	mm2	Lb/1000ft	Lb/1000ft	Grade 40	Grade 30
7/8	19 No.5	23.11	221.56	245.06	295.07	323.16	1770	1788	0.04264	0.05685
13/16	19 No.6	20.574	183.46	202.11	244.89	256.23	1403	1418	0.05377	0.07168
23/32	19 No.7	18.31	151.66	166.43	202.20	203.24	1113	1125	0.0678	0.09039
21/32	19 No.8	16.31	125.16	136.89	166.21	161.18	882.7	892	0.0855	0.114
9/16	19 No.9	14.53	103.15	112.46	134.99	127.82	700	707.3	0.1078	0.1437
5/8	7 No.4	15.57	98.39	109.28	129.79	150.13	818.9	827.5	0.09143	0.1219
9/16	7 No.5	13.87	81.63	90.27	108.71	119.06	649.4	656.2	0.1153	0.1537
1/2	7 No.6	12.34	67.61	74.48	90.23	94.40	514.9	520.3	0.1454	0.1938
7/16	7 No.7	11.00	55.87	61.34	74.48	74.90	408.6	412.9	0.1833	0.2444
3/8	7 No.8	9.78	46.13	50.45	61.25	59.38	323.9	327.3	0.2312	0.3081
11/32	7 No.9	8.71	38.00	41.42	49.74	47.09	256.8	259.5	0.2915	0.3886
5/16	7 No.10	7.77	31.40	34.21	40.55	37.34	203.7	205.8	0.3676	0.49
-	3 No.5	9.96	36.92	40.85	52.30	51.02	277.8	280.7	0.2685	0.3579
-	3 No.6	8.86	30.58	33.69	43.02	40.46	220.3	222.6	0.3385	0.4513
-	3 No.7	7.90	25.28	27.74	34.94	32.09	174.7	176.5	0.4269	0.5691
-	3 No.8	7.04	20.86	22.82	27.70	25.45	138.5	140	0.5383	0.7176
-	3 No.9	6.27	17.19	18.74	22.62	20.18	109.9	111	0.6788	0.9049
-	3 No.10	5.59	14.20	15.47	18.35	16.00	87.1	88.02	0.8559	1.141
-	3 No.12	4.42	7.56	-	-	10.07	-	55.38	1.361	-

1.5 Steel Strand for Prestressed Concreter

Application:

PC steel strand is the simplified term describing Prestressed Concrete Steel Strand Wire.PC strand is mainly used for the reinforcement of prestressed concrete structures, such as large-span railway and road bridges, major bridges, silos, buildings, dams, floor slabs, foundations, large concrete vessels, atomic reactor buildings, stadiums, airport hangers, pre-cast segments, crane beams, anchorages and multi-storey industrial buildings etc.

PC strand is also used for the construction of highways, poles and water towers in civil construction, and energy source sea transportation, house buildings, water control projects, and rock and earth anchoring components to increase the tensile forcebuildings etc.

Applicable Standards:

GB/T 5224, ASTM A-416, BS 5896, JIS G3536 or the standards agreed by both of the customers and us.

Production Scope:

Diameter of strand:from 6.4mm to 18.0mm, Stranded Number:3 wires, 7 wires and 19 wires.

Construction:

Prestressed steel concrete strand or PC strand can also be supplied in various forms for pre- or post-tensioning applications, with plain or galvanized material ranging from 3 wires, 7 wires, 19 wire and compacted construction.
* We can design and produce according to client's requirement.





Technical characteristics of Steel Strand for Prestressed Concreter/ ASTM A 416

Strand Structure	Strand nominal diameter Dn/mm	Abstract tensile strength Rm/Mpa not less than	The largest force of the whole strand Fm/KN not less than	Rated non-proportional extension force	Total extension ratio at the largest force (Lo≥ 400)Agt/% not less than	Stress Relaxation	
						Initial load equivalent to the percentage of the nominal largest force/%	After 1000h stress relaxation rate r/% not less than
1×7	9.5	1720	94.3	84.9	3.5	607080	1.02.54.5
		1860	102	91.8			
		1960	107	96.3			
	11.1	1720	128	115			
		1860	138	124			
		1960	145	131			
	12.7	1720	170	153			
		1860	184	166			
		1960	193	174			
	15.2	1470	206	185			
		1570	220	198			
		1670	234	211			
		1720	241	217			
		1860	260	234			
		1960	274	247			
	15.7	1770	266	239			
		1860	279	251			
	17.8	1720	327	294			
		1860	353	318			
(1×7)C	12.7	1860	208	187			
	15.2	1820	300	270			
	18	1720	384	346			

Note: Rated non-proportional extension force Fp0.2 is not less than 90% of the largest force of the whole strand

1.6 Bare Copper Conductor (BCC)

Application:

Used as ground wire, Overhead transmission system, Overhead traction system Transformer earthing (occasionally).

Applicable standards: ASTM B8-04 ,BS7884 , NFC-34-110-3 GB/T 12970 DIN4801-7or the standards agreed by both of the customers and us.

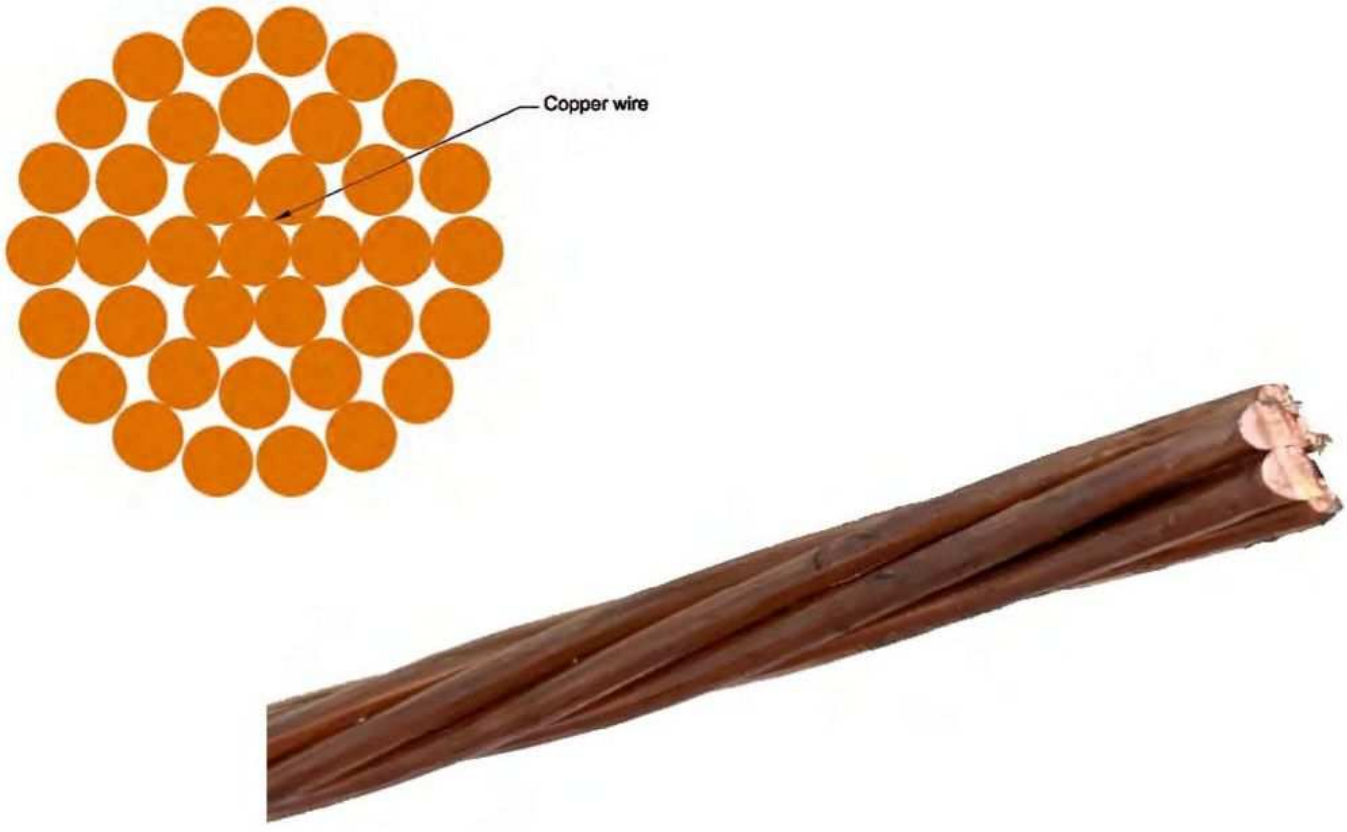
Production Scope:

There is hard drawn and soft drawn wire, the Dia. of the stranded wire from 0.2mm to 5.0mm， Max. 127 Stranding Nos.

Construction:

Bare copper wire, concentrically Stranded.

* We can design and produce according to client's requirement.



Technical characteristics of BCC/ AASTM B8-04

Size AWG or MCM	Stranding and wire diameter	Conductor Diameter	Mass	Hard Drawn		Medium-Drawn		Soft-Drawn	
	No/mm	mm	kg/km	Rated Breaking Strength KN	Maximum D.C. Resistance at 20°C Ω/km	Rated Breaking Strength KN	Maximum D.C. Resistance at 20°C Ω/km	Rated Breaking Strength KN	Maximum D.C. Resistance at 20°C Ω/km
8	7/1.236	3.71	75.86	3.43	2.1855	2.69	2.1743	2.20	2.1018
6	7/1.549	4.65	120.63	5.42	1.3746	4.23	1.3674	3.50	1.3218
4	7/1.956	5.87	191.80	8.55	0.8646	6.64	0.8600	5.82	0.8312
3	7/2.21	6.63	241.90	10.73	0.6855	8.31	0.6819	7.36	0.6593
2	7/2.464	7.39	304.90	13.45	0.5445	10.41	0.5412	9.31	0.5176
1	7/2.769	8.31	384.60	16.76	0.4316	13.03	0.4294	11.25	0.4107
1/0	7/3.124	9.37	484.90	20.96	0.3418	16.34	0.3401	14.20	0.3287
2/0	7/3.505	10.52	611.48	26.13	0.2712	20.46	0.2697	17.91	0.2607
2/0	19/2.134	10.67	611.48	29.50	0.2712	21.01	0.2697	17.45	0.2607
3/0	7/3.937	11.81	771.8	32.48	0.2150	25.63	0.2139	22.57	0.2067
4/0	7/4.42	13.26	972.00	40.37	0.1705	32.10	0.1696	28.48	0.1640
4/0	19/2.692	13.46	972.00	42.41	0.1705	32.98	0.1696	28.46	0.1640
250	19/2.921	14.61	1148.80	50.10	0.1443	38.97	0.1436	33.64	0.1417
250	37/2.083	14.58	1148.80	51.16	0.1443	39.48	0.1436	35.02	0.1417
300	19/3.20	16.00	1378.60	59.58	0.1203	46.44	0.1197	40.40	0.1157
350	19/3.454	17.27	1609.00	51.11	0.1031	53.80	0.1026	47.10	0.0991
500	37/2.946	20.62	2298.00	99.27	0.0722	77.40	0.0718	67.21	0.0694
600	37/3.226	22.58	2758.00	119.16	0.0602	92.87	0.0599	80.70	0.0578
750	61/2.819	25.37	3447.00	150.34	0.0481	116.91	0.0479	100.95	0.0463
1000	61/3.251	29.26	4596.00	198.58	0.0361	154.79	0.0359	134.51	0.0347

1.7 Tie Wire

Application:

Aluminum tie wire is a soft solid aluminum wire that is used in overhead transmission and distribution line construction to mechanically secure components such as conductors to pin insulators.

Applicable standards: ASTM B609 or the standards agreed by both of the customers and us.

Production Scope:

The cross section of the wire from 8AWG to 2AWG, single wire.

Construction: Solid Annealed Aluminum wire.

* We can design and produce according to client's requirement.





Technical characteristics of tie wire

Size	Diameter of solid wire	Tensile of solid wire	Mass per unit length
AWG	Inches	MPa	lbs/1000ft
8	0.129	60～95	15.2
6	0.162	60～95	24.1
4	0.204	60～95	38.1
2	0.258	60～95	61

1.8 OPTICAL FIBER COMPOSITE OVERHEAD GROUND WIRES

1.8.1 Center Stainless Steel Tube OPGW Cable

Application:

It is widely used in modern information electric power system.

Characteristics

- Small diameter and light weight, small short-circuit current capacity.
- Optical unit forms appropriate primary optical fiber extra length.
- Characteristics of tension resistance, torsion resistance and side pressure resistance are not good enough.

Applicable standards

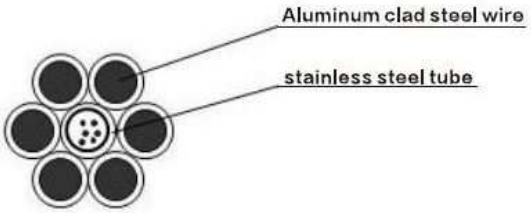
ACS: IEC 61232 Optical Fiber: ITU-T G652 ITU-T G655
OPGW: IEC 60794-4 IEEE 1138 DL/T 832 or the standards agreed by both of the customers and us.

Construction

Inner layer: stainless steel optical.

Outer layer: One or more layer aluminum clad steel wires.

*We can design and produce according to client's requirement.





Structure and Performance of Center Stainless Steel Tube OPGW Cable

Type	Structure(No.*Dia./AS) n*mm/AS		Area mm^2		Outer dia.	Mass per unit length	Rated strength,Min	Maximum D.C. Resistance at 20℃	Short current capacity
	Center	Outer layer	AS	Total	mm	Kg/km	KN	Ω/km	KA^2S
OPGW-24B1-42[54;8.4]	1×3.0/24B1	6×3.0/20AS	42.41	42	9	309	54	2.03	8.4
OPGW-24B1-42[43.5;10.6]		6×3.0/27AS	42.41	42	9	281	43.5	1.53	10.6
OPGW-24B1-42[35.5;11.5]		6×3.0/30AS	42.41	42	9	268	35.5	1.37	11.5
OPGW-30B1-48[61.4;10.9]	1×3.2/30B1	6×3.2/20AS	48.25	48	9.6	348	61.4	1.78	10.9
OPGW-30B1-48[49.5;13.7]		6×3.2/27AS	48.25	48	9.6	315	49.5	1.34	13.7
OPGW-30B1-48[40.3;14.9]		6×3.0/30AS	48.25	48	9.6	3.1	40.3	1.21	14.9
OPGW-30B1-51[63.9;12.3]	1×3.3/30B1	6×3.3/20AS	51.32	51	9.9	368	63.9	1.68	12.3
OPGW-30B1-51[52.7;15.5]		6×3.3/27AS	51.32	51	9.9	333	52.7	1.26	15.5
OPGW-30B1-51[42.9;16.8]		6×3.3/30AS	51.32	51	9.9	318	42.9	1.14	16.8
OPGW-30B1-51[33.2;20.8]		6×3.3/40AS	51.32	51	9.9	268	33.2	0.85	20.8
OPGW-36B1-54[67.8;13.9]	1×3.4/36B1	6×3.4/20AS	54.48	54	10.2	389	67.8	1.58	13.9
OPGW-36B1-54[55.9;17.5]		6×3.4/27AS	54.48	54	10.2	352	55.9	1.19	17.5
OPGW-36B1-54[45.5;19]		6×3.4/30AS	54.48	54	10.2	336	45.5	1.07	19
OPGW-36B1-54[35.2;23.4]		6×3.4/40AS	54.48	54	10.2	283	35.2	0.8	23.4
OPGW-40B1-58[69.6;15.6]	1×3.5/40B1	6×3.5/20AS	57.73	58	10.5	410	69.6	1.49	15.6
OPGW-40B1-58[59.2;19.6]		6×3.5/27AS	57.73	58	10.5	371	59.2	1.12	19.6
OPGW-40B1-58[48.3;21.3]		6×3.5/30AS	57.73	58	10.5	354	48.3	1.01	21.3
OPGW-40B1-58[37.3;26.3]		6×3.5/40AS	57.73	58	10.5	298	37.3	0.76	26.3
OPGW-48B1-61[73.7;17.5]	1×3.6/48B1	6×3.6/20AS	61.07	61	10.8	432	73.7	1.41	17.5
OPGW-48B1-61[62.7;22]		6×3.6/27AS	61.07	61	10.8	391	62.7	1.06	22
OPGW-48B1-61[51.1;23.8]		6×3.6/30AS	61.07	61	10.8	373	51.1	0.95	23.8
OPGW-48B1-61[39.5;29.5]		6×3.6/40AS	61.07	61	10.8	313	39.5	0.72	29.5
OPGW-50B1-65[76.6;19.5]	1×3.7/50B1	6×3.7/20AS	64.51	65	11.1	455	76.6	1.33	19.5
OPGW-50B1-65[66.2;24.5]		6×3.7/27AS	64.51	65	11.1	411	66.2	1	24.5
OPGW-50B1-65[53.9;26.6]		6×3.7/30AS	64.51	65	11.1	392	53.9	0.9	26.6
OPGW-50B1-65[41.7;32.9]		6×3.7/40AS	64.51	65	11.1	329	41.7	0.68	32.9
OPGW-54B1-68[80.8;21.7]	1×3.8/54B1	6×3.8/20AS	68.05	68	11.4	478	80.8	1.26	21.7
OPGW-54B1-68[69.8;27.3]		6×3.8/27AS	68.05	68	11.4	432	69.8	.0.95	27.3
OPGW-54B1-68[56.9;29.6]		6×3.8/30AS	68.05	68	11.4	412	56.9	0.86	29.6
OPGW-54B1-68[44;36.6]		6×3.8/40AS	68.05	68	11.4	346	44	0.64	36.6
OPGW-60B1-75[86.7;26.6]	1×4.0/60B1	6×4.0/20AS	75.4	75	12	527	86.7	1.14	26.6
OPGW-60B1-75[77.4;33.5]		6×4.0/27AS	75.4	75	12	476	77.4	0.86	33.5
OPGW-60B1-75[63;36.3]		6×4.0/30AS	75.4	75	12	453	63	0.77	36.3
OPGW-60B1-75[48.7;44.9]		6×4.0/40AS	75.4	75	12	380	48.7	0.58	44.9

1.8 OPTICAL FIBER COMPOSITE OVERHEAD GROUND WIRES

1.8.2 Stranding Stainless Steel Tube OPGW Cable

Application

Stranding SST OPGW is cable product that produced by way of comprehensive stranding the ACS wires and SST optical unit which replaced one or some of ACS wires of traditional ground wire cable. It realized the function of optical fiber communication and has bigger diameter and more optical fiber compared with center SST OPGW.

