

CECEC NANJING ELECTRIC CO., LTD.

AERIAL CABLE SYSTEM

- **光纤复合架空地线 (OPGW)**
OPTICAL FIBER COMPOSITE OVERHEAD
GROUND WIRE (OPGW)
- **光纤复合架空相线 (OPPC)**
OPTICAL FIBER COMPOSITE OVERHEAD PHASE
CONDUCTOR (OPPC)
- **全介质自承式光缆及普通光缆 (ADSS)**
ALL DIELECTRIC SELF-SUPPORTING FIBER OPTIC
CABLE AND FIBER OPTIC CABLE (ADSS)
- **光纤复合低压电缆 (OPLC)**
OPTICAL FIBER COMPOSITE LOW-VOLTAGE
CABLE (OPLC)
- **架空导线、地线 (铝包钢绞线、特种导线)**
OVERHEAD WIRES, GROUND WIRE (ALUMINUM-
CLAD STEEL WIRE/SPECIAL WIRE)

产品类

PRODUCTS
CLASS

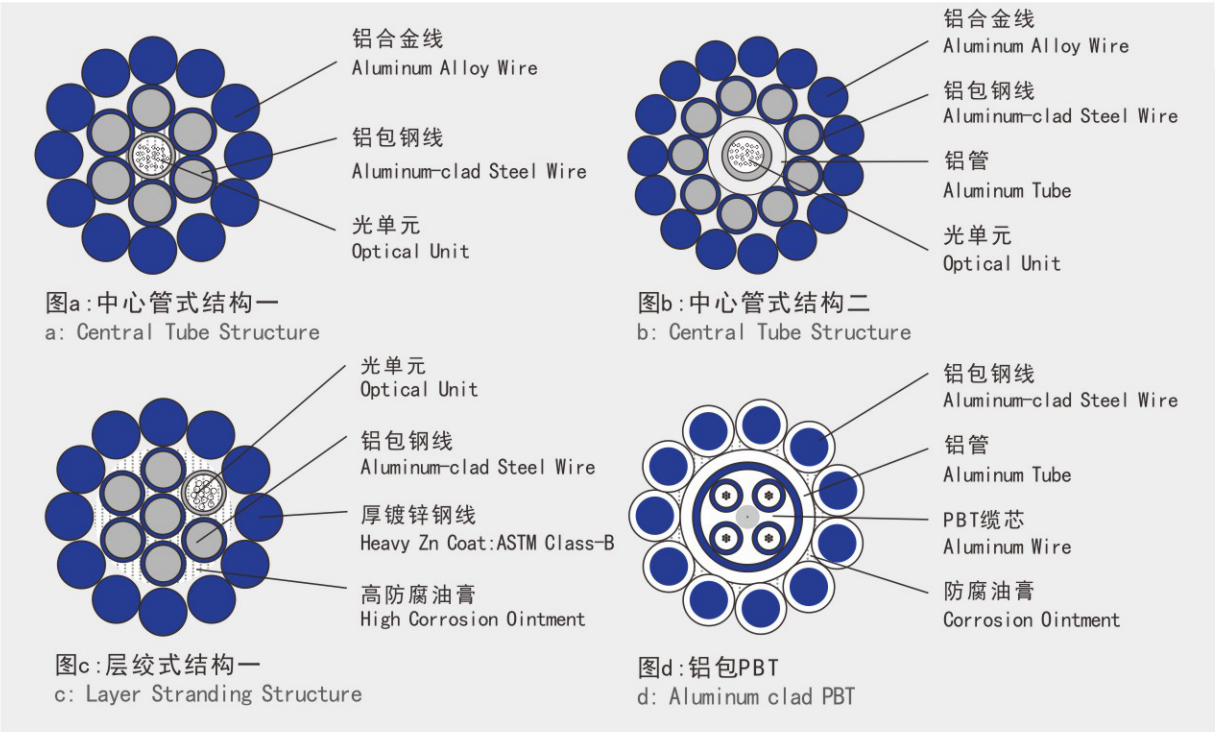
光纤复合架空地线 (OPGW)
OPTICAL FIBER COMPOSITE OVERHEAD
GROUND WIRE (OPGW)

