

# 全介质自承式光缆(ADSS) All Dielectric Self-supporting Aerial Cable

## 产品描述 Description

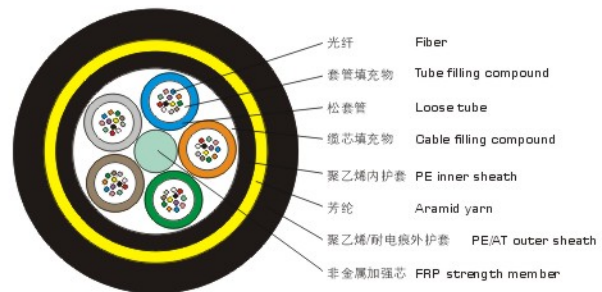
ADSS 光缆采用松套管层绞式结构, 将 250 $\mu$ m 光纤套入高模量材料制成的松套管中, 松套管内填充防水化合物, 松套管 (和填充绳) 围绕非金属中心加强芯 (FRP) 绞合成紧凑的缆芯, 缆芯的缝隙充以阻水油膏。缆芯外挤制聚乙烯 (PE) 内护套, 然后绞合起加强作用的芳纶, 最后挤制聚乙烯 (PE) 外护套或耐电痕 (AT) 外护套。

YOFC (SH) ADSS cable is loose tube stranded. Fibers, 250 $\mu$ m, are positioned into a loose tube made of high modulus plastics. The tubes are filled with a water-resistant filling compound. The tubes (and fillers) are stranded around a FRP (Fiber Reinforced Plastic) as a non-metallic central strength member into a compact and circular cable core. After the cable core is filled with filling compound, it is covered with thin PE (polyethylene) inner sheath. After stranded layer of aramid yarns are applied over the inner sheath as strength member, the cable is completed with PE or AT (anti-tracking) outer sheath.



## 产品特点 Characteristics

- 可不断电架设  
Can be installed without shutting off the power
- 采用 AT 护套, 耐电痕性能优越  
Excellent AT performance. The maximum inductive at the operating point of AT sheath can reach 25kV
- 重量轻、缆径小, 减少了冰凌、风力影响和对塔架、支撑物的负荷  
Light weight and small diameter reducing the load caused by ice and wind and the load on towers and backprops
- 跨距大, 最大跨距超过 1000 米  
Large span lengths and the largest span is over 1000m
- 具有优异的抗拉性能和温度特性  
Good performance of tensile strength and temperature
- 预期寿命可达 30 年  
The design life span is 30 years



光缆结构图  
Cable Structure

## 产品应用 Application

长飞 (上海) ADSS 光缆的设计充分考虑了电力线路的实际情况, 适用于不同等级高压输电线路。对于 10kV 和 35kV 的电力线路可采用聚乙烯 (PE) 护套; 对于 110kV 和 220kV 的电力线路则必须通过计算电场场强分布来确定光缆挂点并采用耐电痕 (AT) 外护套。同时, 精心设计芳纶的用量和完善的绞合工艺以满足不同跨距的应用要求。

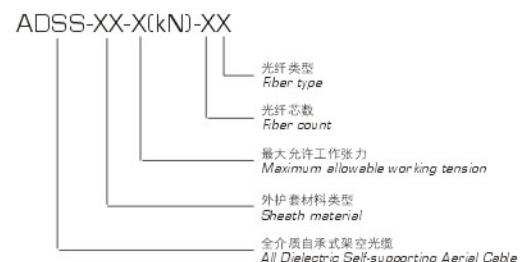
The actual status of overhead power lines is taken into full consideration when ADSS cable is being designed. For overhead power lines under 110kV, PE outer sheath is applied. For power lines equal to or over 110kV, AT outer sheath is applied. The dedicate design of aramid quantity and stranding process can satisfy the demand on various spans.

## 产品标准 Standards

长飞上海公司ADSS光缆遵循IEEE 1222-2004技术标准, 同时符合IEC 60794-1之标准。

YOFC(SH) ADSS cable complies with Standard IEEE 1222-2004 as well as IEC 60794-1.