Characteristics

- Big diameter and more optical fiber.
- Big tensile strength and short-circuit current capacity, arrive the best balance of machanical and electrical properties.
- One or more optical unit.
- Best design of stranding, obtain secondary optical fiber extra length.
- Strands plies can be two or three, the wire can be ACS wire and/or the combination of aluminium alloy wire and aluminium wire.

Applicable standards

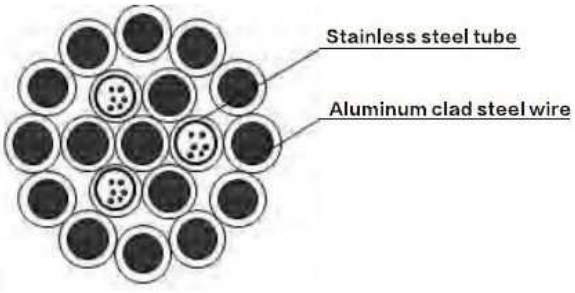
ACS: IEC 61232 Optical Fiber: ITU-T G652 ITU-T G655
OPGW: IEC 60794-4 IEEE 1138 DL/T 832 AAAC: IEC 60104
or the standards agreed by both of the customers and us.

Construction

The innermost layer: Aluminum clad steel wire.
Middle layer: Aluminum clad steel wires and one or more stainless steel optical.
Outer layer: Aluminum clad steel wires or aluminum alloy wire.

*We can design and produce according to client's requirement.





Structure and Performance of Center Stainless Steel Tube OPGW Cable

Type	Structure(No.*Dia./AS) n*mm/AS		Area mm^2		Outer dia.	Mass per unit length	Rated strength,Min	Maximum D.C. Resistance at 20℃	Short current capacity
	Center	Outer layer	AS	Total	mm	Kg/km	KN	Ω/km	KA^2S
OPGW-24B1-42[54;8.4]	1×3.0/24B1	6×3.0/20AS	42.41	42	9	309	54	2.03	8.4
OPGW-24B1-42[43.5;10.6]		6×3.0/27AS	42.41	42	9	281	43.5	1.53	10.6
OPGW-24B1-42[35.5;11.5]		6×3.0/30AS	42.41	42	9	268	35.5	1.37	11.5
OPGW-30B1-48[61.4;10.9]	1×3.2/30B1	6×3.2/20AS	48.25	48	9.6	348	61.4	1.78	10.9
OPGW-30B1-48[49.5;13.7]		6×3.2/27AS	48.25	48	9.6	315	49.5	1.34	13.7
OPGW-30B1-48[40.3;14.9]		6×3.0/30AS	48.25	48	9.6	3.1	40.3	1.21	14.9
OPGW-30B1-51[63.9;12.3]	1×3.3/30B1	6×3.3/20AS	51.32	51	9.9	368	63.9	1.68	12.3
OPGW-30B1-51[52.7;15.5]		6×3.3/27AS	51.32	51	9.9	333	52.7	1.26	15.5
OPGW-30B1-51[42.9;16.8]		6×3.3/30AS	51.32	51	9.9	318	42.9	1.14	16.8
OPGW-30B1-51[33.2;20.8]		6×3.3/40AS	51.32	51	9.9	268	33.2	0.85	20.8
OPGW-36B1-54[67.8;13.9]	1×3.4/36B1	6×3.4/20AS	54.48	54	10.2	389	67.8	1.58	13.9
OPGW-36B1-54[55.9;17.5]		6×3.4/27AS	54.48	54	10.2	352	55.9	1.19	17.5
OPGW-36B1-54[45.5;19]		6×3.4/30AS	54.48	54	10.2	336	45.5	1.07	19
OPGW-36B1-54[35.2;23.4]		6×3.4/40AS	54.48	54	10.2	283	35.2	0.8	23.4
OPGW-40B1-58[69.6;15.6]	1×3.5/40B1	6×3.5/20AS	57.73	58	10.5	410	69.6	1.49	15.6
OPGW-40B1-58[59.2;19.6]		6×3.5/27AS	57.73	58	10.5	371	59.2	1.12	19.6
OPGW-40B1-58[48.3;21.3]		6×3.5/30AS	57.73	58	10.5	354	48.3	1.01	21.3
OPGW-40B1-58[37.3;26.3]		6×3.5/40AS	57.73	58	10.5	298	37.3	0.76	26.3
OPGW-48B1-61[73.7;17.5]	1×3.6/48B1	6×3.6/20AS	61.07	61	10.8	432	73.7	1.41	17.5
OPGW-48B1-61[62.7;22]		6×3.6/27AS	61.07	61	10.8	391	62.7	1.06	22
OPGW-48B1-61[51.1;23.8]		6×3.6/30AS	61.07	61	10.8	373	51.1	0.95	23.8
OPGW-48B1-61[39.5;29.5]		6×3.6/40AS	61.07	61	10.8	313	39.5	0.72	29.5
OPGW-50B1-65[76.6;19.5]	1×3.7/50B1	6×3.7/20AS	64.51	65	11.1	455	76.6	1.33	19.5
OPGW-50B1-65[66.2;24.5]		6×3.7/27AS	64.51	65	11.1	411	66.2	1	24.5
OPGW-50B1-65[53.9;26.6]		6×3.7/30AS	64.51	65	11.1	392	53.9	0.9	26.6
OPGW-50B1-65[41.7;32.9]		6×3.7/40AS	64.51	65	11.1	329	41.7	0.68	32.9
OPGW-54B1-68[80.8;21.7]	1×3.8/54B1	6×3.8/20AS	68.05	68	11.4	478	80.8	1.26	21.7
OPGW-54B1-68[69.8;27.3]		6×3.8/27AS	68.05	68	11.4	432	69.8	.0.95	27.3
OPGW-54B1-68[56.9;29.6]		6×3.8/30AS	68.05	68	11.4	412	56.9	0.86	29.6
OPGW-54B1-68[44;36.6]		6×3.8/40AS	68.05	68	11.4	346	44	0.64	36.6
OPGW-60B1-75[86.7;26.6]	1×4.0/60B1	6×4.0/20AS	75.4	75	12	527	86.7	1.14	26.6
OPGW-60B1-75[77.4;33.5]		6×4.0/27AS	75.4	75	12	476	77.4	0.86	33.5
OPGW-60B1-75[63;36.3]		6×4.0/30AS	75.4	75	12	453	63	0.77	36.3
OPGW-60B1-75[48.7;44.9]		6×4.0/40AS	75.4	75	12	380	48.7	0.58	44.9

1.8 OPTICAL FIBER COMPOSITE OVERHEAD GROUND WIRES

1.8.3 Aluminium Clad Stainless Steel Tube OPGW Cable

Application

Aluminium clad SST OPGW is a kind of new optical cable which inherits all the advantages of SST OPGW.It can greatly reduces the electrochemical corrosion among different metals and has good application prospects.

Characteristics

- Aluminium clad steel tube optical unit increases the aluminium cross section, better short-circuit current and electrical characteristics of lightning resistance.
- Excellent electrochemical corrosion resistance.
- Fill in the blank of structural design of cable diameter of 11.4-13.5mm.
- Suitable for wires of small diameter and big short-circuit current.
- Used in extreme corrosion environment,such as coastal areas and chemical areas.

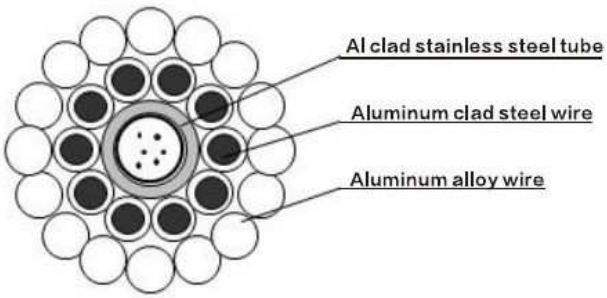
Applicable standards

ACS: IEC 61232
Optical Fiber: ITU-T G652 ITU-T G655
OPGW: IEC 60794-4 IEEE 1138 DL/T 832
AAAC: IEC 60104

Construction

Inner layer: Aluminum clad stainless steel optical.
Outer layer: One or more layer aluminum clad steel wires or Aluminum alloy wire.

*We can design and produce according to client's requirement.





Structure and Performance of Aluminium Clad Stainless Steel Tube OPGW Cable

Type	Nos of fiber	Structure				Cross sectional area				Outer dia.	Mass	Rated strength	Maximum D.C. Resistance at 20°C	Capacity of short circuit (40°C~200°C)
		Center optical uint		Nos of wire/Dia.										
	core	SST dia.	Al tube dia.	AS wire	AA wire	AS wire	AA wire	Al tube	Total	mm	kg/km	kN	Ω/km	kA^2S
		mm	mm	Nos /mm	Nos/ mm	mm^2	mm^2	mm^2	mm^2					
OPGW-LS-24B1-70[73.0;27.9]	24	3.2	5.0	8/3.0-20AC	-	56.55	-	11.59	68.14	11.0	434	73.0	0.937	27.9
OPGW-LS-24B1-75 [77.9;32.9]	24	3.2	5.2	8/3.1-20AC	-	60.38	-	13.19	73.57	11.4	464	77.9	0.855	32.9
OPGW-LS-48B1-80[82.1;42.7]	48	3.6	6.0	9/3.0-20AC	-	63.62	-	18.10	81.72	12.0	504	82.1	0.725	42.7
OPGW-LS-48B1-85 [91.0;43.4]	48	3.6	5.6	8/3.35-20AC	-	70.51	-	14.45	84.96	12.3	540	91.0	0.751	43.4
OPGW-LS-48B1-95 [83.8;60.2]	48	3.6	5.8	8/3.5-27AC	-	76.97		16.24	93.21	12.8	535	83.8	0.567	60.2
OPGW-LS-48B1-100 [88.6;69.1]	48	3.6	6.0	8/3.6-27AC	-	81.43	-	18.10	99.53	13.2	567	88.6	0.527	69.1
OPGW-LS-48B1-120 [99.7;107.0]	48	3.8	7.2	9/3.6-27AC	-	91.61	-	29.37	121	14.4	658	99.7	0.407	107.0
OPGW-LS-24B1-140[84.8;159.2]	24	3.2	5.2	9/2.6-20AC	15/2.6	47.78	79.64	13.19	140.6	15.6	604	84.8	0.295	159.2
OPGW-LS-48B1-160 [97.9;211.5]	48	3.6	5.6	9/2.8-20AC	15/2.8	55.42	92.36	14.45	162.2	16.8	694	97.9	0.256	211.5
OPGW-LS-48B1-190 [112.4;284.0]	48	3.6	6.0	9/3.0-20AC	15/3.0	63.62	106	18.10	187.8	18.0	796	112.4	0.221	284.0

1.8 OPTICAL FIBER COMPOSITE OVERHEAD GROUND WIRES

1.8.4 Aluminium Clad PBT Tube OPGW Cable

Application

The core of aluminum clad PBT tube OPGW has structure of stranding pattern, when the multiple optical fiber PBT tubes are into cable, a layer of seamless aluminum tube will be clad on it which act as the protection tube of optical fiber metal and then stranding one or more aluminium clad steel wires or aluminum alloy wires outside it. It eliminates the worries about the electrochemical corrosion among different metals and has very high application value.

Characteristics

- Seamless aluminum tube has uniform texture, consistent with the texture of the whole ground aluminum clad steel wire, no electrochemical corrosion.
- Good fatigue resistance profit by consistence of texture and structure of the whole ground wire.
- Optical fiber of aluminum tube OPGW are exist in PBT tube, the core which is clad with a layer of thermal insulation material, with good thermal insulation effect and good protection effect of fiber optics, and short-circuit current has little influence to transmitting performance of fiber optics.

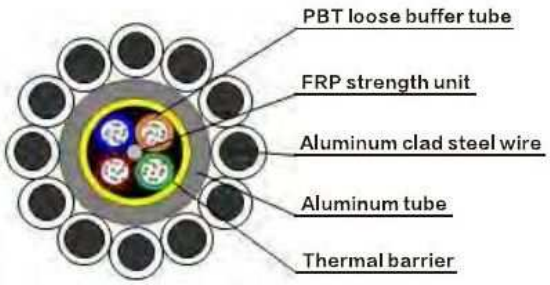
Applicable standards

ACS: IEC 61232
Optical Fiber: ITU-T G652 ITU-T G655
OPGW: IEC 60794-4 IEEE 1138 DL/T 832or the standards agreed by both of the customers and us.

Construction

The innermost layer: One or more optical fiber PBT tubes.
Middle layer: Thermal barrier and AL tube.
Outer layer: One or more layer aluminum clad steel wires or aluminum alloy wire.

*We can design and produce according to client's requirement.





Structure and Performance of Aluminium Clad PBT Tube OPGW Cable

Type	Nos of fiber	Structure			Cross sectional area			Outer dia.	Mass	Rated strength Min	Maximum D.C. Resistance at 20℃
		Center optical uint		Nos of wire/Dia.							
	core	PBT tube	Dia. Of Al tube	AS wire	AS wire	Al tube	Total	mm	kg/km	kN	Ω/km
		Nos /mm	mm	Nos/mm	mm^2	mm^2	mm^2				
OPGW-LP-24B1-80 [49.9;49.7]	24	4/2.0	7.5/5.4	12/2.5-30AC	58.90	21.28	80.18	12.5	423	49.9	0.567
OPGW-LP-24B1-80 [64.1;47.8]	24	4/2.0	7.5/5.4	12/2.5-27AC	58.90	21.28	80.18	12.5	440	64.1	0.602
OPGW-LP-24B1-80 [76.0;43.1]	24	4/2.0	7.5/5.4	12/2.5-20AC	58.90	21.28	80.18	12.5	481	76.0	0.695
OPGW-LP-24B1-90 [57.4;60.3]	24	4/2.0	7.5/5.4	11/2.8-30AC	67.73	21.28	89.01	13.1	473	57.4	0.522
OPGW-LP-24B1-90 [73.7;57.7]	24	4/2.0	7.5/5.4	11/2.8-27AC	67.73	21.28	89.01	13.1	493	73.7	0.556
OPGW-LP-24B1-90 [87.4;51.6]	24	4/2.0	7.5/5.4	11/2.8-20AC	67.73	21.28	89.01	13.1	540	87.4	0.649
OPGW-LP-24B1-100 [52.7;88.2]	24	4/2.0	7.5/5.4	10/3.2-40AC	80.42	21.28	101.7	13.9	466	52.7	0.386
OPGW-LP-24B1-100 [68.2;77.2]	24	4/2.0	7.5/5.4	10/3.2-30AC	80.42	21.28	101.7	13.9	546	68.2	0.469
OPGW-LP-24B1-100 [87.5;73.7]	24	4/2.0	7.5/5.4	10/3.2-27AC	80.42	21.28	101.7	13.9	569	87.5	0.501
OPGW-LP-24B1-100 [103.8;65.2]	24	4/2.0	7.5/5.4	10/3.2-20AC	80.42	21.28	101.7	13.9	625	103.8	0.592
OPGW-LP-48B1-95 [60.4;70.6]	48	4/2.2	8.2/6.0	12/2.75-30AC	71.27	24.54	95.81	13.7	502	60.4	0.478
OPGW-LP-48B1-95 [77.6;67.7]	48	4/2.2	8.2/6.0	12/2.75-27AC	71.27	24.54	95.81	13.7	523	77.6	0.508
OPGW-LP-48B1-95 [92.0;60.9]	48	4/2.2	8.2/6.0	12/2.75-20AC	71.27	24.54	95.81	13.7	573	92.0	0.589
OPGW-LP-48B1-110 [54.4;99.3]	48	4/2.2	8.2/6.0	11/3.1-40AC	83.02	24.54	107.56	14.4	487	54.4	0.361
OPGW-LP-48B1-110 [70.4;87.4]	48	4/2.2	8.2/6.0	11/3.1-30AC	83.02	24.54	107.56	14.4	569	70.4	0.436
OPGW-LP-48B1-110 [90.4;83.6]	48	4/2.2	8.2/6.0	11/3.1-27AC	83.02	24.54	107.56	14.4	594	90.4	0.465
OPGW-LP-48B1-110 [107.2;74.5]	48	4/2.2	8.2/6.0	11/3.1-20AC	83.02	24.54	107.56	14.4	651	107.2	0.545
OPGW-LP-48B1-120 [63.0;124.0]	48	4/2.2	8.2/6.0	10/3.5-40AC	96.21	24.54	120.75	15.2	549	63.0	0.326
OPGW-LP-48B1-120 [81.6;108.4]	48	4/2.2	8.2/6.0	10/3.5-30AC	96.21	24.54	120.75	15.2	644	81.6	0.397
OPGW-LP-48B1-120 [104.7;103.4]	48	4/2.2	8.2/6.0	10/3.5-27AC	96.21	24.54	120.75	15.2	673	104.7	0.425
OPGW-LP-48B1-120 [124.2;91.2]	48	4/2.2	8.2/6.0	10/3.5-20AC	96.21	24.54	120.75	15.2	739	124.2	0.503

1.8 OPTICAL FIBER COMPOSITE OVERHEAD GROUND WIRES

1.8.5 OPPC(optical phase conductor)

Application

OPPC (optical phase conductor) is a new kind of electric optical cable mainly use for 110kv below distribution network of suburb and countryside.