产品描述
PRODUCT DESCRIPTION

OPGW在保持原有架空地线的一切性能、功能不变的前提下加入光纤，开辟高性能的光传输通道，使之兼备避雷和通信功能，是一种具有传统架空地线和通信能力的双重功能的线。

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

结构示意图
STRUCTURE



常用产品参数

COMMONLY USED PRODUCT PARAMETERS

型号 type	结构参数 structure parameters						直径 nominal diameter	截面面积 section area			单位长度 质量 weight per unit length	额定 拉断力 rated breaking force	20℃时 直流电阻 R(20) DC resistance	拉重比 Pull weight ratio	弹性 模量 Elastic modulus	线膨胀 系数 Coefficient of linear expansion	短路 电流热 容量 The heat capacity of the short-circuit current	推荐匹配地线 Recommended matching ground wire
	中心 不锈钢管单元 center stainless steel tube light unit			外层 Outer layer				铝包 钢线 AL	铝合 金线 AS	总计 total								
	根数 number	直径	光纤最 大数量 /B1	根数 number	直径	材料 Material												
		mm			mm													
							mm	mm²	mm²	mm²	kg/km	kN	Ω·km	km	GPa	× 10 ⁻⁶ /℃	kA²·s	
OPGW-24B1-40 [51;8.0]	1	3.00	24B1	6	3.00	LB20	9.00	42.41	—	42.41	303.6	51.15	2.0275	17.19	162.00	13.00	7.96	GJ-50
OPGW-30B1-50 [58;10.3]	1	3.20	30B1	6	3.20	LB20	9.60	48.25	—	48.25	342.7	58.20	1.7819	17.33	162.00	13.00	10.31	GJ-50
OPGW-36B1-55 [64;13.1]	1	3.40	36B1	6	3.40	LB20	10.20	54.48	—	54.48	389.3	64.23	1.5785	16.83	162.00	13.00	13.14	—
OPGW-40B1-60 [66;14.8]	1	3.50	40B1	6	3.50	LB20	10.50	57.73	—	57.73	411.1	65.98	1.4896	16.38	162.00	13.00	14.75	—
OPGW-40B1-60 [70;16.5]	1	3.60	40B1	6	3.60	LB20	10.80	61.07	—	61.07	433.4	69.81	1.4080	16.43	162.00	13.00	16.51	—
OPGW-48B1-70 [77;20.5]	1	3.80	48B1	6	3.80	LB20	11.40	68.05	—	68.05	480.1	76.55	1.2636	16.27	162.00	13.00	20.50	JLB20A-70-7

