

ADSS Fiber Cable

Overview

The Single Jacket ADSS Span 50M to 200M is a type of All-Dielectric Self-Supporting (ADSS) fiber optic cable designed for aerial installations, specifically for relatively shorter spans ranging from 50 meters to 200 meters. It is commonly used in various outdoor communication networks to provide high-speed data transmission and connectivity. ADSS cable adopts the twisted structure of loose sleeve layer, 250 μ m optical fiber is inserted into the loose tube made of high modulus materials, and the loose tube is filled with waterproof compounds. The loose tube (and filling rope) is twisted around the non-metallic center reinforcing core (FRP) to synthesize a compact cable core. The gap of the cable core is filled with a water-blocking yarn and a water-blocking belt longitudinally wrapped by the cable core, and then the aramid fiber that plays a reinforcing role is twisted. Finally, the polyethylene (PE) outer sheath or the electric mark (AT) outer sheath is extruded.

Fiber And Loose Tube Color Code

| <u>No.</u> | 1 | 2 | 3 | 4 | 5 | 6 |
|--------------|------|--------|--------|--------|------|-------|
| <u>Color</u> | Blue | Orange | Green | Brown | Gray | White |
| <u>No.</u> | 7 | 8 | 9 | 10 | 11 | 12 |
| <u>Color</u> | Red | Black | Yellow | Violet | Pink | Aqua |

Cable Structure And Parameter

| ITEM | CONTENTS | UNIT | VALUE | | | | |
|----------------------------|------------|----------|-----------------------------------|------|------|------|------|
| FIBER COUNT | Number | / | 12 | 24 | 48 | 96 | 144 |
| CABLE STRUCTURE | / | / | 1+6 | 1+6 | 1+6 | 1+8 | 1+12 |
| FIBER NO. PER TUBE | Number | / | 6 | 6 | 12 | 12 | 12 |
| LOOSE TUBE | Number | / | 2 | 4 | 4 | 8 | 12 |
| CENTRAL STRENGTH MEMBER | Material | / | FRP with cushion when necessary | | | | |
| CABLE DIAMETER | ±5% | mm | 10.6 | 10.6 | 11.2 | 12.8 | 16.4 |
| CABLE WEIGHT | ±10% | kg/km | 77 | 80 | 90 | 126 | 198 |
| MAT | / | N | 1900 | 1900 | 1900 | 2800 | 3300 |
| MAX.CRUSH RESISTANCE | Short term | N/100 mm | 1500 | | | | |
| WEATHER CONDITION | / | / | Max. 35m/s wind speed without ice | | | | |
| MAX. SPAN | / | m | 70 | | | | |
| INSTALLATION SAG | / | % | ≥1.0 | | | | |

*Note: Sheath thickness not consider ripcord portion, sizes and values without tolerances are nominal values

Characteristic Of Optical Cable

| | | | |
|-------------------------------|--------------------|--------------------|------------------------|
| Min. bending radius | Static | Dynamic | |
| | 10x Cable diameter | 20x Cable diameter | |
| Application temperature range | Operation | Installation | Strange/Transportation |
| | -30°C ~ +70°C | -10°C ~ +60°C | -40°C ~ +70°C |


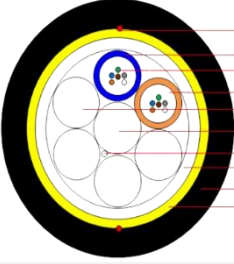
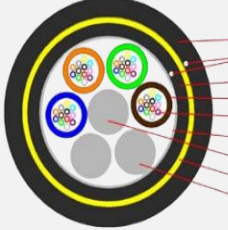
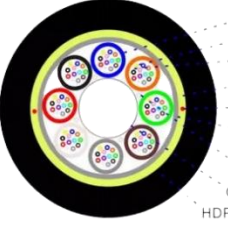
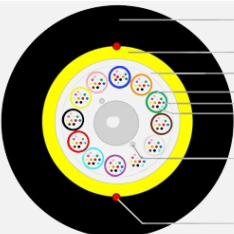
Main Mechanical & Environmental Performance Test

| ITEM | TEST METHOD | ACCEPTANCE CONDITION |
|--------------------------------------|--|---|
| TENSILE STRENGTH IEC 60794-1-2-E1 | Load: MAT Length of cable: about 50m Load time: 1min | Fiber strain $\leq 0.33\%$. Loss change $\leq 0.1\text{dB}$ @ 1550nm after test. No fiber break and no sheath damage. |
| CRUSH TEST IEC 60794-1-2-E3 | Load: Short term crush Load time: 1min | Loss change $\leq 0.1\text{dB}$ @ 1550nm after test. No fiber break and no sheath damage. |