Characteristics

- Mechanical and electrical characteristics match with adjacent two-phase conductor.
- Continuous heat-resistance.
- Used in medium and high pressure transmission lines with no ground wire.
- Used in transmission lines with unsuitability to set up OPGW or ADSS.

Applicable standards

As per customer's technical specifications.

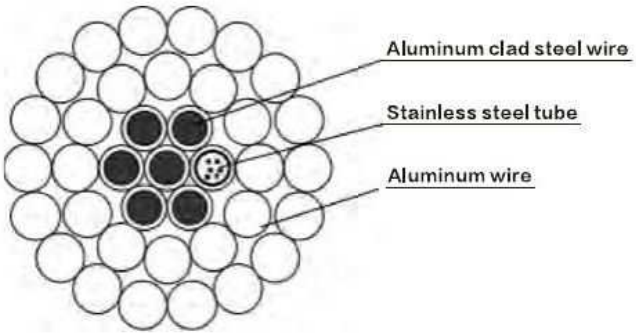
Construction

The innermost layer: Aluminum clad steel wire.

Middle layer: Aluminum clad steel wires and one or more stainless steel optical.

Outer layer: One or more Hard-drawn aluminum wire.

*We can design and produce according to client's requirement.





Structure and Performance of OPPC Cable

Type	Match conductor	Structure					Area			Outer dia.	Mass per unit length	Rated strength Min	Maximum D.C. Resistance at 20°C
		Center	1st Layer		2nd Layer	3rd Layer							
		SA1	Fiber unit	SA1	Aluminum conductor	Aluminum conductor	SA1	Aluminum conductor	Total	mm	kg/km	kN	Ω/km
		n/mm-AS	n/mm-Cores	n/mm-AS	n/mm	n/mm	mm²	mm²	mm²				
OPPC-16B1-85/25	LGJ-95/20	1/2.4-20AS	1/2.3-16B1	5/2.3-20AS	9/3.5	-	25.30	86.59	111.9	14.0	430	40.9	0.303
OPPC-36B1-90/50	LGJ-95/55	1/3.4-14AS	1/3.2-24B1	5/3.3-14AS	13/3.0	-	51.84	91.89	143.7	16.0	650	85.5	0.277
OPPC-16B1-120/20	LGJ-120/20	1/2.4-20AS	1/2.3-24B1	5/2.3-20AS	8/4.2	-	25.30	110.84	136.1	15.4	490	45.5	0.242
OPPC-24B1-120/25	LGJ-120/25	1/2.5-20AS	1/2.4-24B1	5/2.4-20AS	8/4.35	-	27.53	118.89	146.4	16.0	530	49.3	0.225
OPPC-16B1-150/25	LGJ-150/25	1/2.4-20AS	1/2.3-16B1	5/2.3-20AS	11/2.6	17/2.6	25.30	148.66	174	17.4	595	54.5	0.184
OPPC-24B1-150/30	LGJ-150/35	1/2.6-14AS	1/2.5-24B1	5/2.5-14AS	12/2.5	18/2.5	29.85	147.26	177.1	17.6	640	65.7	0.188
OPPC-16B1-185/25	LGJ-185/25	1/2.4-20AS	1/2.3-16B1	5/2.3-20AS	10/3.0	16/3.0	25.30	183.78	209.1	19.0	695	65.8	0.150
OPPC-24B1-185/40	LGJ-185/45	1/2.85-20AS	1/2.7-24B1	5/2.8-20AS	12/2.8	18/2.8	37.17	184.73	221.9	19.65	795	79.7	0.147
OPPC-24B1-240/25	LGJ-240/30	1/2.5-20AS	1/2.4-24B1	5/2.4-20AS	9/3.6	15/3.6	27.53	244.29	271.8	21.7	885	76.6	0.114

2.1 Low Voltage Overhead Insulated Cable

Application:

Used primarily for overhead and distribution line, or to supply 120/220V aerial service for tem service at construction sites, as a service drop(power pole to service entrance) as a secondary cable(Pole to Pole), or street lighting. For service at 1000V or lower at a maximum conductor temperature of 75℃ or 90℃.

Applicable standards:

ANSI/ICEA S-70-547, ANSI/ICEA S-76-474, NFC 33-209, IEC60502-1, BS7870.50, VDE 027-626 GB/T12527 SANS1418or the standards agreed by both of the customers and us.

Production Scope:

Voltage: 1KV and below.
Phase Core: 1 to 6 Cores, Cross section from 6AWG to 500MCM.
Bare Neutral: Cross Section from 6AWG to 500MCM.



Construction:

Phase Core:
Conductor: Hard bare copper/Aluminum/Aluminum alloy etc.
Insulation: PVC/XLPE/PE
Neutral Conductor (optional): ACSR /AAAC/AAC
Insulation: PVC/XLPE/PE
Street Lighting core (optional):
Conductor: AAC
Insulation: PVC/XLPE/PE
* We can design and produce according to client's requirement.





Technical characteristics of ABC / NFC33-209

Number of Cores x Nominal Cross Section,No.x mm²	Nominal Thickness of Insulation mm			Approx Overall Diameter mm	Approx. mass Kg/Km	Maximum Conductor Resistance Ω/Km	Minimum Breaking Load,KN	Current Rating A
	Phase core	Neutral core	Lighting core					
2×16	1.2	1.2	-	15	130	1.91	2.3	93
2×16 + 2×1.5	1.2	1.2	-	16	175	1.91 / 12.1		
4×16	1.2	1.2	-	18	260	1.91		83
4×16 + 2×1.5	1.2	1.2	-	20	310	1.91 / 12.1		
2×25	1.4	1.4	-	18	202	1.2	3.8	122
2×25 + 2×1.5	1.4	1.4	-	19.5	250	1.2 / 12.1		
4×25	1.4	1.4	-	22	404	1.2		111
4×25 + 2×1.5	1.4	1.4	-	24	452	1.2/ 12.1		
3×35 +1×54.6 + K×16 (K can be 0,1,2,3)	1.6	1.6	1.2	28.5/29.5/31/33	620/685/750/815	0.868/0.63/1.91	16.6	138/83
3×50 +1×54.6 + K×16 (K can be 0,1,2,3)	1.6	1.6	1.2	30.5/32.5/34/36	740/805/870/935	0.641/0.63/1.91		165/83
3×70 +1×54.6 + K×16 (K can be 0,1,2,3)	1.8	1.6	1.2	34.5/36/39/41	975/1040/1105/1170	0.868/0.63/1.91		213/83
3×95 +1×70+K×16 (K can be 0,1,2,3)	1.8	1.5	1.2	37/39.5/42/44	1210/1275/1340/1405	0.32/0.50/1.91	20.5	258/83
3×120 +1×70+K×16 (K can be 0,1,2,3)	1.8	1.5	1.2	38.5/40.5/43.5/46	1477/1542/1607/1672	0.253/0.50/1.91		300/83
3×120 +1×95+K×16 (K can be 0,1,2,3)	1.8	1.6	1.2	39.5/41.5/44.5/47	1535/1600/1665/1730	0.253/0.343/1.91	27.5	
3×150 +1×70+K×16 (K can be 0,1,2,3)	1.7	1.5	1.2	40.5/42/44.5/48	1755/1820/1885/1950	0.206/0.50/1.91	20.5	344/83
3×150 +1×95+K×16 (K can be 0,1,2,3)	1.7	1.6	1.2	43.2/45.3/47/49	1832/1897/1961/2026	0.206/0.343/1.91	27.5	

Technical characteristics of ABC / ICEA S-76-474

Item#	Phase Conductor AWG	Phase Conductor Insulation mil	Bare Neutral Messenger Size AWG	Bare Neutral Messenger Breaking Strength lb	Weight Per 1000ft-XLPE lb	Weight Per 1000ft-PE lb	Ampacity-XLPE A	Ampacity-XLPE A
Voluta	6	45	6	1190	120	130	85	70
Periwinkle	4	45	4	1860	176	172	115	90
Conch	2	45	2	2850	267	261	150	120
Neritina	1/0	60	1/0	4380	426	419	205	160
Triton	2/0	60	2/0	5310	530	519	235	185
Cherrystone	3/0	60	3/0	6620	656	643	250	200
Razor	4/0	60	4/0	8350	814	799	315	245
Limpet	336.4	80	336.4	8680	1209	1167	420	325

2.2 Medium Voltage Overhead Insulated Cable

Application:

The product is used in aerial Power line at rated voltage 3-35KV.

Applicable Standards: IEC60502-2, HD620, AS/NZS 3599.1, AS/NZS3599.2,SANS 1713, NFC33-226, NFC33-223 ANSI/ICEA S-121-733，ICEA S-66-524or the standards agreed by both of the customers and us.



Production Scope:

Number of Core: 1, 3 or 3+K
Voltage: Up to 45 KV
Cross Section for each Core: from 30mm2 to 800mm2.

Construction:

Phase Core
Conductor: Stranded copper/ Aluminum/Aluminum alloy.
Insulation: XLPE / TRXLPE
Metalli c screen (optional): Copper tape/Copper wire/Copper wire + tape / Al tape.
Jacket: PVC/PE
Messenger Conductor (optional):
Conductor: ACSR /GSW/AAAC
Insulation(Optional): PVC/ XLPE/ TRXLPE
* We can design and produce according to client's requirement.





Technical characteristics of medium Voltage Overhead Insulated Cable / AS/NZS 3599.1

Number of cores	Nominal area of cross-section,mm^2	Insulation of thickness, mm		Sheath of thickness, mm		Support wire size ,mm	
		6.35/11KV	12.7/22KV	6.35/11KV	12.7/22KV	6.35/11KV	12.7/22KV
3+1	35	3.4	5.5	1.8	1.8	7/2.00	7/2.00
3+1	35	3.4	5.5	1.8	1.8	19/2.00	19/2.00
3+1	50	3.4	5.5	1.8	1.8	19/2.00	19/2.00
3+1	70	3.4	5.5	1.8	1.8	19/2.00	19/2.00
3+1	95	3.4	5.5	1.8	1.9	19/2.00	19/2.00
3+1	120	3.4	5.5	1.8	1.9	19/2.00	19/2.00
3+1	150	3.4	5.5	1.8	2.0	19/2.00	19/2.00
3+1	185	3.4	5.5	1.9	2.0	19/2.00	19/2.00

3.1 Thermoplastic-insulated Wires

Application:

General-purpose building lines, low-voltage lines used to transmit and distribute electrical energy. Widely used in residential, commercial or industrial installations where installation is required in cable ducts, trunking, underground or above-ground waterways.

Applicable standards: UL83• Flame Test FT-2, VW-1

Production Scope:

Voltage ： 600V
Conductor type: solid or strand (class B,C,D,G,H,I,K,M) etc
Cross Section Area: 2.08mm2 (14AWG)to 507mm2(1000kcmil)
Color of insulation: black, blue, brown, etc.
Type:THHN,TW,THW,THHW,THW-2,THWN-2,THWN

Certificates:UL

Construction:

Conductor: Copper or Aluminum
Insulation: PVC
Sheath (optional): PVC or Nylon

* We can design and produce according to client's requirement.





Technical characteristics of thermoset-Insulated Wires

Conductor		Nominal Thickness of Insulation	Approx overall diameter	Approx mass	Current Rating
Size	Number of Strands				
AWG or kcmil	No	mils	mils	lbs/1000ft	A
14	7	30	131	18	15
12	7	30	149	26	20
10	7	30	173	39	30
8	7	45	232	66	55
6	7	60	298	105	75
4	7	60	345	158	100
3	7	60	372	193	115
2	7	60	403	237	130
1	19	80	482	311	145
1/0	19	80	522	383	170
2/0	19	80	566	471	195
3/0	19	80	617	582	225
4/0	19	80	672	719	260
250	37	95	749	865	290
300	37	95	800	1021	320
350	37	95	851	1177	350
400	37	95	895	1337	380
500	37	95	977	1645	430
600	61	95	1086	1990	475
750	61	110	1189	2457	535
1000	61	110	1338	3232	615

3.2 Thermoset-Insulated Wires

Application:

General-purpose building lines, low-voltage lines used to transmit and distribute electrical energy. Widely used in residential, commercial or industrial installations where installation is required in cable ducts, trunking, underground or above-ground waterways.

Applicable standards: UL44• Flame Test FT-2, VW-1.

Production Scope:

Voltage: 600V
Conductor type: solid or strand (class B,C,D,G,H,I,K,M) etc.
Cross Section Area: 2.08mm2 (14AWG)to 507mm2(1000kcmil)
Color of insulation: black, blue, brown, etc.
Type:XHHW-2,XHHW,XHH,RHW-2,RHW,RHH

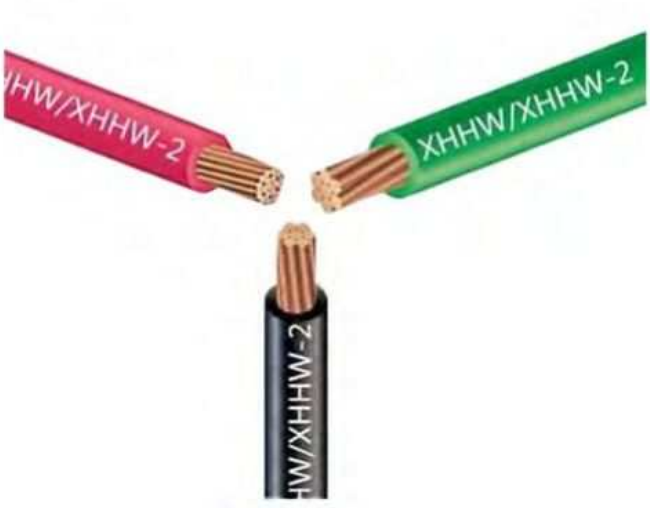
Certificates:UL

Construction:

Conductor: Copper or Aluminum
Insulation: XHHW-2,XHHW,XHH,RHW-2,RHW,RHH etc.

* We can design and produce according to client's requirement.





Technical characteristics of thermoset-Insulated Wires

Conductor		Nominal Thickness of Insulation	Approx.overall diameter	Approx.. mass per unit length	Recommending Current Rating
Size	Numberof Strands				
AWG or kcmil	No	mils	mils	lbs/1000ft	A
14	7	30	131	18	15
12	7	30	149	26	20
10	7	30	173	39	30
8	7	45	232	66	55
6	7	60	298	105	75
4	7	60	345	158	100
3	7	60	372	193	115
2	7	60	403	237	130
1	19	80	482	311	145
1/0	19	80	522	383	170
2/0	19	80	566	471	195
3/0	19	80	617	582	225
4/0	19	80	672	719	260
250	37	95	749	865	290
300	37	95	800	1021	320
350	37	95	851	1177	350
400	37	95	895	1337	380
500	37	95	977	1645	430
600	61	95	1086	1990	475
750	61	110	1189	2457	535
1000	61	110	1338	3232	615

3.3 Appliance Wiring

Application:

These cables are used for internal wiring of panels and electrical equipment. These are used as connection wire in machines laid in protective tubes and flexible pipes and also for motors and transformers.