型号 type	结构参数 structure parameters											直径 nominal diameter	截面面积 section area			单位长度质量 weight per unit length	额定拉断力 rated breaking force	20℃时 直流电阻 R(20) DC resistance	拉重比 Pull weight ratio	弹性模量 Elastic modulus	线膨胀系数 Coefficient of linear expansion	短路电流热容量 The heat capacity of the short-circuit current	推荐匹配地线 Recommended matching ground wire	
	中心 center			内层(第1层) first layer			外层(第2层) second layer			不锈钢管单元 stainless steel tube light unit			铝包 钢线 AL	铝合 金线 AS	总计 total									
	根数 number	直径 nominal diameter mm	材料 Material	根数 number	直径 nominal diameter mm	材料 Material	根数 number	直径 nominal diameter mm	材料 Material	根数 number	直径 nominal diameter mm													光纤最大数量 maximum number of optical fiber
OPGW-24B1 -90 [107;34.9]	1	2.60	LB20	5	2.50	LB20	12	2.50	LB20	1	2.50	24B1	12.60	88.76	—	88.76	615.4	107.04	0.9718	17.75	162.00	13.00	34.88	JLB20A-95-7
OPGW-24B1 -100 [121;44.3]	1	2.60	LB20	5	2.50	LB20	11	2.85	LB20	1	2.50	24B1	13.30	100.03	—	100.03	691.2	120.63	0.8626	17.81	162.00	13.00	44.30	GJ-100
OPGW-30B1 -120 [144;62.8]	1	2.85	LB20	5	2.75	LB20	11	3.10	LB20	1	2.70	30B1	14.55	119.10	—	119.10	819.2	143.64	0.7244	17.89	162.00	13.00	62.80	GJ-120
OPGW-30B1 -120 [68;114.0]	1	2.85	LB20	5	2.75	LB20	11	3.10	LHA2	1	2.70	30B1	14.55	36.08	83.02	119.10	489.3	68.00	0.3421	14.18	94.38	17.80	114.01	JLB40-120-19
OPGW-36B1 -135 [164;82.3]	1	3.20	LB20	5	3.10	LB20	12	3.10	LB20	1	3.00	36B1	15.60	136.35	—	136.35	934.7	164.44	0.6326	17.95	162.00	13.00	82.31	—
OPGW-36B1 -135 [83;127.8]	1	3.20	LB40	5	3.10	LB40	12	3.10	LB40	1	3.00	36B1	15.60	136.35	—	136.35	662.8	83.45	0.3215	12.85	109.00	15.50	127.76	—
OPGW-36B1 -145 [175;93.4]	1	3.30	LB20	5	3.20	LB20	12	3.20	LB20	1	3.10	36B1	16.10	145.28	—	145.28	994.6	174.97	0.5937	17.95	162.00	13.00	93.44	—
OPGW-36B1 -145 [89;145.0]	1	3.30	LB40	5	3.20	LB40	12	3.20	LB40	1	3.10	36B1	16.10	145.28	—	145.28	704.9	88.91	0.3018	12.87	109.00	15.50	145.03	JLB40-150-19
OPGW-48B1 -165 [193;119.0]	1	3.50	LB20	5	3.40	LB20	12	3.40	LB20	1	3.30	48B1	17.10	163.97	—	163.97	1125.0	193.32	0.5260	17.53	162.00	13.00	119.03	—
OPGW-48B1 -185 [211;150.5]	1	3.80	LB20	5	3.60	LB20	12	3.60	LB20	1	3.40	48B1	18.20	184.38	—	184.38	1261.9	211.15	0.4678	17.08	162.00	13.00	150.51	—

注1: 型号中光纤芯数为光单元所承受的最大芯数; 2: 产品性能参数均为标称值; 3: 光纤类型以B1类举例; 4: 除单位长度质量, 其它参数均未考虑光单元因素; 5: 短路电流热容量: 温度范围取40℃~200℃。

光纤复合架空相线 (OPPC)
OPTICAL FIBER COMPOSITE OVERHEAD PHASE
CONDUCTOR (OPPC)