Characteristic Of Optical Fiber

| ITEM | CONTENTS | VALUE |
|--|---|---|
| G.652D OPTICAL CHARACTERISTICS | | |
| ATTENUATION | @ 1310nm | $\leq 0.36\text{dB/km}$ |
| | @ 1550nm | $\leq 0.22\text{dB/km}$ |
| DISPERSION | @ 1288nm ~ 1339nm | $\leq 3.5\text{ps}/(\text{nm.km})$ |
| | @ 1550nm | $\leq 18\text{ps}/(\text{nm.km})$ |
| ZERO-DISPERSION WAVELENGTH | | 1300nm ~ 1324nm |
| ZERO-DISPERSION SLOPE | | $\leq 0.092\text{ps}/(\text{nm}^2.\text{km})$ |
| MODE FIELD DIAMETER (MFD) | @ 1310nm | $9.2 \pm 0.4 \mu\text{m}$ |
| | @ 1550nm | $10.4 \pm 0.5 \mu\text{m}$ |
| CLADDING DIAMETER | | $125.0 \pm 0.7 \mu\text{m}$ |
| CLADDING NON-CIRCULARITY | | $\leq 1.0\%$ |
| CORE CONCENTRICITY ERROR | | $\leq 0.5 \mu\text{m}$ |
| COATING DIAMETER | | $245 \pm 5 \mu\text{m}$ |
| COATING/CLADDING CONCENTRICITY ERROR | | $\leq 12 \mu\text{m}$ |
| CABLE CUTOFF WAVELENGTH $\lambda_{\text{CC}}(\text{NM})$ | | $\leq 1260\text{nm}$ |
| MICRO BENDING ATTENUATION | @ 1550nm (100turns; $\varnothing 60 \text{ mm}$) | $\leq 0.05\text{dB}$ |
| PROOF STRESS LEVEL | | $\geq 100 \text{ kpsi}$ |
| LINK POLARIZATION DISPERSION (PMDQ) | | $\leq 0.1\text{ps/km}^{1/2}$ |
| POLARIZATION MODE DISPERSION (INDIVIDUAL) | | $\leq 0.2\text{ps/km}^{1/2}$ |

Models and codes

| CODE | DESCRIPTION | PHOTO |
|-----------------|--|---|
| ADSS-12B1-70M | ADSS Cable 12 core, 70 Meter Tension, 2KM Drum |  <ul style="list-style-type: none"> Optical Fiber Filling jelly compound Loose tube Central Strength member Filler Water blocking tape Aramid yarn Outer sheath |
| ADSS-24B1-70M | ADSS Cable 24 core, 70 Meter Tension, 2KM Drum |  <ul style="list-style-type: none"> Rip cord Loose tube Optical fiber Jelly Filler rod Central strength member Water blocking yarn Water blocking tape Outer sheath Aramid yarn |
| ADSS-48B1-70M | ADSS Cable 48 core, 70 Meter Tension, 2KM Drum |  <ul style="list-style-type: none"> Outer Jacket PE Ripcord Inner Jacket Loose Tube Fiber & Gel Water Blocking Tape Center Strength Member FRP Aramid Yarn Filler |
| ADSS-96B1-70M | ADSS Cable 96 core, 70 Meter Tension, 1KM Drum |  <ul style="list-style-type: none"> PBT Loose Tube UV Optical Fiber Gel-Filled Tube Aramid Yarn Strength Ripcords Binding Yarn+ Water Blocking Tape Water Blocking Yarn GFRP Central Strength Member HDPE Outer Jacket |
| ADSS-144B1-100M | ADSS Cable 144 core, 100 Meter Tension, 1KM Drum |  <ul style="list-style-type: none"> 1.Outer sheath 2.Aramid yarn 3.Water swellable tape 4.Optic fiber 5.Gelly 6.Loose tube 7.Water block yarn 8.Ripcord |