Applicable standards: UL758 Flame Test FT-2, VW-1

Production Scope:

Voltage :1KV and below
Conductor type: solid or strand
Cross Section Area: 0.0316mm2 (32AWG) to 507mm2 (1000kcmil)
Color of insulation: black, blue, brown, grey etc.
Type:1007, 1015, 1030, 1032, 1061, 1185, 1332, 1333, 1430, 1431, 1569, 1571, 1617, 1618, 1994, 10070, 10141, 10368, 10635

Certificates:UL

Construction:

Conductor: Copper or Aluminum
Insulation: PVC XLPE XLPVC FEP
Shield(optional): Aluminum foil with drain wire, Copper wire braiding, Copper tape
Sheath (optional): PVC or FEP

* We can design and produce according to client's requirement









Technical characteristics of UL758

Common Types	Size Range (AWG/ kcmil)	Insulation Type	Shield	Jacket Type	Voltage Rating (V)	Temperature Rating (℃)
1007	32-16	PVC	None	None	300	80
1015	30-2000	PVC	None	None	600	80/90/105
1030	30-9	PVC	None	None	1000	80
1032	30-2000	PVC	Optional	Optional	1000	90
1061	30-14	SR-PVC	None	None	300	80
1185	30-4/0	PVC	Optional	PVC	300	80
1332	30-10	FEP	None	Optional	300	200
1333	30-10	FEP	None	Optional	300	150
1430	30-16	XLPVC	None	None	300	105
1431	30-1000	XLPVC	None	None	600	105
1569	30-2	PVC	None	Optional	300	80/90/105
1571	Min.50	PVC, SRPVC, foamed PVC,foamed SRPVC, XLPVC,XLSRPVC, foamed XLPVC or foamed XLSRPVC	Optional	Optional	30	80
1617	30-2000	Optional	None	PVC	600	80
1618	30-2000	Optional	None	PVC	300	80
1994	26-18	PVC	None	None	1000	80
10070	18-4/0	PVC	None	None	600	105
10141	40-2	PVC	Optional	Optional	1000	80/90/105
10368	40-10	XLPE	None	None	300	105
10635	30-1000	PVC	None	Optional	1000	90

3.4 Flexible Cords

Application:

The SPT conductor is widely used in appliance wiring low voltage applications and portable lamps. Also is recommended to use in lighting systems installations specially to feed suspended luminaries. since it facilitate the installation not affecting the esthetic of the installation. Moreover, SPT conductors might be used to feed portable electrical devices like air conditioning systems, motors, etc., basically as part of non permanent installations as specified at articles 400 and 305 of NEC.

Applicable standards: UL62 Flame Test FT-2, VW-1

Detail Description or Construction

Type SPT is a flexible insulated conductor composed by two cords of bunch-stranded bare annealed copper, both cords are joined by a membrane which keeps them in parallel position in the same plane and facilitating its separation, with thermoplastic insulation of PVC (Polyvinyl Chloride), designed to operate at not more than 125V. This product was designed to operate at 60°C of temperature inside the conductor in dry and wet conditions; also its isolation does not propagate the flame.

- SPT-1 refer to parallel cords for gauges from 20-18AWG.
- SPT-2 refer to parallel cords for gauges from 18-16AWG.
- SPT-3 refer to parallel cords for gaugesfrom18-10AWG.

* We can design and produce according to client's requirement.







Technical characteristics of UL62

UL Style	Number of cores	Conductor size	Stranding and wire diameter	Nominal Thickness of Insulation	Approx Overall Diameter
		AWG	No/mm	mm	mm
SPT-1	2	20	21/0.18	0.76	2.55×5.1
	2	18	41/0.16	0.76	2.7×5.4
	3	18	41/0.16	0.76	2.7×8.0
SPT-2	2	18	41/0.16	1.14	3.4×6.8
	2	16	65/0.16	1.14	3.7×7.4
	3	18	41/0.16	1.14	3.5×8.6
	3	16	65/0.16	1.14	3.8×9.6
SPT-3	2	18	41/0.16	1.52	4.4×8.7
	2	16	65/0.16	1.52	4.8×8.9
	2	14	41/0.254	2.03	6.0×12.0
	2	12	65/0.254	2.41	7.4×14.0
	2	10	105/0.254	2..79	9.1×18.2
	3	18	41/0.16	1.52	4.4×10.7
	3	16	65/0.16	1.52	4.8×11.8
	3	14	41/0.254	2.03	6.0×14.5
	3	12	65/0.254	2.41	7.4×16.5
	3	10	105/0.254	2..79	9.1×18.8

3.5 Service-Entrance Cable

Application:

Overhead or underground access lines, from the meter to the middle of the indoor distribution box Connect the wires. Sunlight resistant USE-2 can be additionally used as photovoltaic wire.

Applicable standards: UL854 UL44 Flame Test FT-2, VW-1



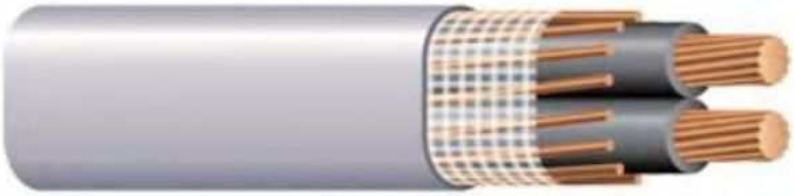
Production Scope:

Voltage :600V
Core Number: 1,2,3,4 Cores
Conductor type: solid or strand
Cross Section Area:2.08 mm2(14AWG)to 507mm2(1000kcmil)
Type:USE-2,USE, SER, SEU

Certificates:UL

Construction:

Conductor: Copper or Aluminum
Insulation: XLPE
Concentric Conductor(optional): Copper or Aluminum
Sheath (optional): PVC XLPE
* We can design and produce according to client's requirement.







Technical characteristics of UL854

Size/ Construction	Stranding		Nominal O.D. (mils)	Approx Weight per 1000' (lbs.)	Allowable Ampacity	
	Phase & Neutral Conductors	Equipment Ground Conductor			90° C	Dwelling
SER Two Conductor with Bare Ground (Formerly Referred to as "Three Conductor")						
2008-8-8	7	N/A	586	231	55	N/A
2006-6-6	7	N/A	669	338	75	N/A
2004-4-4	7	N/A	764	498	95	100
2003-3-3	7	N/A	829	611	110	110
2002-2-2	7	N/A	896	752	130	125
2001-1-1	19	N/A	1021	948	150	150
1/0- 1/0- 1/0	19	N/A	1114	1169	170	175
2/0-2/0-2/0	19	N/A	1209	1444	195	200
3/0-3/0-3/0	19	N/A	1317	1792	225	225
4/0-4/0-4/0	19	N/A	1438	2226	260	250
SER Three Conductor with Bare Ground (Formerly Referred to as "Four Conductor")						
8-8-8-8	7	7	645	286	55	N/A
6-6-6-6	7	7	738	424	75	N/A
4-4-4-6	7	7	844	585	95	100
3-3-3-5	7	7	910	719	110	110
2-2-2-4	7	7	984	887	130	125
1- 1- 1-3	19	7	1132	1117	150	150
1/0- 1/0- 1/0-2	19	19	1235	1382	170	175
2/0-2/0-2/0- 1	19	19	1342	1713	195	200
3/0-3/0-3/0- 1/0	19	19	1462	2129	225	225
4/0-4/0-4/0-2/0	19	19	1598	2650	260	250

4.1Control Cable

Application:

Mainly used for transmission control, measuring signal cables. The control cable is suitable for industrial and mining enterprises and modern high-rise buildings such as 50HZ, rated voltage 450 / 750V, 600 / 1000V and below, control stove, signal and protection measuring circuit. As various types of electrical instrumentation and automated instrumentation devices between the connection line, plays a variety of electrical signals transmission to protect the system safe and reliable operation of the role.

Manufactured standards: GB/T9330 IEC60227 IEC60502-1 ANSI / ICEA S-73-532 or the standards agreed by both of the customers and us.

Production Scope:

Voltage ： 1KV and below
Conductor type: Flexible, Stranded or solid (class 1, 2, and 5)
Cross Section Area: 0.5mm2 to 10mm2
Core: from 2 to 61cores
Color of insulation: Red, yellow, yellow/green, white, black, grey, brown, orange etc.
Core's identification: by colour, Number or others as per customers request

Construction:

Conductor: IEC60228 class 2 and class 5 bear copper/Aluminum etc.
Insulation: PVC/XLPE/EPR
Shield (optional): Copper tape/Al-Mylar tape/Braiding
Armor (optional): Galvanized steel wire/ two layers of steel tape gap-wrapped / Galvanized steel interlocked armour/Aluminum alloy interlocked armour
Outer Sheath: PVC, PE, or other special requirements
* We can design and produce according to client's requirement



Technical characteristics of control cable

No. of core×Nominal cross section	Thickness of insulation	Thickness of copper tape/Aluminum plastic tape	Thickness of sheath	Average O.D		Max. DC. resistance of conductor (20℃)
				mm		Ω/km
mm2	mm	mm	mm	Min	Max	
4×0.75	0.6	0.05-0.10	1.2	8.0	10.0	24.5
4×1.0	0.6	0.05-0.10	1.2	8.4	10.5	18.1
4×1.5	0.7	0.05-0.10	1.2	9.4	11.5	12.1
4×2.5	0.8	0.05-0.10	1.5	11.0	14.0	7.41
4×4	0.8	0.05-0.10	1.5	12.5	15.0	4.61
4×6	0.8	0.05-0.10	1.5	13.5	16.0	3.08
4×10	1.0	0.05-0.10	1.7	17.5	21.5	1.83
10×0.75	0.6	0.05-0.10	1.5	11.5	14.5	24.5
10×1.0	0.6	0.05-0.10	1.5	12.5	15.0	18.1
10×1.5	0.7	0.05-0.10	1.5	14.0	17.0	12.1
10×2.5	0.8	0.05-0.10	1.7	16.5	19.5	7.41
10×4	0.8	0.05-0.10	1.7	18.5	21.5	4.61
10×6	0.8	0.05-0.10	1.7	20.5	23.5	3.08
10×10	1.0	0.05-0.10	1.7	26.0	31.5	1.83
24×0.75	0.6	0.05-0.10	1.5	16.0	19.0	24.5
24×1.0	0.6	0.05-0.10	1.7	17.0	20.5	18.1
24×1.5	0.7	0.05-0.10	1.7	20.0	23.0	12.1
24×2.5	0.8	0.05-0.10	1.7	23.0	26.5	7.41
37×0.75	0.6	0.05-0.10	1.7	18.5	21.5	24.5
37×1.0	0.6	0.05-0.10	1.7	19.5	22.5	18.1
37×1.5	0.7	0.05-0.10	1.7	22.5	26.0	12.1
37×2.5	0.8	0.05-0.10	2.0	26.5	30.0	7.41

4.2 Instrument Cable

Application:

Mainly used in the computer network and control systems, need Strong anti-jamming performance basic device and instrumentation, as the connection wires. Capacity of resisting disturbance is relatively strong.

Applicable Standards: BS 5308, IEC60502-1, BS EN 50288-7,ANSI / ICEA S-73-532 or the standards agreed by both of the customers and us.

Production Scope:

Voltage: 1KV or below
Conductor type: Stranded or solid (class 1, 2, and 5)
Nominal Cross Section Area: 0.5mm2 to 6mm2
Pair No.: 1-61pairs

Construction:

Conductor: Copper or tinned copper
Insulation: PVC /PE /XLPE
Individual Screen (optional):
Aluminum foil with drain wire, Copper wire braiding, Copper tape
Overall Screen: Aluminum foil with drain wire, Copper wire braiding, Copper tape
Armor (optional): Steel Tape / Steel Wire
Sheath: PVC, PE, LSHF, or other special requirements
Core's Color:
One Pair: Black/White Pair
Two Pairs and above: black/White Pairs with Numbers 1, 2….n or color.
Color of Sheath: Black, blue or customer designated.
* We can design and produce according to client's requirement.







Technical characteristics of instrument cable

No. of pair ×Nominal cross section	300V				500V			
	Thickness of insulation	Approx. Overall Diameter	Approx mass		Thickness of insulation	Approx. Overall Diameter	Approx mass	
			PVC-insulated	PE-insulated			PVC-insulated	PE-insulated
No/mm2	mm	mm	Kg/Km		mm	mm	Kg/Km	
1×2×0.5	0.40	10.1	199	197	0.60	10.5	211	208
2×2×0.5	0.40	11	242	238	0.60	11.4	259	254
4×2×0.5	0.40	14.3	375	366	0.60	15.1	407	396
8×2×0.5	0.40	17.5	534	517	0.60	18.6	582	560
10×2×0.5	0.40	19.1	615	593	0.60	20.8	693	665
12×2×0.5	0.40	19.9	676	649	0.60	21.4	748	714
20×2×0.5	0.40	24.7	1053	1009	0.60	26.7	1176	1120
24×2×0.5	0.40	27.1	1225	1173	0.60	29.1	1348	1281
1×2×1.0	0.40	10.8	228	225	0.60	11.2	244	241
2×2×1.0	0.40	12.0	293	288	0.60	12.5	314	306
4×2×1.0	0.40	16.1	479	467	0.60	16.9	509	494
8×2×1.0	0.40	19.7	691	668	0.60	21.1	760	732
10×2×1.0	0.40	21.9	821	793	0.60	24.3	1042	1008
12×2×1.0	0.40	22.5	892	858	0.60	25.0	1130	1086
20×2×1.0	0.40	28.3	1430	1373	0.60	30.2	1548	1476
24×2×1.0	0.40	31.1	1658	1589	0.60	33.9	1989	1903
1×2×1.5	0.50	12.0	279	275	0.60	12.4	292	287
2×2×1.5	0.50	13.2	356	348	0.60	13.7	378	368
4×2×1.5	0.50	17.7	575	559	0.60	18.8	627	608
8×2×1.5	0.50	22.9	1001	970	0.60	24.4	1095	1057
10×2×1.5	0.50	25.6	1199	1161	0.60	27.3	1306	1259
12×2×1.5	0.50	26.6	1324	1278	0.60	28.1	1415	1358
20×2×1.5	0.50	33.1	2036	1959	0.60	35.0	2176	2080
24×2×1.5	0.50	36.3	2362	2269	0.60	38.5	2540	2426

Application: Mainly used in low-voltage power supply, connect a variety of electrical equipment.

Applicable standards: IEC60227, GB/T5023, DIN VDE 0281 EN50525or the standards agreed by both of the customers and us.

Production Scope:

Voltage ： 1KV or below
Conductor type: Flexible, Stranded or solid (class 1, 2, 5 and 6)
Cross Section Area: 0.12mm2 to 600mm2
Core: from 1 to 61cores
Color of insulation: yellow/green, black, blue, brown, grey etc.
.

Construction:

Conductor: Copper or Aluminum
Insulation: PVC
Sheath (optional): PVC

* We can design and produce according to client's requirement.









Technical characteristics of PVC insulated cables- IEC60227.3

Nominal Area mm2	Class of conductor	Thickness of insulation mm	Overall diameter		Maximum D.C. Resistance at 20°C Ω/km
			Min. mm	Max. mm	
1.5	1	0.7	2.6	3.2	12.1
1.5	2	0.7	2.7	3.3	12.1
2.5	1	0.8	3.2	3.9	7.41
2.5	2	0.8	3.3	4.0	7.41
4	1	0.8	3.6	4.4	4.61
4	2	0.8	3.8	4.6	4.61
6	1	0.8	4.1	5.0	3.08
6	2	0.8	4.3	5.2	3.08
10	1	1.0	5.3	6.4	1.83
10	2	1.0	5.6	6.7	1.83
16	2	1.0	6.4	7.8	1.15
25	2	1.2	8.1	9.7	0.727
35	2	1.2	9.0	10.9	0.524
50	2	1.4	10.6	12.8	0.387
70	2	1.4	12.1	14.6	0.268
95	2	1.6	14.1	17.1	0.193
120	2	1.6	15.6	18.8	0.153
150	2	1.8	17.3	20.9	0.124
185	2	2.0	19.3	23.3	0.0991
240	2	2.2	22.0	26.6	0.0754
300	2	2.4	24.5	29.6	0.0601
400	2	2.6	27.5	33.2	0.0470

Application: Mainly used in low-voltage power supply, in various movable electric equipment and tools.

Applicable standards:

IEC60245, DIN VDE 0207,EN50525or the standards agreed by both of the customers and us.

Production Scope:

Voltage: 1KV or below
Conductor type: Flexible, Stranded (class 5 and 6)
Cross Section Area: 0.5mm2 to 600mm2
Core: from 1 to 61cores
Color of insulation: yellow/green, black, grey, brown, blue etc.



Construction:

Conductor: Copper
Insulation: Rubber, such as EPR, CPE etc
Braiding(optional): Copper, Tinned Copper or copper clad aluminum
Sheath (optional): CPE PCP CSP or NBR/PVC

* We can design and produce according to client's requirement.