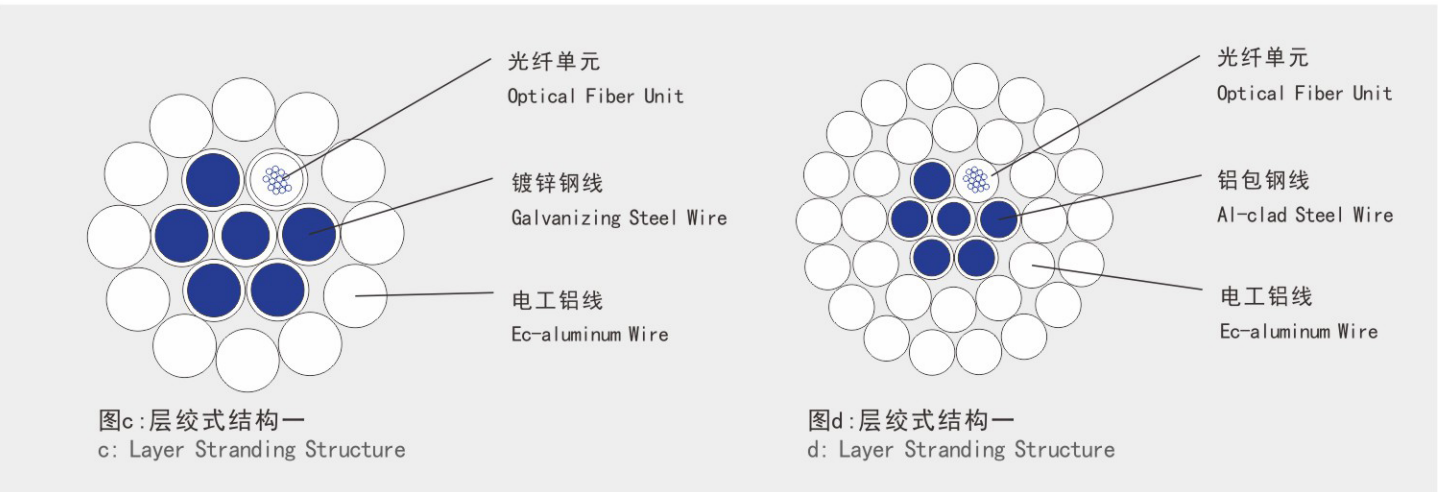
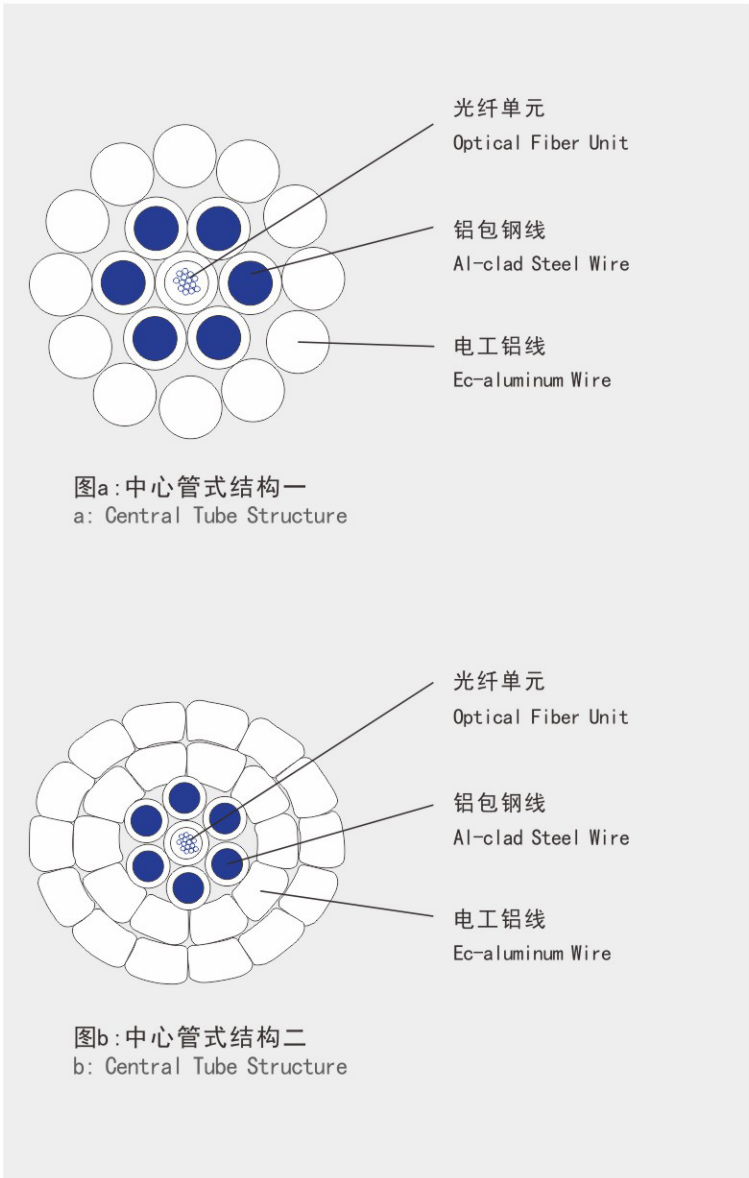
产品描述
PRODUCT DESCRIPTION