## 光缆型号 Cable Code



(ADSS)

适用: 自承式架空

Application: Self-supporting Aerial

■ 光学特性 Optical Characteristics

		G.652	G.655	50 / 125 $\mu\text{m}$	62.5 / 125 $\mu\text{m}$
衰减 Attenuation (+20°C)	@ 850 nm			$\leq 3.0$ dB/km	$\leq 3.0$ dB/km
	@1300 nm			$\leq 1.0$ dB/km	$\leq 1.0$ dB/km
	@1310 nm	$\leq 0.36$ dB/km	$\leq 0.40$ dB/km		
	@1550 nm	$\leq 0.22$ dB/km	$\leq 0.23$ dB/km		
带宽 (A级) Bandwidth (Class A)	@ 850 nm			$\geq 600$ MHz·km	$\geq 200$ MHz·km
	@1300 nm			$\geq 1200$ MHz·km	$\geq 600$ MHz·km
数值孔径 Numerical Aperture				$0.200 \pm 0.015$ NA	$0.275 \pm 0.015$ NA
光缆截止波长 Cable Cut-off Wavelength $\lambda_{cc}$		$\leq 1260$ nm	$\leq 1450$ nm		

■ 结构参数 Technical Parameters

参考外径 Ref. outer diameter mm	参考重量 Ref. weight kg / km		推荐日常最大 工作张力 Rec. daily max. working tension kN	最大允许 工作张力 Max allowable working tension kN	断裂强度 Break strength kN	抗拉元件 截面积 Strength member CSA mm <sup>2</sup>	弹性模量 Modulus of elasticity kN / mm <sup>2</sup>	热膨胀 系数 Heat expansion coefficient $\times 10^{-6} / K$	适合档距 (m) Suitable span 对应气象条件 (NESC Standard, m)			
	PE 外护 PE sheath	AT 外护 AT sheath							A	B	C	D
12.5	125	136	1.5	4	10	4.6	7.6	1.8	160	100	140	100
13.0	132	142	2.25	6	15	7.6	8.3	1.5	230	150	200	150
13.3	137	148	3.0	8	20	10.35	9.45	1.3	300	200	290	200
13.6	145	156	3.6	10	24	13.8	10.8	1.2	370	250	350	250
13.8	147	159	4.5	12	30	14.3	11.8	1.0	420	280	400	280
14.5	164	177	5.4	15	36	18.4	13.6	0.9	480	320	460	320
14.9	171	185	6.75	18	45	22.0	16.4	0.6	570	380	550	380
15.1	179	193	7.95	22	53	26.4	18.0	0.3	670	460	650	460
15.5	190	204	9.0	26	60	32.2	19.1	0.1	750	530	750	510
15.6	194	208	10.5	28	70	33.0	19.6	0.1	800	560	800	560
16.3	211	226	12.75	34	85	40.0	20.1	0.1	880	650	880	650
16.8	226	242	15.45	41	103	48.0	24.0	-0.4	1000	750	1000	760
17.2	236	253	16.2	45	108	51.0	25.1	-0.5	1100	800	1100	830
17.9	249	266	18.0	50	120	58.8	26.1	-0.8	1180	880	1180	900

储存、使用温度: -40°C至+70°C

Storage / Operating Temperature: -40°C to +70°C

注 Note:

- 本表仅列出部分档距产品指标, 其它档距指标请向长飞上海公司查询;  
Only a part of ADSS cables are listed in the table. ADSS cables with other spans can be inquired from YOFC(SH) directly.
- 本表所列指标为无高差, 1%安装弧垂下数据;  
Specifications in the table are got on condition that there is no height difference and the installation sag is 1%.
- 光缆中光纤芯数为 2-60 芯, 光纤色谱按照国家标准;  
Fiber count is 2 to 60. The identification of fibers complies with the national standard.
- 长飞(上海)公司可按用户要求采用多种单、多模光纤成缆;  
Fibers, either single-mode or multimode, can be used in the cable on request.
- 长飞(上海)公司可根据用户要求对光缆结构进行特殊设计以适应线路的实际情况;  
Specially designed cable structure is available on request.
- 以上表格仅供参考, 长飞上海公司保留对上述参数进行修改的权利。  
YOFC(SH) reserves the right to revise, change and perfect the specification in the table.