Technical characteristics of Rubber insulated cables- IEC60245.4

Number and nominal area mm2	Thickness of insulation mm	Thickness of sheath mm	Overall diameter		Maximum D.C. Resistance at 20°C Ω/km
			Min. mm	Max. mm	
2×0.75	0.6	0.8	5.7	7.4	26.0
2×1	0.6	0.9	6.1	8.0	19.5
2×1.5	0.8	1.0	7.6	9.8	13.3
2×2.5	0.9	1.1	9.0	11.6	7.98
3×0.75	0.6	0.9	6.2	8.1	26.0
3×1	0.6	0.9	6.5	8.5	19.5
3×1.5	0.8	1.0	8.0	10.4	13.3
3×2.5	0.9	1.1	9.6	12.4	7.98
4×0.75	0.6	0.9	6.8	8.8	26.0
4×1	0.6	0.9	7.1	9.3	19.5
4×1.5	0.8	1.1	9.0	11.6	13.3
4×2.5	0.9	1.2	10.7	13.8	7.98
5×0.75	0.6	1.0	7.6	9.9	26.0
5×1	0.6	1.0	8.0	10.3	19.5
5×1.5	0.8	1.1	9.8	12.7	13.3
5×2.5	0.9	1.3	11.9	15.3	7.98

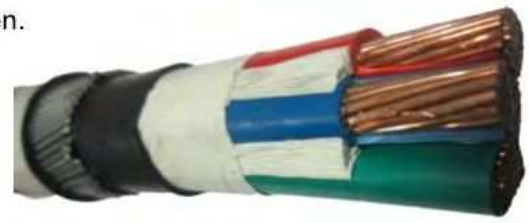
7.1 0.6/1kVPower Cable

Application: The cable is applied to fixed installation for rated voltage 0.6/1kv of power transmission and distribution line.

Applicable Standards: IEC60502, GB/T12706-1, BS 6346 HD 603 S1/A2 ICEA S 95-658 AS/NZS 5000 BS 5467 CSA C22.2 NO.51or the standards agreed by both of the customers and us.

Production Scope:

Nominal Cross-section:1.5-1000mm^2
Rated Voltage:600/1000V
Cores: 1, 2, 3, 4, 5, 2+1, 3+1, 3+2, 4+1 etc.
Color of insulation: Red, Yellow , Green ,Blue, Black ,yellow/green.



Construction:

Conductor: Copper or aluminum
Insulation: PVC,XLPE,EPR
Inner sheath (Optional): PVC
Armored (optional):
Galvanized steel wire/Aluminum wire/Galvanized steel tape /Aluminum tape /Aluminum alloy interlocked armor.
Outer Sheath: PVC, PE, or other special requirements

* We can design and produce according to client's requirement.







0.6/1KV 3+1 Cores, Copper or Aluminum Conductor, XLPE Insulated steel wire armour PVC sheath Power Cable

Number of Cores and Nominal Area	Thickness of insulation		Approx. Overall Diameter & Weight				Max. DC Resistance at 20°C		Current Rating (A)			
	Phase	Earth/Neutral	Copper		Aluminium		Copper	Aluminium	Copper		Aluminium	
Nos×mm²	mm	mm	Overall Dia. mm	Weight kg/km	Overall Dia. mm	Weight kg/km	Ohm/km	Ohm/km	Under Ground	In Air	Under Ground	In Air
3×2.5+1×1.5*	0.7	0.7	17.2	600	17.2	-	7.41	-	38	30	-	-
3×4+1×2.5*	0.7	0.7	17.4	649	17.4	-	4.61	-	50	49	24	17
3×6+1×4*	0.7	0.7	18.6	769	18.6	-	3.08	-	65	55	35	27
3×10+1×6*	0.7	0.7	20.3	989	20.3	763	1.83	3.08	89	78	49	37
3×16+1×10*	0.7	0.7	22.5	1270	22.5	906	1.15	1.91	115	105	66	57
3×25+1×16	0.9	0.7	27.1	1857	27.1	1286	0.727	1.25	150	140	89	77
3×35+1×16	0.9	0.7	29.3	2234	29.3	1483	0.524	0.868	180	170	115	105
3×50+1×25	1.0	0.9	31.9	2828	31.9	1778	0.387	0.641	215	205	135	125
3×70+1×35	1.1	0.9	36.3	3928	36.3	2420	0.268	0.443	265	260	165	155
3×95+1×50	1.1	1.0	40.0	4956	40.0	2904	0.193	0.320	315	320	220	195
3×120+1×70	1.2	1.1	44.4	6408	44.4	3760	0.153	0.253	360	370	240	235
3×150+1×70	1.4	1.1	48.2	7456	48.2	4299	0.124	0.206	405	430	275	280
3×185+1×95	1.6	1.1	52.4	9081	52.4	5062	0.0991	0.164	460	490	310	320
3×240+1×120	1.7	1.2	57.9	11292	57.9	6045	0.0754	0.125	530	580	350	370
3×300+1×150	1.8	1.4	63.0	13648	63.0	7106	0.0601	0.100	590	660	410	440
3×400+1×185	2.0	1.6	71.0	18102	71.0	9457	0.047	0.0778	670	750	460	520

Note:* means round conductor

Four Cores, Copper or Aluminum Conductor, XLPE Insulated steel wire armour PVC sheath Power Cable

Nominal Cross Section mm2	Thickness of Insulation mm	Approx. Overall Diameter & Weight				Max. DC Resistance at 20°C		Current Rating(A)			
		Copper		Aluminium		Copper	Aluminium	Copper		Aluminium	
		Overall dia. mm	Weight kg/km	Overall dia. mm	Weight kg/km	Ohm/km	Ohm/km	Under Ground	In Air	Under Ground	In Air
4×1.5*	0.7	17.0	593	-	-	12.1	-	28	21	-	-
4×2.5*	0.7	18.0	663	18.0	600	7.41	-	38	30	24	17
4×4*	0.7	19.1	770	19.1	670	4.61	-	50	49	35	27
4×6*	0.7	20.3	916	20.3	772	3.08	-	65	55	49	37
4×10*	0.7	22.3	1148	22.3	895	1.83	3.08	89	78	66	57
4×16*	0.7	24.5	1472	24.5	1070	1.15	1.91	115	105	89	77
4×25	0.9	27.5	1942	27.5	1317	0.727	1.25	150	140	115	105
4×35	0.9	29.5	2386	29.5	1521	0.524	0.868	180	170	135	125
4×50	1.0	32.9	3206	32.9	2036	0.387	0.641	215	205	165	155
4×70	1.1	36.7	4197	36.7	2502	0.268	0.443	265	260	220	195
4×95	1.1	40.5	5362	40.5	3016	0.193	0.320	315	320	240	235
4×120	1.2	45.3	6908	45.3	3940	0.153	0.253	360	370	275	280
4×150	1.4	50.0	8327	50.0	4683	0.124	0.206	405	430	310	320
4×185	1.6	54.2	10044	54.2	5466	0.0991	0.164	460	490	350	370
4×240	1.7	60.4	12672	60.4	6666	0.0754	0.125	530	580	410	440
4×300	1.8	65.7	15302	65.7	7795	0.0601	0.100	590	660	460	520
4×400	2.0	74.2	19969	74.2	10319	0.047	0.0778	670	750	523	615

ns round conductor

7.2 5KV to 46KV Medium Voltage Cable

Application: These products apply for power transmission and distribution line at AC rated voltage up to 46kV.

Applicable standards: IEC60502-2, BS6622, SANS1339, AS/NZS1429.1, DIN VDE 0276-626, NFC 33-226, IEC60840, ICEA S-93-639,ICEA S-94-649, HD620,CSA C68.10or the standards agreed by both of the customers and us.

Construction:

Conductor:IEC60228 class 2 bare copper/Aluminum etc
Conductor Screen: Semi-conducting compound
Insulation: XLPE EPR
Insulation Screen: Semi-conducting compound
Core: 1core or 3cores
Shield: Copper wire/ Copper tape/AL plastic tape/Aluminum tape
Inner Sheath(optional): PVC PE LSZH CPE
Armoured (optional): Galvanized steel wire/Aluminum wire/Two layers of Aluminum tapegap-wrapped /Two layers of steel tape gap-wrapped / Galvanized steel interlocked armour/Aluminum alloy interlocked armour
Outer Sheath: PVC PE LSZH CPE

Scope of voltage grade and core number and cross-section

a) National standard

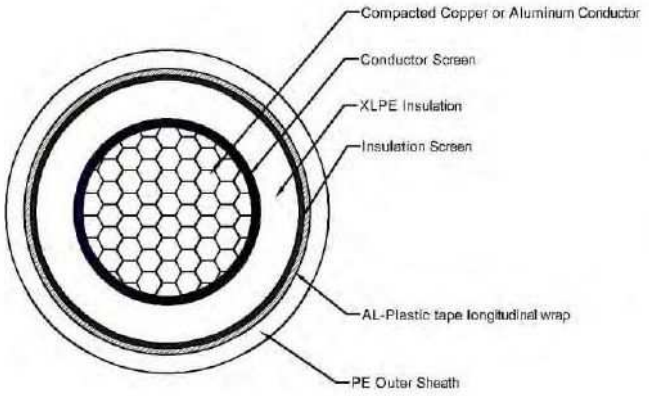
Rated Voltage (kV)		3.6/6	6/6	6/10	8.7/10	8.7/15	12/20	18/20	18/30	21/35	26/35
Core Number		1core or 3cores									
Cross-section mm²	1C	25-800			35-800						
	3C	25-400			35-400						

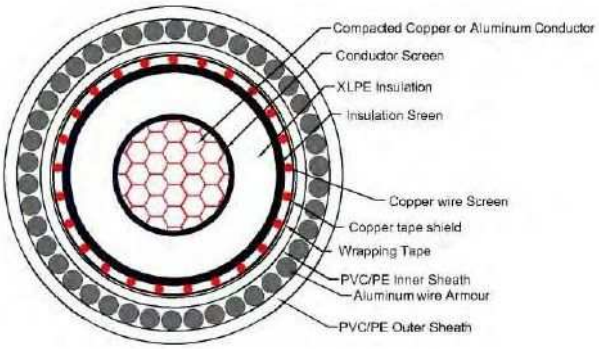
b) IEC/BS/DIN standard

Rated Voltage (kV)		3.6/6	3.8/6.6	6/10	6.6/11	8.7/15	12/20	12.7/22	15/20	15/25	18/30	19/33	20.8/36
Core Number		1core or 3cores											
Cross-section mm²	1C	25-800				35-800							
	3C	25-400				35-400							

c) ASTM standard

Rated Voltage (V)		5001-8000	8001-15000	15001-25000	25001-28000	28001-35000	35000-46000
Core Number		1Core 3Core					
Cross-section AWG or kcmil	1C	6AWG~1600kcmil	2AWG~1600 kcmil		1AWG~1600 kcmil	2AWG~1600 kcmil	1/0AWG~1600 kcmil
	3C	6AWG~800kcmil	2AWG~800kcmil		1AWG~800kcmil	2AWG~800kcmil	4/0AWG~800 kcmil


Compacted Copper or Aluminum Conductor
Conductor Screen
XLPE Insulation
Insulation Screen
AL-Plastic tape longitudinal wrap
PE Outer Sheath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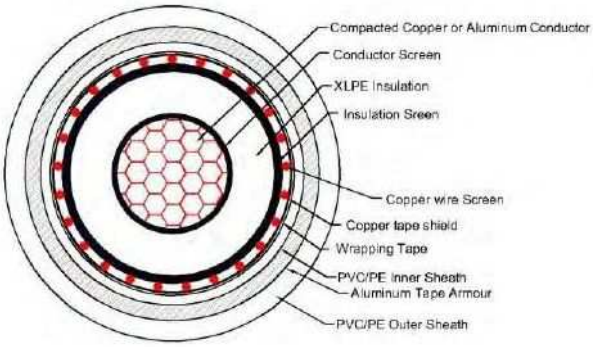
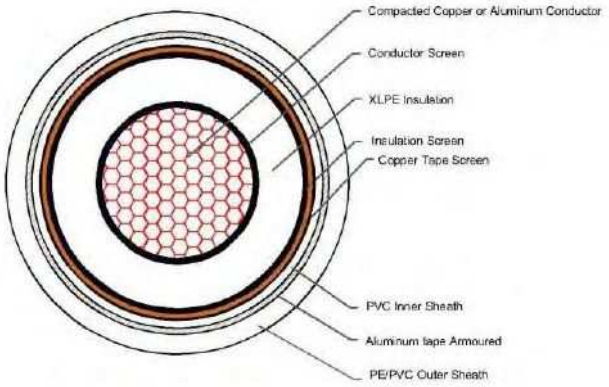
Conductor Screen
XLPE Insulation
Insulation Sreen
Copper wire Screen
Copper tape shield
Wrapping Tape
PVC/PE Inner Sheath
Aluminum wire Armour
PVC/PE Outer Sheath


Compacted Copper or Aluminum Conductor
Conductor Screen
XLPE Insulation
Insulation Sreen
Copper wire Screen
Copper tape shield
Wrapping Tape
PVC/PE Inner Sheath
Aluminum Tape Armour
PVC/PE Outer Sheath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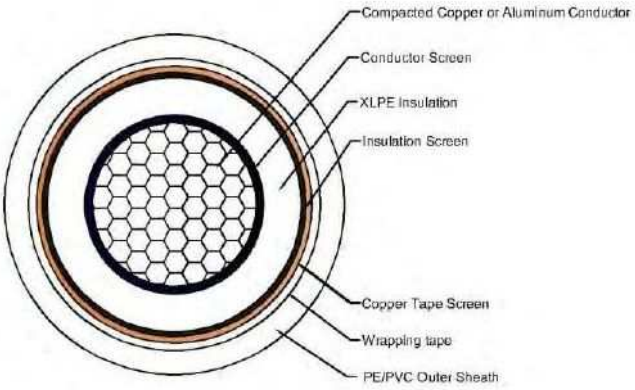
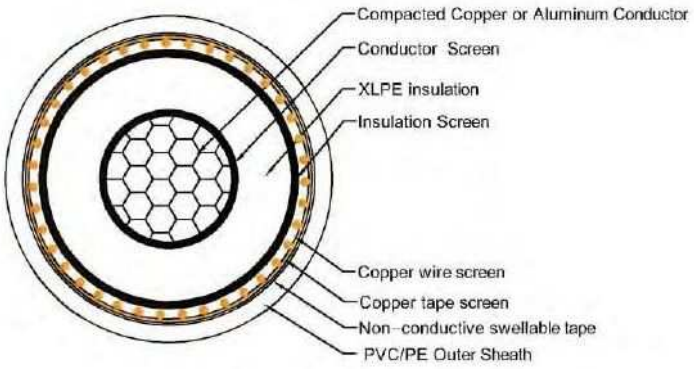
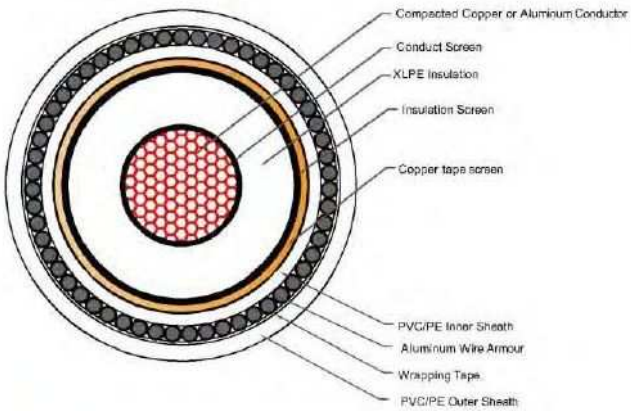
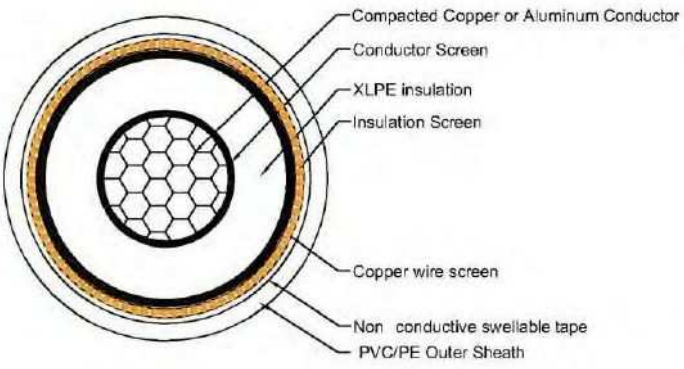
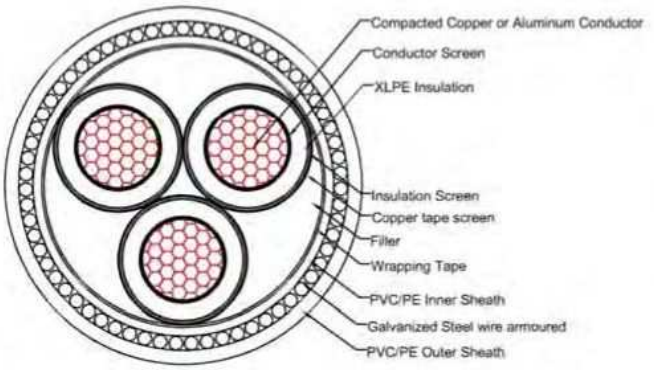
Conductor Screen
XLPE Insulation
Insulation Screen
Copper Tape Screen
PVC Inner Sheath
Aluminum tape Armoured
PE/PVC Outer Sheath