光纤复合架空相线OPPC是一种特殊的复合电力光缆。将传统架空相线结构中的一根或多根镀锌钢丝（或铝包钢线）替换为不锈钢光纤单元，使其具有传输电能及通信的双重功能。

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



结构示意图
STRUCTURE



常用产品参数
COMMONLY USED PRODUCT PARAMETERS

型号 type	结构参数 structure parameters															直径 nominal diameter	截面面积 section area			单位长度 质量 weight per unit length	额定 拉断力 rated breaking force	20℃时 直流 电阻 R(20) DC resistance	参考载流量 interception amount for reference			导线 wire
	中心 center			第一层 first layer			不锈钢管光单元 stainless steel tube light unit			第二层 second layer			第三层 third layer				铝包 钢线 AL	铝合 金线 AS	总计 total				40~ 70℃	40~ 80℃	40~ 90℃	
	根数 number	直径 nominal diameter	材料 Material	根数 number	直径 nominal diameter	材料 Material	根数 number	直径 nominal diameter	光纤最大数量 maximum number of optical fiber	根数 number	直径 nominal diameter	材料 Material	根数 number	直径 nominal diameter	材料 Material											
OPPC-16B1-85/25	1	2.3	20AS	5	2.3	20AS	1	2.3	16B1	9	3.45	AL	/	/	AL	13.8	84.13	24.93	109.1	410	42.2	0.3106	251	307	352	LGJ-95/15
OPPC-16B1-90/25	1	2.4	20AS	5	2.4	20AS	1	2.4	20B1	9	3.6	AL	/	/	AL	14.4	91.61	27.14	118.8	446	45.9	0.2852	265	233	371	LGJ-95/20
OPPC-16B1-95/50	1	3.25	14AS	5	3.25	14AS	1	3.25	48B1	12	3.2	AL	/	/	AL	16.15	96.51	49.77	146.3	645	83.3	0.2665	281	345	397	LGJ-95/55
OPPC-16B1-110/25	1	2.35	20AS	5	2.35	20AS	1	2.35	16B1	8	4.2	AL	/	/	AL	15.45	110.84	26.02	136.9	491	47.3	0.2401	293	359	412	LGJ-120/20
OPPC-16B1-120/25	1	2.4	20AS	5	2.4	20AS	1	2.4	20B1	8	4.35	AL	/	/	AL	15.9	118.89	27.14	146.0	521	49.9	0.2242	305	374	430	LGJ-120/25
OPPC-16B1-150/25	1	2.35	20AS	5	2.35	20AS	1	2.35	16B1	11	2.6	AL	17	2.6	AL	17.45	148.66	26.02	174.7	597	54.1	0.1831	344	423	487	LGJ-150/25
OPPC-16B1-150/30	1	2.55	14AS	5	2.55	14AS	1	2.55	24B1	12	2.55	AL	18	2.55	AL	17.85	153.21	30.64	183.9	659	67.3	0.1799	349	430	195	LGJ-150/35
OPPC-16B1-185/25	1	2.35	20AS	5	2.35	20AS	1	2.35	16B1	10	3.0	AL	16	3.0	AL	19.05	183.78	26.02	209.8	693	58.7	0.1496	387	478	552	LGJ-185/45
OPPC-16B1-185/40	1	2.85	14AS	5	2.85	14AS	1	2.85	30B1	12	2.8	AL	18	2.8	AL	19.75	184.73	38.28	223.0	803	82.2	0.1489	391	484	560	LGJ-210/25
OPPC-16B1-210/25	1	2.3	20AS	5	2.3	20AS	1	2.3	16B1	9	3.35	AL	15	3.35	AL	20.3	211.54	24.93	236.5	762	63.9	0.1309	415	515	595	LGJ-210/25
OPPC-16B1-210/30	1	2.55	14AS	5	2.55	14AS	1	2.55	24B1	10	3.22	AL	16	3.22	AL	20.53	211.73	30.64	242.2	819	74.3	0.1317	419	519	601	LGJ-210/35
OPPC-16B1-240/30	1	2.45	20AS	5	2.45	20AS	1	2.45	20B1	9	3.6	AL	15	3.6	AL	21.75	244.29	28.29	272.6	875	73.1	0.1135	456	567	657	LGJ-240/30
OPPC-16B1-240/50	1	3.25	14AS	5	3.25	14AS	1	3.25	48B1	12	3.2	AL	18	3.2	AL	22.55	241.27	49.77	291.0	1045	104.2	0.1141	459	571	663	LGJ-240/55
OPPC-20B1+4A1a-400/35	1	2.5	LB14	15	2.5	SUS LB14	1	2.5	20B1+4A1a	1016	3.22	HAL	22	3.22	HAL	26.82	29.45	390.88	420.33	1321	103.9	0.0725	620	760	869	LGJ-400/35

