

# All Dielectric Self-supporting Aerial Cable (ADSS)

(ADSS)全介质自承式光缆

## Description 产品描述

ADSS cable is loose tube stranded. Fibres, 250µm, 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 (Fibre 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.

ADSS光缆采用松套管层绞式结构,将250µm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(和填充物)围绕非金属中心加强芯(FRP)绞合成紧凑的缆芯,缆芯的缝隙以阻水油膏。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。

## Characteristics 产品特点

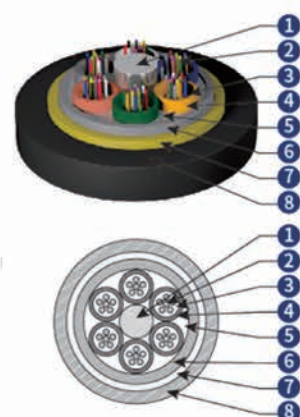
- Can be installed without shutting off the power  
可不断电架设
- Excellent AT performance. The maximum inductive at the operating point of AT sheath can reach 25kv  
采用AT护套,耐电痕性能优越
- Light weight and small diameter reducing the load caused by ice and wind and the load on towers and backprop  
重量轻、缆径小,减少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

## Standards 产品标准

ADSS cable complies with Standard IEEE 1222 as well as IEC 60794-1.  
ADSS光缆遵循IEEE 1222技术标准,同时符合IEC 60794-1之标准

## Structure Drawing 结构图

- FRP Strength Member  
非金属加强芯
- Fibre  
光纤
- Tube Filling Compound  
松套管填充物
- Loose Tube  
松套管
- Cable Filling Compound  
缆芯填充物
- PE Inner Sheath  
聚乙烯内护套
- Aramid Yarn  
芳纶丝
- PE/AT Outer Sheath  
聚乙烯/耐电痕外护套



## Cable Code 光缆型号

### ADSS-XX-X(m)-XX

- Fibre Type  
光纤类型
- Fibre count  
光纤芯数
- Maximum allowable working span  
最大允许工作跨距
- Sheath material  
外护套材料类型
- All Dielectric Selfsupporting Aerial Cable  
全介质自承式架空光缆

## Specifications 参数

### Technical Parameters 结构参数

| Ref. Outer Diameter<br>参考外径<br>(mm) | Ref. Weight<br>参考重量<br>(kg/km) |                   | Rec. Daily Max. Working Tension<br>推荐日常最大工作张力<br>(kN) | Max Allowable Working Tension<br>最大允许工作张力<br>(kN) | Break Strength<br>断裂强度<br>(kN) | Strenght Member CSA<br>抗拉元件截面积<br>(mm <sup>2</sup> ) | Modulus of Elasticity<br>弹性模量<br>(kN/mm <sup>2</sup> ) | Heat Expansion Coefficient<br>热膨胀系数<br>×10 <sup>-6</sup> /K | Suitable Span<br>适合档距(m)<br>(NESC Standard, m)<br>对应气象条件(m) |     |     |     |
|-------------------------------------|--------------------------------|-------------------|---|---|--------------------------------|--|--|---|---|-----|-----|-----|
|                                     | PE Sheath<br>PE外护              | AT Sheath<br>AT外护 |   |   |                                |  |  |   | A   | B   | C   | D   |
| 11.8                                | 117                            | 124               | 1.5   | 4   | 10                             | 4.6  | 7.6  | 1.8   | 160   | 100 | 140 | 100 |
| 12.0                                | 121                            | 129               | 2.25  | 6   | 15                             | 7.6  | 8.3  | 1.5   | 230   | 150 | 200 | 150 |
| 12.3                                | 126                            | 134               | 3.0   | 8   | 20                             | 10.35  | 9.45   | 1.3   | 300   | 200 | 290 | 200 |
| 12.6                                | 133                            | 141               | 3.6   | 10  | 24                             | 13.8   | 10.8   | 1.2   | 370   | 250 | 350 | 250 |
| 12.8                                | 138                            | 145               | 4.5   | 12  | 30                             | 14.3   | 11.8   | 1.0   | 420   | 280 | 400 | 280 |
| 13.1                                | 145                            | 153               | 5.4   | 15  | 36                             | 18.4   | 13.6   | 0.9   | 480   | 320 | 460 | 320 |
| 13.5                                | 155                            | 163               | 6.75  | 18  | 45                             | 22.0   | 16.4   | 0.6   | 570   | 380 | 550 | 380 |
| 13.8                                | 163                            | 171               | 7.95  | 22  | 53                             | 26.4   | 18.0   | 0.3   | 670   | 460 | 650 | 460 |
| 14.4                                | 177                            | 186               | 9.0   | 26  | 60                             | 32.2   | 19.1   | 0.1   | 750   | 530 | 750 | 510 |
| 14.6                                | 182                            | 191               | 10.5  | 28  | 70                             | 33.0   | 19.6   | 0.1   | 800   | 560 | 800 | 560 |
| 14.8                                | 195                            | 204               | 12.75   | 34  | 85                             | 40.0   | 20.1   | 0.1   | 880   | 650 | 880 | 650 |

Storage/Operating Temperature: -40°C~+70°C  
储存/使用温度: -40°C~+70°C

## Optical Characteristics 光学特性

| Fiber Type<br>光纤类型 | Attenuation<br>衰减<br>(+20°C) |         |         |         | Bandwidth<br>带宽 |         | Numerical Aperture<br>数值孔径 | Cable Cut-off Wavelength λ <sub>c</sub><br>光缆截止波长 |
|--------------------|------------------------------|---------|---------|---------|-----------------|---------|----------------------------|---|
|                    | @850nm                       | @1300nm | @1310nm | @1550nm | @850nm          | @1300nm |                            |   |
| Unit               | dB/km                        | dB/km   | dB/km   | dB/km   | MHZ.km          | MHZ.km  | NA                         | nm  |
| G.652              |                              |         | ≤0.36   | ≤0.22   | —               | —       | —                          | ≤1260   |
| G.655              |                              |         | ≤0.40   | ≤0.23   | —               | —       | —                          | ≤1450   |
| 50/125µm           | ≤3.3                         | ≤1.2    | —       | —       | ≥500            | ≥500    | 0.200±0.015                | —   |
| 62.5/125µm         | ≤3.5                         | ≤1.2    | —       | —       | ≥200            | ≥500    | 0.275±0.015                | —   |

Note:  
注意:

- Suffix Xn denotes fibre type  
型号的后缀Xn表示选用的光纤类型
- The colour arrangements of fibre and tube are specified in the colour identification table  
套管和光纤的颜色排列见色谱表
- The cable shouldn't store in outdoor environment more than 6 months in order to keep the cable reel good state  
光缆在露天的环境中不要超过6个月,否则盘具可能会受损

Application: Self-supporting Aerial  
适用: 自承式架空