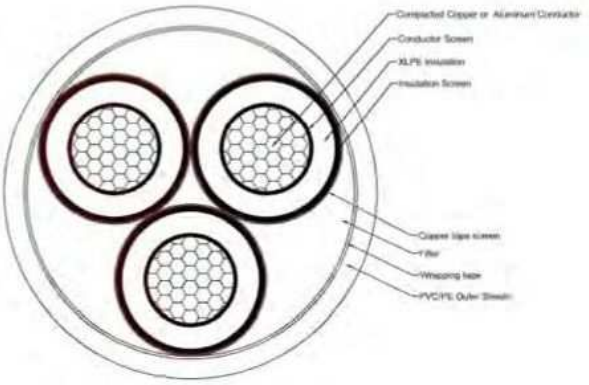

Compacted Copper or Aluminum Conductor
Conductor Screen
XLPE Insulation
Insulation Screen
Copper Tape Screen
Wrapping tape
PE/PVC Outer Sheath


Compacted Copper or Aluminum Conductor
Conductor Screen
XLPE insulation
Insulation Screen
Copper wire screen
Copper tape screen
Non-conductive swellable tape
PVC/PE Outer Sheath


Compacted Copper or Aluminum Conductor
Conduct Screen
XLPE Insulation
Insulation Screen
Copper tape screen
PVC/PE Inner Sheath
Aluminum Wire Armour
Wrapping Tape
PVC/PE Outer Sheath


Compacted Copper or Aluminum Conductor
Conductor Screen
XLPE insulation
Insulation Screen
Copper wire screen
Non conductive swellable tape
PVC/PE Outer Sheath


Compacted Copper or Aluminum Conductor
Conductor Screen
XLPE Insulation
Insulation Screen
Copper tape screen
Filler
Wrapping Tape
PVC/PE Inner Sheath
Galvanized Steel wire armoured
PVC/PE Outer Sheath




AL/XLPE/NYBT/CWS/PVC/HDPE
19/33kV 1x240mm²


/5V-90


1x6mm²


SWA/PVC
1C1/0

3.6/6KV XLPE Insulated aluminum wire armour PVC sheath power cable

Number of Cores and Nominal Area	Thickness of Insulation	Approx. Overall Diameter	Approx mass		Max. DC Resistance at 20℃		Current Rating			
							Copper		Aluminium	
			Copper	Aluminium	Copper	Aluminium	Direct In Soil	In air	Direct In Soil	In air
Nos×mm²	mm	mm	kg/km	kg/km	Ohm/km	Ohm/km	A	A	A	A
1×25	2.5	23.8	866	715	0.727	1.20	140	163	108	127
1×35	2.5	24.9	993	784	0.524	0.868	166	198	129	154
1×50	2.5	26.0	1152	867	0.387	0.641	196	238	152	184
1×70	2.5	27.7	1407	994	0.268	0.443	239	296	186	230
1×95	2.5	29.6	1721	1152	0.193	0.320	285	361	221	280
1×120	2.5	31.1	1994	1275	0.153	0.253	323	417	252	324
1×150	2.5	32.7	2301	1425	0.124	0.206	361	473	281	368
1×185	2.5	35.4	2804	1696	0.0991	0.164	406	543	317	424
1×240	2.6	38.0	3430	1976	0.0754	0.125	469	641	367	502
1×300	2.8	40.8	4119	2294	0.0601	0.100	526	735	414	577
1×400	3.0	44.4	5043	2706	0.0470	0.0778	590	845	470	673
1×500	3.2	49.8	6393	3398	0.0366	0.0605	735	958	578	767
1×630	3.2	53.9	7892	4024	0.0283	0.0469	831	1098	665	896
1×800	3.2	58.2	9719	4757	0.0221	0.0367	945	1266	761	1041

Trefoil arrangement;Maximum conductor temperature 90 °C ; Ambient air temperature 30 °C ; Ground temperature 20 °C ; Depth of laying 0,8 m ; Thermal resistivity of soil 1,5 K.m/W

3.6/6KV XLPE Insulated steel wire armour PVC sheath power cable

Number of Cores and Nominal Area	Nominal Thickness of Insulation	Approx. Overall Diameter	Approx mass		Max. DC Resistance at 20℃		Current Rating			
							Copper		Aluminium	
			Copper	Aluminium	Copper	Aluminium	Direct In Soil	In air	Direct In Soil	In air
Nos×mm²	mm	mm	kg/km	kg/km	Ohm/km	Ohm/km	A	A	A	A
3×25	2.5	41.9	3207	2748	0.727	1.20	129	143	100	111
3×35	2.5	45.6	4054	3430	0.524	0.868	154	172	119	133
3×50	2.5	48.2	4654	3792	0.387	0.641	181	205	140	159
3×70	2.5	52.2	5592	4347	0.268	0.443	220	253	171	196
3×95	2.5	56.1	6703	4975	0.193	0.320	263	307	204	238
3×120	2.5	60.0	7762	5582	0.153	0.253	298	352	232	274
3×150	2.5	63.4	8878	6187	0.124	0.206	332	397	259	309
3×185	2.5	67.3	10248	6881	0.0991	0.164	374	453	293	354
3×240	2.6	73.5	12509	8072	0.0754	0.125	431	529	338	415
3×300	2.8	81.0	15741	10190	0.0601	0.100	482	599	380	472
3×400	3.0	88.8	19093	11996	0.0470	0.0778	541	683	432	545

...rangement;Maximum conductor temperature 90 °C ; Ambient air temperature 30 °C ; Ground temperature 20 °C ; Depth of laying 0.8 ...
...ty of soil 1,5 K.m/W

18/30KV XLPE Insulated aluminum wire armour PVC sheath power cable

Number of Cores and Nominal Area	Thickness of Insulation	Approx. Overall Diameter	Approx mass		Max. DC Resistance at 20°C		Current Rating			
							Copper		Aluminium	
			Copper	Aluminium	Copper	Aluminium	Direct In Soil	In air	Direct In Soil	In air
Nos×mm²	mm	mm	kg/km	kg/km	Ohm/km	Ohm/km	A	A	A	A
1×35	8.0	37.4	1840	1630	0.524	0.868	170	201	132	158
1×50	8.0	38.7	2036	1751	0.387	0.641	200	242	156	190
1×70	8.0	40.4	2335	1920	0.268	0.443	242	300	190	235
1×95	8.0	42.3	2681	2112	0.193	0.320	288	363	224	285
1×120	8.0	43.8	2996	2278	0.153	0.253	326	420	256	328
1×150	8.0	46.4	3506	2621	0.124	0.206	364	476	286	372
1×185	8.0	48.3	3970	2862	0.0991	0.164	409	546	321	428
1×240	8.0	50.9	4661	3207	0.0754	0.125	472	645	372	505
1×300	8.0	53.5	5380	3555	0.0601	0.100	529	740	418	578
1×400	8.0	56.7	6333	3996	0.0470	0.0778	593	848	475	675
1×500	8.0	60.5	7556	4561	0.0366	0.0605	740	963	583	772
1×630	8.0	64.8	9172	5304	0.0283	0.0469	835	1101	675	900
1×800	8.0	69.1	11063	6101	0.0221	0.0367	950	1272	765	1046

Trefoil arrangement;Maximum conductor temperature 90 °C ; Ambient air temperature 30 °C ; Ground temperature 20 °C ; Depth of laying 0,8 m ; Thermal resistivity of soil 1,5 K.m/W

18/30KV XLPE Insulated steel wire armour PVC sheath power cable

Number of Cores and Nominal Area	Thickness of Insulation	Approx. Overall Diameter	Approx mass		Max. DC Resistance at 20°C		Current Rating			
							Copper		Aluminium	
			Copper	Aluminium	Copper	Aluminium	Direct In Soil	In air	Direct In Soil	In air
Nos×mm²	mm	mm	kg/km	kg/km	Ohm/km	Ohm/km	A	A	A	A
3×35	8.0	72.1	7473	6848	0.524	0.868	154	175	118	132
3×50	8.0	76.2	9011	8149	0.387	0.641	180	210	139	158
3×70	8.0	80.3	10196	8951	0.268	0.443	217	258	171	200
3×95	8.0	84.4	11479	9751	0.193	0.320	261	310	204	240
3×120	8.0	88.0	12743	10563	0.153	0.253	296	353	229	279
3×150	8.0	91.2	13918	11228	0.124	0.206	332	405	256	310
3×185	8.0	95.3	15562	12196	0.0991	0.164	374	458	293	360
3×240	8.0	101.1	18038	13601	0.0754	0.125	429	535	338	420
3×300	8.0	106.2	20502	14952	0.0601	0.100	482	602	380	474
3×400	8.0	113.0	23898	16800	0.0470	0.0778	541	690	428	545

Trefoil arrangement;Maximum conductor temperature 90 °C ; Ambient air temperature 30 °C ; Ground temperature 20 °C ; Depth of laying 0,8 m ; Thermal resistivity of soil 1,5 K.m/W

7.3 66KV to 500KV High Voltage Cable

Application: This product is applicable to being fixedly laid on th transmission and distribution line of rated voltages from 66kV up to 500kV with the use for power transmission and distribution.Laying site for instance in tunnel,pipeline and soil to transport electrical energy.Allow for high fall or vertical installition

Applicable standards:IEC60840 IEC62067 HD632 ANSI/ICEA S-108-720

GB/T22078,GB/T18890,GB/T11017,GB/T31489 or the standards agreed by both of the customers and us.

Construction:

Conductor: Plain circular compacted copper or aluminum conductor for ≤ 800 mm2，Compacted miliken copper or aluminum conductor with separator tape for＞800 mm2。
Conductor-screen:Extruded semi-conductive cross linked polyethylene
Insulation: Extruded supper clean cross linked polyethylene
Insulation-screen: Extruded bonded semi-conductive cross linked polyethylene
Block water buffering layer: Helically applied swellable tape
Metallic sheath: Corrugated aluminum (or copper) sheath, lead sheath and aluminum-polymer laminated sheath can be applied as metallic sheath of the HV power cable. A layer of annealed copper wires can be added as a metallic screen to meet the short-circuit current requirements during ground faults.current .
Asphalt: Black asphalt coating
Jacket and Graphite: Extruded polyethylene or PVC jacket, Graphite coating on outer sheath surface

Scope of voltage grade and core number and cross-section

a) National standard

Rated Voltage (kV)	36/66	64/110	76/132	85/150	127/220	160/275	190/330	220/380	290/500
Core Number		1core							
Cross-section mm²	185-2000			400-2500				800-2500	

b) IEC/BS/DIN standard

Rated Voltage (kV)	36/63	52/90	64/110	76/132	87/150	130/225	160/275	200/345	230/400	290/500
Core Number	1core									
Cross-section mm²	185-2000				400-2500			800-2500		

c) ASTM standard

Rated Voltage (KV)	69	115	120	138	161	230	345
Core Number	1Core						
Cross-section kcmil	250-4000	750-4000				1000-4000	







38/66KV Conductor/XLPE/CWS/LAT(Longitudinal Aluminum Plastic Tape)/HDPE power cable

Cross section of conductor	Appro.diameter of conductor	Average thickness	Copper wire screen section	Appro.outer diameter of cable	Approx. Weight		Max. DC Resistance at 20℃		Current Rating			
					Copper conductor	Aluminum conductor	Copper conductor	Aluminum conductor	Copper conductor		Aluminum conductor	
									Direct In Soil	In air	Direct In Soil	In air
mm2	mm	mm	mm2	mm	kg/m	kg/m	Ohm/km	Ohm/km	A	A	A	A
150	14.3	12.0	50	55.2	3.9	2.9	0. 124	0.206	410	478	315	370
185	16.1	12.0	50	57.1	4.3	3.2	0.0991	0.164	465	546	370	410
240	18.4	12.0	95	59.6	5.4	3.9	0.0754	0.125	540	645	436	474
300	20.6	12.0	95	61.8	5.9	4.2	0.0601	0.100	615	740	500	552
400	23.5	12.0	95	64.9	6.8	4.7	0.047	0.0778	695	856	574	657
500	26.6	12.0	95	68.2	8	5.1	0.0366	0.0605	790	992	662	750
630	29.9	12.0	95	71.7	9.5	5.8	0.283	0.0469	895	1139	758	888
800	33.6	12.0	95	78.2	11.3	6.3	0.0221	0.0367	998	1291	861	1045
1000*	38.7	12.0	95	82.5	13.6	7.5	0.0176	0.0291	1100	1444	1003	1177
1200*	41.9	12.0	95	85.9	15.4	8.4	0.0151	0.0247	1290	1754	1105	1333
1600*	48.6	12.0	95	93.1	19.5	9.6	0.0113	0.0186	1485	2058	1215	1634
2000*	54.8	12.0	95	99.7	23.6	11.3	0.009	0.0149	1620	2284	1415	1900

Note:
1.*means segment stranded (Milliken)
2.Trefoil arrangement;Maximum conductor temperature 90℃ ; Ambient air temperature 40 ℃ ; Ground temperature 25 ℃ ; Depth of laying 1.5 m ; Thermal resistivity of soil 1.0 K.m/W.Earthing method:Single-end bonding or Cross-bonding.

64/110KV Conductor/XLPE/CWS/LAT(Longitudinal Aluminum Plastic Tape)/HDPE power cable

Cross section of conductor	Appro.diameter of conductor	Average thickness	Copper wire screen section	Appro.outer diameter of cable	Approx. Weight		Max. DC Resistance at 20℃		Current Rating			
					Copper conductor	Aluminum conductor	Copper conductor	Aluminum conductor	Copper conductor		Aluminum conductor	
									Direct In Soil	In air	Direct In Soil	In air
mm2	mm	mm	mm2	mm	kg/m	kg/m	Ohm/km	Ohm/km	A	A	A	A
300	20.6	16.0	95	68.2	6.5	4.6	0.0601	0.100	613	746	495	558
400	23.5	16.0	95	71.3	7.4	4.9	0.047	0.0778	692	861	568	662
500	26.6	16.0	95	74.6	8.6	5.5	0.0366	0.0605	788	992	654	754
630	29.9	16.0	95	78.2	10.2	6.3	0.283	0.0469	890	1139	750	892
800	33.6	16.0	95	84.8	12.3	7.3	0.0221	0.0367	994	1297	854	1051
1000*	38.7	16.0	95	89.1	14.7	8.5	0.0176	0.0291	1095	1449	995	1182
1200*	41.9	16.0	95	92.5	16.5	9.0	0.0151	0.0247	1285	1758	1095	1338
1600*	48.6	16.0	95	99.7	20.6	10.6	0.0113	0.0186	1475	2062	1205	1641
2000*	54.8	16.0	95	106.3	24.8	12.4	0.009	0.0149	1605	2288	1405	1912

Note:
1.*means segment stranded (Milliken)
2.Trefoil arrangement;Maximum conductor temperature 90℃ ; Ambient air temperature 40 ℃ ; Ground temperature 25 ℃ ; Depth of laying 1.5 m ; Thermal resistivity of soil 1.0 K.m/W.Earthing method:Single-end bonding or Cross-bonding.

76/132KV Conductor/XLPE/CAS(Corrugated Aluminum Sheath)/HDPE power cable

Cross section of conductor	Appro.diameter of conductor	Average thickness	Thickness of aluminium corrugated sheath	Appro.outer diameter of cable	Approx. Weight		Max. DC Resistance at 20℃		Current Rating			
					Copper conductor	Aluminum conductor	Copper conductor	Aluminum conductor	Copper conductor		Aluminum conductor	
									Direct In Soil	In air	Direct In Soil	In air
mm2	mm	mm	mm	mm	kg/m	kg/m	Ohm/km	Ohm/km	A	A	A	A
300	20.6	18.0	2.0	88.6	7.9	6	0.0601	0.100	610	748	495	559
400	23.5	18.0	2.0	91.5	8.92	6.4	0.047	0.0778	690	864	568	664
500	26.6	18.0	2.0	95	10.2	7.1	0.0366	0.0605	785	996	654	756
630	29.9	18.0	2.0	99.3	11.9	8	0.283	0.0469	890	1142	750	894
800	33.6	18.0	2.0	103	13.9	8.9	0.0221	0.0367	995	1300	854	1054
1000*	38.7	18.0	2.3	109.4	18	11.8	0.0176	0.0291	1095	1452	995	1188
1200*	41.9	18.0	2.3	113.4	20.2	12.7	0.0151	0.0247	1280	1745	1095	1342
1600*	48.6	18.0	2.3	120.3	24.7	14.7	0.0113	0.0186	1470	2052	1205	1645
2000*	54.8	18.0	2.3	125.6	28.4	16.0	0.009	0.0149	1601	2274	1405	1919

Note:
1.*means segment stranded (Milliken)
2.Trefoil arrangement;Maximum conductor temperature 90℃ ; Ambient air temperature 40 ℃ ; Ground temperature 25 ℃ ; Depth of laying 1.5 m ; Thermal resistivity of soil 1.0 K.m/W.Earthing method:Single-end bonding or Cross-bonding.