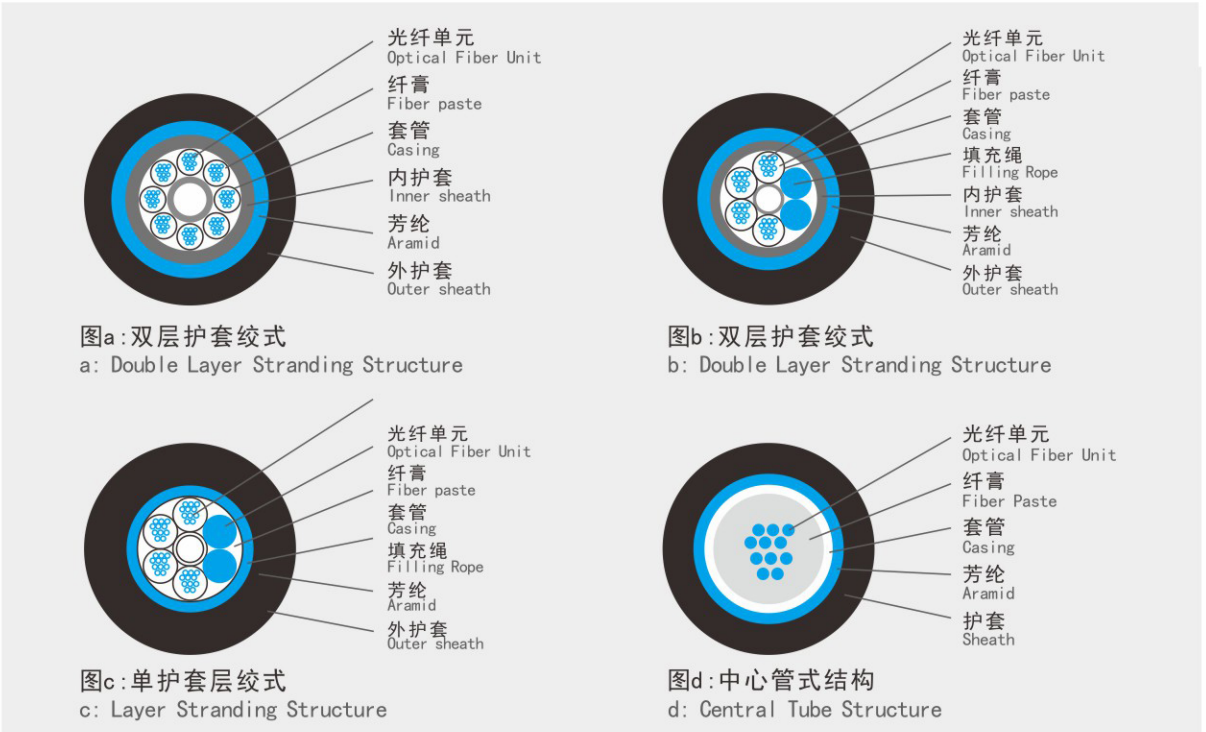
全介质自承式光缆及普通光缆（ADSS）
ALL DIELECTRIC SELF-SUPPORTING FIBER OPTIC
CABLE AND FIBER OPTIC CABLE (ADSS)

产品描述
PRODUCT DESCRIPTION

ADSS，全介质自承式光缆（简称ADSS光缆），是一种全部由介质材料组成、自身包含必要的支撑系统、可直接悬挂于电力杆塔上的非金属光缆，主要用于架空高压输电系统的通信路线，也可用于雷电多发地带、大跨度等架空敷设环境下的通信线路。

ADSS, all dielectric self-supporting cables (ADSS cable for short), is a kind of all by a dielectric material itself contains the necessary support systems, can be directly hung on electricity towers of the non-metallic fiber optic cablelightning multiple communication line in the aerial installation environment of the Strip, large span and other, mainly for overhead high voltage transmission systems of the communication route can also be used.

结构示意图
STRUCTURE



常用产品参数

COMMONLY USED PRODUCT PARAMETERS

26-48芯 ADSS技术规范 26-48 core the ADSS technical specifications								
型号 type	光缆外径 Cable diameter	光缆额定拉断力RTS(N) rated breaking force	最大允许使用张力MAT(N) The maximum allowable tension MAT (N)	极限运动张力UOS(N) The extreme sports Tension UOS (N)	年平均运行张力EDS(N) Average annual operating tension EDS (N)	线热膨胀系数1/k Linear thermal expansion coefficient of 1 / k	综合模量Gpa Comprehensive modulus Gpa	光缆重量kg/km Cable Weight kg / km
ADDS-4KN	13.5	11160	4464	6696	2790	12.33	5.592	136
ADDS-9KN	14.0	23400	9360	14040	5850	5.729	9.846	148
ADDS-12KN	14.5	29520	11808	17712	7380	4.382	11.348	156
ADDS-15KN	15.0	38700	15480	23220	9675	3.062	13.641	166
ADDS-20KN	15.5	50940	20376	30564	12735	1.982	16.565	178
ADDS-25KN	16.0	63180	25272	37908	15795	1.304	19.103	191
ADDS-29KN	16.5	72360	28944	43416	18090	0.955	20.473	201
ADDS-31KN	18.0	78480	31392	47088	19620	0.732	18.61	206
ADDS-35KN	18.5	87660	35064	52596	21915	0.500	19.61	216
ADDS-38KN	19.0	93780	37512	56268	23445	0.385	19.86	223
ADDS-54KN	20.5	135600	54240	81360	33900	-0.246	24.46	265

2-24芯 ADSS技术规范 2-24 core the ADSS technical specifications								
型号 type	光缆外径 Cable diameter	光缆额定拉断力RTS(N) rated breaking force	最大允许使用张力MAT(N) The maximum allowable tension MAT (N)	极限运动张力UOS(N) The extreme sports Tension UOS (N)	年平均运行张力EDS(N) Average annual operating tension EDS (N)	线热膨胀系数1/k Linear thermal expansion coefficient of 1 / k	综合模量Gpa Comprehensive modulus Gpa	光缆重量kg/km Cable Weight kg / km
ADDS-4KN	12.5	11160	4464	6696	2790	11.512	5.99	117
ADDS-7KN	13.0	17280	6912	10368	4320	7.308	8.237	125
ADDS-11KN	13.5	26460	10584	15876	6615	4.393	11.388	135
ADDS-14KN	14.0	35640	14256	21384	8910	2.923	14.075	146
ADDS-18KN	14.5	44820	17928	26892	11205	2.036	16.372	156
ADDS-23KN	15.0	57060	22824	34236	14265	1.263	19.345	169
ADDS-26KN	15.5	66240	26496	39744	16560	0.882	20.962	180
ADDS-30KN	16.0	75420	30168	45252	18855	0.592	22.341	190
ADDS-34KN	17.5	84600	33840	50760	21150	0.316	20.9	198
ADDS-36KN	18.0	90720	36288	54432	22680	0.207	21.16	206
ADDS-39KN	18.5	96840	38736	58104	24210	0.112	21.37	214
ADDS-54KN	19.5	135600	54240	81360	33900	-0.424	26.81	250

光纤复合低压电缆（OPLC）
OPTICAL FIBER COMPOSITE LOW-VOLTAGE
CABLE (OPLC)

产品描述
PRODUCT DESCRIPTION

OPLC是一种将光纤单元复合在低压电力电缆内，具有电力传输和光通信传输双重能力的复合电缆，适用于而定电压0.4KV。

OPLC fiber composite low-voltage cable is a type of composite cable that combines optical fiber light with low-voltage cable. it has dual function of power transmission and communication and can be used at rate constant voltage of 0.4KV.



产品规格及结构说明
SIZE AND STURCTURE

一、型号示例说明
1. model specification

示例一：GD-VY23 0.6/1kv 3×240+1×120+G1-12B1
说明：包含12芯B1类光纤非金属层绞式光缆单元的铜芯聚氯乙烯绝缘钢带铠装聚乙烯护套光纤复合电缆，额定电压0.6/1kv，3芯加1芯，导体标称截面，240mm²（主），120mm²

Example 1: GD-VY23 0.6/1kv 3×240+1×120+G1-12B1
notes:includes the polythene insulated, steel tape armored and PVC sheathed power cable with copper core of the 12-core B1-category non-metallic coating metal strengthened optical cable unit, rated voltage 0.6/1kv, 3cores plus 1core, conductor nominal interception, 240cm² (major) , 120mm².