87/150KV Conductor/XLPE/CAS(Corrugated Aluminum Sheath)/HDPE power cable

Cross section of conductor	Appro.diameter of conductor	Average thickness	Thickness of aluminium corrugated sheath	Appro.outer diameter of cable	Approx. Weight		Max. DC Resistance at 20℃		Current Rating			
					Copper conductor	Aluminum conductor	Copper conductor	Aluminum conductor	Copper conductor		Aluminum conductor	
									Direct In Soil	In air	Direct In Soil	In air
mm2	mm	mm	mm	mm	kg/m	kg/m	Ohm/km	Ohm/km	A	A	A	A
300	20.6	19.0	2	89.6	8.03	6.1	0.0601	0.100	608	750	492	560
400	23.5	19.0	2	92.5	9.05	6.5	0.047	0.0778	685	869	564	665
500	26.6	19.0	2	96	10.4	7.3	0.0366	0.0605	782	999	652	758
630	29.9	19.0	2	101.3	12. 1	8.2	0.283	0.0469	885	1145	745	896
800	33.6	19.0	2	105	14. 1	9.2	0.0221	0.0367	990	1302	852	1058
1000*	38.7	19.0	2.3	111.4	18.2	12.0	0.0176	0.0291	1092	1456	994	1192
1200*	41.9	19.0	2.3	115.4	20.3	12.9	0.0151	0.0247	1275	1748	1091	1344
1600*	48.6	19.0	2.3	122.3	24.8	14.9	0.0113	0.0186	1465	2055	1200	1648
2000*	54.8	19.0	2.3	127.6	28.8	16.4	0.009	0.0149	1595	2278	1400	1921

Note:
1.*means segment stranded (Milliken)
2.Trefoil arrangement;Maximum conductor temperature 90℃ ; Ambient air temperature 40 ℃ ; Ground temperature 25 ℃ ; Depth of laying 1.5 m ; Thermal resistivity of soil 1.0 K.m/W.Earthing method:Single-end bonding or Cross-bonding.

64/110KV Conductor/XLPE/LS(Lead sheath)/HDPE power cable

Cross section of conductor	Appro.diameter of conductor	Average thickness	Thickness of lead sheath	Appro.outer diameter of cable	Approx. Weight		Max. DC Resistance at 20℃		Current Rating			
					Copper conductor	Aluminum conductor	Copper conductor	Aluminum conductor	Copper conductor		Aluminum conductor	
									Direct In Soil	In air	Direct In Soil	In air
mm2	mm	mm	mm	mm	kg/m	kg/m	Ohm/km	Ohm/km	A	A	A	A
300	20.6	18.5	2.6	78.8	12.9	11	0.0601	0.100	613	746	495	558
400	23.5	17.5	2.7	79.9	14	11.5	0.047	0.0778	692	861	568	662
500	26.6	17	2.7	82	15.3	12.2	0.0366	0.0605	788	992	654	754
630	29.9	16.5	2.8	85.5	17.4	13.4	0.283	0.0469	890	1139	750	892
800	33.6	16	2.9	89	19.9	14.9	0.0221	0.0367	994	1297	854	1051
1000*	38.7	16	3.0	94.3	23.2	17	0.0176	0.0291	1095	1449	995	1182
1200*	41.9	16	3.1	98.7	25.8	18.3	0.0151	0.0247	1285	1758	1095	1338
1600*	48.6	16	3.3	105.8	31.4	21.4	0.0113	0.0186	1475	2062	1205	1641
2000*	54.8	16	3.3	112	36.3	23.9	0.009	0.0149	1605	2288	1405	1912

Note:
1.*means segment stranded (Milliken)
2.Trefoil arrangement;Maximum conductor temperature 90℃ ; Ambient air temperature 40 ℃ ; Ground temperature 25 ℃ ; Depth of laying 1.5 m ; Thermal resistivity of soil 1.0 K.m/W.Earthing method:Single-end bonding or Cross-bonding.

127/220KV Conductor/XLPE/LS(Lead sheath)/HDPE power cable

Cross section of conductor	Appro.diameter of conductor	Average thickness	Thickness of lead sheath	Appro.outer diameter of cable	Approx. Weight		Max. DC Resistance at 20℃		Current Rating			
					Copper conductor	Aluminum conductor	Copper conductor	Aluminum conductor	Copper conductor		Aluminum conductor	
									Direct In Soil	In air	Direct In Soil	In air
mm2	mm	mm	mm	mm	kg/m	kg/m	Ohm/km	Ohm/km	A	A	A	A
400	23.5	27	2.7	101	18.5	16	0.047	0.0778	680	872	560	668
500	26.6	27	2.8	104	20.1	17	0.0366	0.0605	780	1002	648	760
630	29.9	26	2.8	105	21.8	17.9	0.283	0.0469	880	1149	740	899
800	33.6	25	2.9	107	23.7	18.7	0.0221	0.0367	985	1308	848	1062
1000*	38.7	24	3.0	111.2	26.2	20.0	0.0176	0.0291	1084	1462	990	1203
1200*	41.9	24	3.1	115.6	29.1	21.6	0.0151	0.0247	1268	1752	1082	1348
1600*	48.6	24	3.3	122.2	34.8	24.8	0.0113	0.0186	1458	2060	1195	1653
2000*	54.8	24	3.4	127.8	40.0	27.6	0.009	0.0149	1590	2282	1392	1925

Note:
1.*means segment stranded (Milliken)
2.Trefoil arrangement;Maximum conductor temperature 90℃ ; Ambient air temperature 40 ℃ ; Ground temperature 25 ℃ ; Depth of laying 1.5 m ; Thermal resistivity of soil 1.0 K.m/W.Earthing method:Single-end bonding or Cross-bonding.

Application: Used for secondary distribution and underground service at 600V or less, either direct burial or in ducts.

Applicable Standards: ANSI/ICEA S-105-692or the standards agreed by both of the customers and us.

Production Scope:

Number of Core: 1,2,3,4 Cores
Rated Voltage: 600V or below
Nominal Cross Section: From 6AWG to 1000MCM.

Construction:

Conductor: Aluminum 1350-H19, 8000 series aluminum alloy
Insulation: LDPE/HDPE/XLPE
Color of insulation: Black and customer designated.
Core's identification: The phase of two cores or more, cable should be distinguished by enduring printing ink number or ridge or color strip.

* We can design and produce according to client's requirement





Technical characteristics of URD cable-ANSI/ICEA S-105-692

Code Name	Phase Conductor			Neutral Conductor			Diameter		Weight
	Size	Number of Stranding	Insulation Thickness	Size	Number of Stranding	Insulation Thickness	Single phase conductor	Complete Cable	
	(AWG)		(mils)	(AWG)		(mils)	mils	mils	lbs/1000ft
Tulsa	4	7	60	4	7	60	345	833	255
Dyke	2	7	60	4	7	60	403	973	342
Wittenberg	2	7	60	2	7	60	403	973	371
Notre Dame	1/0	19	80	2	7	60	512	1236	534
Purdue	1/0	19	80	1/0	19	80	512	1236	589
Syracuse	2/0	19	80	1	19	80	555	1340	657
Lafayette	2/0	19	80	2/0	19	80	555	1340	713
Swarthmore	3/0	19	80	1/0	19	80	603	1456	798
Davidson	3/0	19	80	3/0	19	80	603	1456	868
Wake Forest	4/0	19	80	2/0	19	80	658	1588	971
Earlham	4/0	19	80	4/0	19	80	658	1588	1062
Slippery Rock	350	37	95	4/0	19	80	831	2006	1527
Wofford	500	37	95	350	37	95	980	2366	2179
Morehouse	500	37	95	300	37	95	980	2366	2100
Marshall	500	37	95	500	37	95	980	2366	2350
Westminster	750	61	110	350	37	95	1200	2890	3000
Tabor	750	61	110	750	61	110	1200	2890	3400
Windham	750	61	110	500	37	95	1200	2890	3100

Application: The construction of this cable is different from traditional ones. It uses one core from the 2 or 3 cores cables as the shielding layer, which is twisted over the insulation or inner sheath of one core. The core inside is the main core when application, and the core twisted outside is the neutral core. It saves one layer insulation, and makes the overall diameter much smaller. It is calculated that the cost is saved by 10-15%. At present, cables with this construction are popular in Africa, USA and Canada. Transmission of electricity, will not interfere with the surrounding electrical equipment; also eliminates the external electromagnetic interference connected to the power Cable on the impact of electrical equipment

Applicable standards:

SANS 1507-6 AS/NZS 4961 HD603 HD626 ICEA S-66-524 KS04-1022 VDE 0276-603 or the standards agreed by both of the customers and us.

Production Scope:

Rated Voltage: Up to 1000V or upon customer's request
Core Number: 1, 2, 3 cores with neutral core
Coverage: 100% and non-100% coverage
Nominal cross section: 6mm2 to 240mm2

Construction:

For Main Core:
Conductor: Copper or Aluminum
Insulation: XLPE/PE/ PVC
Neutral conductor: Copper or aluminium, Wrapped on insulation or inner sheath
Communication core (optional):
Conductor: Copper
Insulation: PE
Outer Sheath: XLPE, PVC, PE

* We can design and produce according to client's requirement







Technical characteristics of concentric cable -UL854

Core	AWG	Structure Size (mm)							Copper cable (kg/km)
		Conductor		Insulation	Concentric conductor		Outer sheath		
		Single wire		XLPE	Single wire		UV-PVC		
		No.	Dia.	Thick	No.	Dia.	Thick	Dia.	
1	16	7	0.49	1.14	39	0.321	1.14	6.82	81.46
1	10	7	0.98	1.14	34	0.511	1.14	8.67	172.04
1	8	7	1.23	1.14	25	0.643	1.14	9.68	221.58
1	6	7	1.55	1.14	25	0.813	1.14	10.98	160.5
1	4	7	1.96	1.14	27	1.02	1.14	12.62	509.26

Technical characteristics of concentric cable - IEC60502-1

Size (mm2)	Structure Size mm								Copper cable (kg/km)
	Concuctor			Insulation	Concentric conductor		Outer sheath		
	Single wire		Dia.	PVC	Single wire		UV-PVC		
	No.	Dia.		Thick	No.	Dia.	Thick	Dia.	(kg/km)
10	7	1.35	4.05	1.55	20	0.85	1.4	11.79	301.55
16	7	1.70	5.1	1.55	32	0.85	1.4	12.84	431.7
25	7	2.14	6.42	1.6	29	1.13	1.5	15.02	647.46
Aluminum Cable									
16	7	1.70	5.1	1.55	26	1.13	1.4	13.42	244.16
25	7	2.14	6.42	1.6	29	1.13	1.5	15.02	307.3
35	19	1.53	7.65	1.65	27	1.35	1.6	16.99	390.15

10.1 PVC/XLPE Insulated Mining Power Cable

Application:

This product is fixed out cable of rated voltage up to and including 10kV used in coal mine, it is fit for power transmission in the mines.

Manufactured standards:

MT818.11-13 IEC60502or the standards agreed by both of the customers and us.

Production Scope:

Nominal Cross-section:1.5-800mm^2
Rated Voltage: 10kV or below
Core Number: 3-5core

Construction:

For 0.6 / 1kV and below cable structure
Conductor: Solid or stranded Copper, class1, class2
Insulation: PVC or XLPE
Core: 3cores, 3+1cores or 4cores
Fill: Flame Retardant Fillers
Inner sheath: FRPVC
Armoured(optional): Galvanized steel wire, Two layers of steel tape gap-wrapped, Galvanized steel interlocked armour, or Aluminum alloy interlocked armour.
Outer sheath: FRPVC
For 3.6/6-8.7/15kV cable structure
Conductor: Solid or stranded Copper, class1, class2
Conductor Screen: semi-conducting compound
Insulation: XLPE
Insulation Screen: semi-conducting compound
Shielding: Copper wire or Copper tape
Core: 3cores
FILL: Flame Retardant Fillers
Inner Sheath (optional): FR PVC
Armored (optional): Galvanized steel wire, Two layers of steel tape gap-wrapped, Galvanized steel interlocked armour, Aluminum alloy interlocked amour.
Outer Sheath: FRPVC
* We can design and produce according to client's requirement





6/10KV XLPE Insulated steel wire armour PVC sheath Mining Power Cable

Number of Cores and Nominal Area	Thickness of Insulation	Approx. Overall Diameter	Approx. Weight	Max. DC Resistance at 20°C	Current Rating	
					Copper	
			Copper	Copper	Direct In Soil	In air
Nos×mm^2	mm	mm	kg/km	Ohm/km	A	A
3×25	3.4	49.1	4300	0.727	129	143
3×35	3.4	51.8	4850	0.524	154	172
3×50	3.4	54.6	5480	0.387	181	205
3×70	3.4	58.8	6600	0.268	220	253
3×95	3.4	62.8	7700	0.193	263	307
3×120	3.4	66.5	8790	0.153	298	352
3×150	3.4	69.8	9989	0.124	332	397
3×185	3.4	74.1	11499	0.0991	374	453
3×240	3.4	81.5	14701	0.0754	431	529
3×300	3.4	86.9	16994	0.0601	482	599
3×400	3.4	93.9	20351	0.0470	541	683

10.2 Rubber Insulated Mining Power Cable

Application: Designed for use as a trailing cable on AC mining equipment.

Manufactured standards: ICEA S 75-381 MT818.1-818.9 GB/T12972or the standards agreed by both of the customers and us.

Production Scope:

Nominal Cross-section:0.811mm2(18AWG)-507mm2(1000kcmil)
Rated Voltage: 25kV or below
Core Number: 1-9core
Portable cable(Flexible conductor)
Type W--Without grounding conductors Type G -- With grounding conductors
Type G-GC --With grounding conductors and one ground-check conductor
Type G-CGC --With grounding conductors and one ground-check conductor in center
Type PG--With single grounding conductors
Type PCG--With single grounding conductors and two control conductors
Type SH--shielded single conductor
Type SHD--with individually shielded(braid) power conductors and grounding conductor
Type SHD-GC--with individually shielded power conductors , grounding conductor and one ground-check conductor
Mine power (Class B conductor)
Type MP--with individually shielded (copper tape) power conductors and grounding conductor
Type MP--with individually shielded (copper tape) power conductors, grounding conductor and one ground-check conductor

Construction:

Conductor: Copper or Tinned copper ,class2,class5,class6,class B,class C,class D,class G,class H,class I,class K,class M
Conductor shield(optional): Extruded thermosetting semi-conducting stress control layer over conductor
Insulation: EPR
Insulation shield(optional): Semi - conductive shielding tape
Metal shield(optional): Tinned Copper braid/Bare Copper tape
Core: 3-7(Include ground-check conductor .ground conductor etc.)
Ground-check conductor (optional): Strand tinned copper, class5
Ground-check Insulation: PP EPR
Ground conductor: Bare conductor
Inner sheath (optional): CPE/CR
Outer sheath: CPE/CR
* We can design and produce according to client's requirement







Rubber Insulated Mining 8kv Power Cable-ICEA S 75-381(SHD-GC)

Number of Cores and conductor size	Conductor strand	Nominal Thickness of Insulation	Ground conductor size	Ground - check conductor size	Nominal Thickness of jacket	Approx. Overall Diameter	Approx. mass	Ampacity
AWG/kcmil	No	mm	AWG	AWG	mm	mm	kg/km	A
3×4	259	3.8	8	8	5.2	49.3	3594	122
3×2	259	3.8	6	8	5.6	53.8	4554	159
3×1	259	3.8	5	8	5.6	56.1	5104	184
3×1/0	259	3.8	4	8	5.6	58.9	5700	211
3×2/0	329	3.8	3	8	6.0	62.5	6593	243
3×3/0	413	3.8	2	8	6.4	66.5	7738	279
3×4/0	532	3.8	1	8	6.4	69.8	8713	321
3×250	608	3.8	1/0	6	6.4	73.4	9948	355
3×300	741	3.8	1/0	6	6.7	77.2	11384	398
3×350	851	3.8	2/0	6	7.1	81.3	12739	435
3×500	1221	3.8	4/0	6	7.5	90.4	16757	536

Application:

Solar cables are intented for use in photovoltaic power supply systems and similar applications as free hanging, movable, fixed installation and buried in ground in constructional covered systems. The cables can be used indoor, outdoor, in hazard explosion areas, in industry and agriculture. They are suitable for applications in equipment with protective insulation

Applicable standards:EN 50618 2 Pfg 1169 IEC62930

Production Scope:

Nominal Cross-section: Type:PV1-F(1.5mm2-35mm2) Type:H1Z2Z2-K(1.5mm2-240mm2)
Rated Voltage: U0/U=0.6/1.0KV AC, 1000/1800VDC
Core Number: Single cor or twin core





Characteristic

Fire resistance: IEC 60332-1
Smoke Emissions: IEC 61034; EN 50268-2
Low fire load: DIN 51900
Nominal voltage: U0/U=600/1000VAC, 1000/1800VDC
Test voltage: 6500V, 50Hz, 5min
Rated temperature:
-45ºC ~ +125ºC
-40°F ~ +257°F
ambient temperature
-40ºC ~ +90ºC
-40°F ~+194°F
maximum. Short circuit temperature: 280ºC, +536°F
Bending Radius: >4X for fixed installation, >5X for occasional movement

Cable Construction

Conductor : Class 5 tinned annealed stranded copper conductor or bare copper or aluminium alloy
Insulation : UV resistant, cross linkable, halogen free, flame retardant compound for core insulation.
Core Identification : Back , Red or Natural
Sheath : UV resistant, cross linkable, halogen free, flame retardant compound for Sheath over insulation.
Cable Colour : Black, Red





Technical characteristics of solar cable(Single Core H1Z2Z2-K)

Cross section area	Approx, conductor diameter	Approx.overall diameter	Approx. mass	Max. DC Resistance at 20℃	Current carrying capacity at 60℃ (single cable in air)
mm^2	mm	mm	kg/km	Ohm/km	A
1.5	1.6	4.8	35	13.7	30
2.5	2.0	5.2	47	8.21	41
4	2.4	5.6	60	5.09	55
6	3.0	6.3	81	3.39	70
10	4.1	7.4	127	1.95	98
16	5.5	9.1	194	1.24	132
25	6.7	10.9	297	0.795	176
35	8.2	12.7	405	0.565	218
50	10.0	14.9	568	0.393	276
70	11.6	16.7	769	0.277	347
95	13.0	18.4	1014	0.21	416
120	14.4	20.0	1260	0.164	488
150	16.2	22.5	1576	0.132	566
185	18.2	25.4	1957	0.108	644
240	20.6	28.7	2531	0.0817	775

Technical characteristics of solar cable(Twin Cable H1Z2Z2-K)

Cross section area	Approx, conductor diameter	Approx.overall diameter	Approx.. mass	Max. DC Resistance at 20℃	Current carrying capacity at 60℃ (single cable in air)
mm^2	mm	mm	kg/km	Ohm/km	A
2x4	2.59	5.7x11.7	128	5.09	44
2x6	3.17	6.4x13.1	171	3.39	57

Application: It is suitable for AC and DC transmission system. It is mainly used for the high-power power power transmission between the mainland and the island, between the island and the island, between the mainland and the platform, as well as the control signal transmission and communication signal transmission of the smart grid.

Applicable standards: IEC63026 ,IEC62067, IEC60840, IEC60502, CIGRE TB490 ,CIGRE TB722, CIGRE TB496, CIGRE TB623, ITU -T:G.976, GB/T32346, GB/T31489,GB/T18480, JB/T11167,GB/T22078,GB/T18890,GB/T11017

Construction:

Conductor: Water blocking conductor, Plain circular compacted copper or aluminum conductor for≤800 mm2, Compacted miliken copper or aluminum conductor with separator tape for＞800 mm2
Conductor-screen:Extruded semi-conductive cross linked polyethylene
Insulation:Extruded supper clean cross linked polyethylene
Insulation-screen:Extruded bonded semi-conductive cross linked polyethylene
Block water buffering layer: Helically applied swellable tape
Metallic sheath:lead sheath or lead ally sheath ,When the thickness of the lead sheath cannot meet the capacity requirements of the short-circuit current, copper wire shielding can also be added.
Non-metallic sheath:Split-phase sheath for three-core cable:Semi-conductive PE,For large-length single-core submarine cables with metal sheath and armored ends interconnected and grounded, the lead sheath of the insulated core should be extruded with a semi-conductive sheath based on polyethylene as the outer sheath, or it may be extruded. Insulating outer sheath based on polyethylene. When single-core submarine cable system landing section onshore cables are connected to ground at one end, an insulating outer sheath based on polyethylene should be used as the outer sheath.
Anti frog layer(optional):The single-core cable can be wrapped with metal tape on the outer layer of the outer sheath, and the three-core cable can be wrapped with metal tape on the outer core of the cabling
Inner layer (optional):The inner bedding can be wrapped with polypropylene rope and coated with asphalt or other anti-corrosion materials
Armored (optional): Galvanized steel wire Copper wire
Outer serving: PP filler strip,and coated with asphalt or other anti-corrosion materials
Optic fiber cable unit:
Optical fiber: Single mode fiber or multimode fiber, 2-48cores
loose tube:stainless steel tape
Sheath:PE

a) AC

Rate Voltage (kV)		6/10	8.7/15	12/20	18/30	21/35	26/35	38/66	64/110	127/220	290/500
Core Number		1core or 3cores									
Cross-section mm²	1C	——							240-1600	400-2500	800-2500
	3C	50-500			50-400			120-1600	240-1600	400-1600	——

b) DC

Rated Voltage (kV)		30	80	100	160	200	250	320	400	500
Core Number		1core								
Cross-secti ·m²	1C	95-800	95-1200		240-1600	400-2000	400-2500	800-3500	1000-3500	






3x400+2x36B1



Copper XLPE insulated separately lead sheathed steel wire armored fiber serving submarine power cable and submarine composite poserand fiber optic cable

Specifications		Approx conductor diameter	Nominal insulation thickness	Nominal armor steel wire dia	Approx. overall diameter	Approx mass	Max. DC Resistance at 20°C	Ampacity	
								Air	Earth
	mm2	mm	mm	mm	mm	kg/m	Ohm/km	A	A
8.7/15 kV	3x50	8.2	4.5	5.0	82	16.1	0.387	194	193
	3x70	10	4.5	5.0	86	18	0.266	24	235
	3x95	11.6	4.5	5.0	90	19.8	0.193	288	278
	3x120	13	4.5	5.0	93	21.5	0.153	328	314
	3x150	14.4	4.5	5.0	96	23.3	0.124	369	348
	3x185	16.2	4.5	5.0	100	25.6	0.0991	418	389
	3x240	18.4	4.5	5.0	105	28.9	0.0754	481	441
	3x300	20.6	4.5	5.0	111	32.4	0.0601	542	489
	3x400	23.5	4.5	5.0	120	38.2	0.047	614	541
12/20 kV	3x50	8.2	5.5	5.0	87	17.6	0.387	196	193
	3x70	10	5.5	5.0	91	19.4	0.268	242	235
	3x95	11.6	5.5	5.0	94	21.4	0.193	290	279
	3x120	13	5.5	5.0	97	23.1	0.153	331	314
	3x150	14.4	5.5	5.0	101	25.0	0.124	372	349
	3x185	16.2	5.5	5.0	105	27.4	0.0991	421	389
	3x240	18.4	5.5	5.0	110	30.8	0.0754	485	441
	3x300	20.6	5.5	5.0	115	34.3	0.0601	545	488
	3x400	23.5	5.5	5.0	125	40.2	0.047	616	540
18/30 kV	3x50	8.2	8.0	5.0	98	21.6	0.387	200	196
	3x70	10	8.0	5.0	102	23.5	0.268	246	238
	3x95	11.6	8.0	5.0	106	25.7	0.193	294	281
	3x120	13	8.0	5.0	109	27.6	0.153	335	316
	3x150	14.4	8.0	5.0	113	29.6	0.124	376	348
	3x185	16.2	8.0	5.0	117	32.0	0.0991	423	388
	3x240	18.4	8.0	5.0	122	35.6	0.0754	488	439
	3x300	20.6	8.0	5.0	127	39.4	0.0601	547	485
	3x400	23.5	8.0	5.0	137	45.6	0.047	619	537
26/35 kV	3x50	8.2	10.5	5.0	110	26.1	0.387	203	197
	3x70	10	10.5	5.0	114	28.3	0.268	250	239
	3x95	11.6	10.5	5.0	118	30.4	0.193	298	281
	3x120	13	10.5	5.0	121	32.4	0.153	339	315
	3x150	14.4	10.5	5.0	124	34.5	0.124	380	350
	3x185	16.2	10.5	5.0	129	37.1	0.0991	428	388
	3x240	18.4	10.5	5.0	134	41.0	0.0754	493	440
	3x300	20.6	10.5	5.0	139	44.9	0.0601	551	484
	3x400	23.5	10.5	5.0	149	51.5	0.047	623	537

Copper XLPE insulated separately lead sheathed steel wire armored PP yarn outer serving submarine power cable and submarine compositepower and fiber optic cable

Specifications		Approx conductor diameter	Nominal insulation thickness	Nominal armor steel wiredia	Approx. overall diameter	Approx mass	Max. DC Resistance at 20°C	Ampacity	
								Air	Earth
	mm2	mm	mm	mm	mm	kg/m	Ohm/km	A	A
48/66 kV	3x95	11.6	13.0	6.0	134	36.3	0.193	318	261
	3x120	13	13.0	6.0	137	38.7	0.153	354	289
	3x150	14.4	13.0	6.0	140	40.9	0.124	389	316
	3x185	16.2	13.0	6.0	145	43.9	0.0991	429	346
	3x240	18.4	13.0	6.0	150	47.1	0.0754	481	386
	3x300	20.6	13.0	6.0	155	51.4	0.0601	525	419
64/110 kV	1x240	18.4	19	5.0	111	28	0.0754	553	527
	1x300	20.6	18.5	5.0	112	29.4	0.0601	612	612
	1x400	23.5	17.5	5.0	113	31.3	0.047	681	681
	1x500	26.6	17	5.0	115	33.5	0.0366	752	752
	1x630	30.2	16.5	5.0	119	36.7	0.0283	830	830
	1x800	34.5	16	5.0	123	39.5	0.0221	909	909
	1x1000	38.5	16	5.0	127	43.3	0.0176	983	983
	3x240	18.4	19	6.0	191	69.7	0.0754	526	452
	3x300	20.6	18.5	6.0	194	72.3	0.0601	593	501
	3x400	23.5	17.5	6.0	196	76.3	0.0470	671	558
	3x500	26.6	17	6.0	201	81.2	0.0366	757	618
	3x630	30.2	16.5	6.0	209	89.3	0.0283	846	679
	3x800	34.5	16	6.0	218	98.3	0.0221	940	740
	3x1000	38.5	16	6.0	227	108.9	0.0176	1026	795
127/220 kV	1x400	23.5	27.0	5.0	135	36.4	0.047	744	704
	1x500	26.6	27.0	5.0	138	38.2	0.0366	840	*780*
	1x630	30.2	26.0	5.0	140	40.7	0.0283	945	857
	1x800	34.5	25.0	5.0	143	42.9	0.0221	1051	930
	1x1000	38.5	24.0	5.0	145	45.3	0.0176	1186	991
	1x1200	44.4	24.0	5.0	151	*48.8*	0.0151	1290	1085
	1x1400	47.4	24.0	5.0	155	52.4	0.0129	1373	1139
	1x1600	50.0	24.0	5.0	158	55.9	0.0113	1444	1184
	3x400	23.5	27.0	6.0	245	100	0.047	673	563
	3x500	26.6	27.0	6.0	252	106	0.0366	761	626
	3x630	30.2	26.0	6.0	256	113	0.0283	855	690
	3x800	34.5	25.0	6.0	261	120	0.0221	951	753
	3x1000	38.5	24.0	6.0	265	128	0.0176	1038	809

13.1 Cathodic Protection Cable

Application:

The cathodic protection cable mainly used for impressed current cathodic protection system.

Applicable standards: GB16702, 17-SAMSS-017





Production Scope:

Rated voltage: DC 600V
Core number: 1 core
Cross section: 10- 70mm2

Construction:

Conductor: Stranded Copper
Insulation: HMWPE , PVDF, or KYNAR
Amoured (Optional): steel wire, aluminum wire, etc.
Sheath(Optional): HMWPE, or KYNAR
* We can design and produce according to client's requirement





Technical characteristics of Cathodic Protection Cable

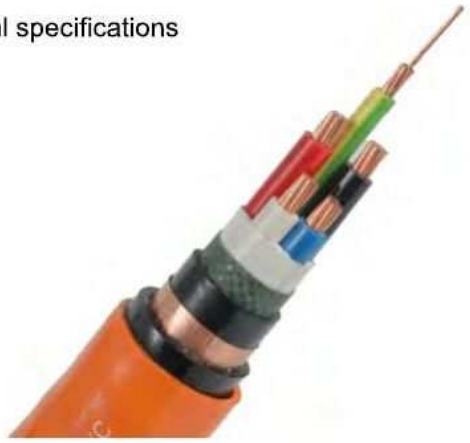
Nominal Cross sectional mm2	PVDF Inaulation Nominal thickness mm	HDPE Overall sheath mm	Overall Diameter mm	Weight kg/km	Calculate D.C resistance at 20℃
10	0.55	1.65	8.45	140	1.83
16	0.55	1.65	9.50	200	1.15
25	0.55	1.65	10.60	290	0.727
35	0.55	1.65	11.60	385	0.524
50	0.55	1.65	12.70	503	0.387
70	0.55	1.65	14.40	700	0.268

13.2 Frequency Conversion Cable

Application:

The frequency conversion cable is mainly used for the connection between the variable frequency power supply and the frequency conversion motor, and the transmission and distribution line with the rated voltage of 8.7 / 15KV and below.

Applicable Standards: IEC6050 and As per Customer 's technical specifications



Production Scope:

Nominal Cross-section:1.5-400mm^2
Rated Voltage: 15KV or below
Core Number: 1-7core

Construction:

0.6 /1KV and below cable structure

Conductor: Copper
Core number: 3core 3 phase core +3 neutral core
3 phase core+1 neutral core（ Concentric conductor）
3phase core +3 neutral core+1ground wire core(Non-concentric conductor)
3 large core (main core) +3 small core (neutral core)+1ground wire core(concentric conductor)
Insulation: XLPE
Metal Screen: Copper tape/copper wire/Tinned copper braid/ Aluminum foil
Armoured(optional): Galvanized steel wire/Aluminum wire/Galvanized steel tape/Aluminium tape / Aluminum alloy interlocked armour.
Outer sheath: PVC/PE, other special requirements

1.8/3-8.7/15KV

Conductor: Copper
Insulation: XLPE
Shielding: Copper wire/ Copper tape
Core: 1 core 3cores
Total Screen: Copper tape/copper wire
Armoured(optional): Galvanized steel wire/Aluminum wire/Galvanized Steel Tape/Aluminium Tape / Aluminum alloy interlocked armour.
Outer Sheath: PVC/PE
* We can design and produce according to client's requirement





Copper conductor/ XLPE Insulation /Copper tape screen/PVC Sheath

Nominal Cross sectional mm2	Nominal Thickness of Insulation mm	Overall Diameter mm	Eath No x mm2	Approx.Mass kg/km	Maximum D.C. Resistance at 20°C Ω/km
2.5	0.7	15.0	1 x 2.5	330	7.41
4	0.7	15.3	3 x 0.75	375	4.61
6	0.7	16.9	3 x 1.0	450	3.08
10	0.7	17.8	3 x 1.5	580	1.83
16	0.7	21.0	3 x 2.5	850	1.15
25	0.9	24.4	3 x 4.0	1200	0.727
35	0.9	27.2	3 x 6.0	1600	0.524
50	1.0	32.7	3 x 10	2275	0.387
70	1.1	35.7	3 x 10	2890	0.268
95	1.1	41.9	3 x 16	3980	0.193
120	1.2	46.3	3 x 16	4650	0.153
150	1.4	48.4	3 x 25	5900	0.124
185	1.6	57.2	3 x 25	7500	0.0991
240	1.7	64.0	3 x 35	9600	0.0754
300	1.8	70.5	3 x 50	11200	0.0601

13.3 Welding Cable

Application:

Used by professional welders, for secondary voltage resistance welding leads and as a power supply for welding tools and applications that do not require over 600 volts AC.

Manufactured standards: IEC60245.6,DIN VDE 082-6 and as per Customer's technical specifications

Production Scope:

Nominal Cross-section:0.5-95mm²
Rated Voltage: 600V or below
Core Number: 1core



Construction:

Conductor: Flexible bare copper and coated copper, class6
Insulation: EPDM/CR
Sheath(optional): EPDM/CR
* We can design and produce according to client's requirement





Technical characteristics of welding Cable- IEC60245.6

Nominal Area mm2	Maximum diameter of wires in conductor mm	Thickness of covering mm	Mean overall diameter		Maximum D.C. Resistance at 20℃ Ω/km	
			Lower limit mm	Upper limit mm	Tinned wires	Untinned wires
10	0.21	2.0	7.7	9.7	1.95	1.91
16	0.21	2.0	8.8	11.0	1.24	1.21
25	0.21	2.0	10.1	12.7	0.795	0.780
35	0.21	2.0	11.4	14.2	0.565	0.554
50	0.21	2.2	13.2	16.5	0.393	0.386
70	0.21	2.4	15.3	19.2	0.277	0.272
95	0.21	2.6	17.1	21.4	0.210	0.206
120	0.51	2.8	19.2	24.0	0.164	0.161
150	0.51	3.0	21.1	26.4	0.132	0.129
185	0.51	3.2	23.1	28.9	0.108	0.106

13.4 Alarm Cable

Application:

Use for Wiring Burglar & Security alarms, public address systems, intercoms, telephone stations, speakers, instrumentation, control and other low voltage circuits that are power limited.

Applicable standards: As per Customer's technical specifications

Production Scope:

Nominal Cross-section: 0.5-400mm^2
Rated Voltage: 600V or below
Core Number: 1-20 core



Construction:

Conductor: Copper, class1, class2, class5
Insulation: PVC flame retardant
Core: 2C-20C
Shield (optional): Aluminum foil with drain wire
Sheath: PVC flame retardant



* We can design and produce according to client's requirement

Technical characteristics of Alarm Cable

Nominal Cross sectional	Number of Cores	Nominal Thickness of Insulation, mm	Thickness of sheath mm	Overall diameter mm	Calculate D.C resistance at 20°C
18	2	0.43	0.94	5.87	21.8
18	4	0.43	0.94	6.68	21.8
16	2	0.46	0.94	6.12	13.7
16	4	0.46	1.07	7.65	13.7
14	2	0.56	1.07	7.77	8.62
12	2	0.56	1.07	8.71	5.43

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