示例二：GD-YJY 0.6/1kv 2×10+G4-4B1
说明：包含4芯B1类光纤蝶形光缆单元的铜芯交联聚乙烯绝缘聚乙烯护套光纤复合电缆，额定电压0.6/1kv，2芯，导体标称截面，10mm²

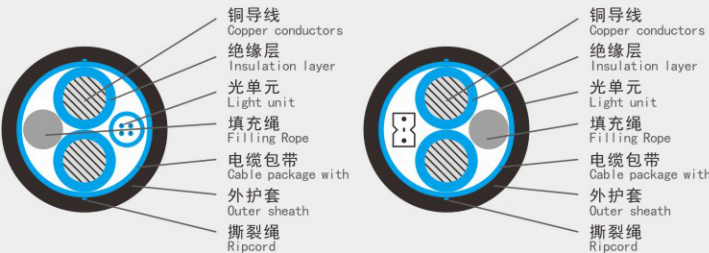
Example 2: GD-YJY 0.6/1kv 2×10+G4-4B1
notes:includes the polythene insulated, steel tape armored and PVC sheathed power cable with copper core of the 12-core B1-category non-metallic coating metal strengthened optical cable unit, rated voltage 0.6/1kv, 3cores plus 1core, conductor nominal interception, 240cm² (major) , 120mm².

- GD--光纤复合电缆
G1--非金属层绞式光缆单元
G2--非金属中心束管（全干式）光缆单元
G3--配线光缆单元
G4--蝶形光缆单元

- GD--optical fiber composite cable
G1--non-metallic layer hinged cable unit
G2--non-metallic centre beam tube fiber optic cable unit
G3--Wiring cable unit
G4--butterfly cable unit

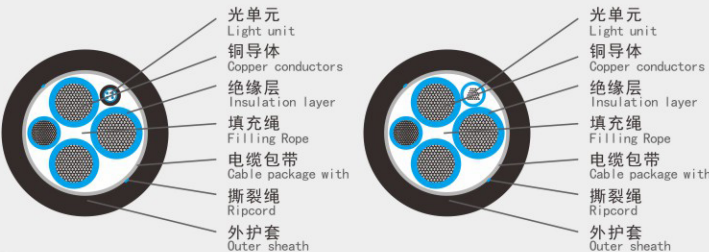
二、产品结构说明
2. description of product structure

A类：用户缆，主要用于家庭接入，电缆可垂直或水平进入家庭，引入智能电表和光器件终端。
Class A:User cable, mainly for home access;the cable can enter individual family vertically or horizontally, and introduce smart meters and optical device terminal.



GD-VY 0.6/1kv 2×6+G4-1B1 GD-VY 0.6/1kv 2×6+G3-2B1

B类：配线缆，主要用于小区和办公楼等进行配线段分支，由管道接入楼底或门前-电分配箱。
Class B:Wiring cable, mainly for branches of wiring section in residential and office buildings; it is connected to the photo-electric distribution box at the basement storey or in front of the door through pipeline.



GD-VY 0.6/1kv 3×25+1×16+G2-4B1 GD-VY 0.6/1kv 3×25+1×16+G3-4B1

C类：主要用于小区和办公楼等进行配线段分支，由隧道或直埋等接入楼底或门前光-电分配箱。
Class C: Mainly for branches of wiring section in residential and office buildings; it is connected to the photo-electric distribution box at the basement storey or in front of the door through tunnel or by burying directly.



GD-VY 0.6/1kv 3×25+1×16+G2-12B1 GD-VY 0.6/1kv 3×25+1×16+G3-12B1

D类：主要用于主干线路，由隧道或直埋等连接中心光-电机房至小区光-电配线箱。
Class D: Mainly used for trunk lines; it connects the central photo-electric room with the photo-electric distribution box in residential area through tunnelor by burying directly.



GD-YJY23 0.6/1kv 3×240+1×120+G1-72B1 GD-YJY23 0.6/1kv 3×240+1×120+G2-24B1