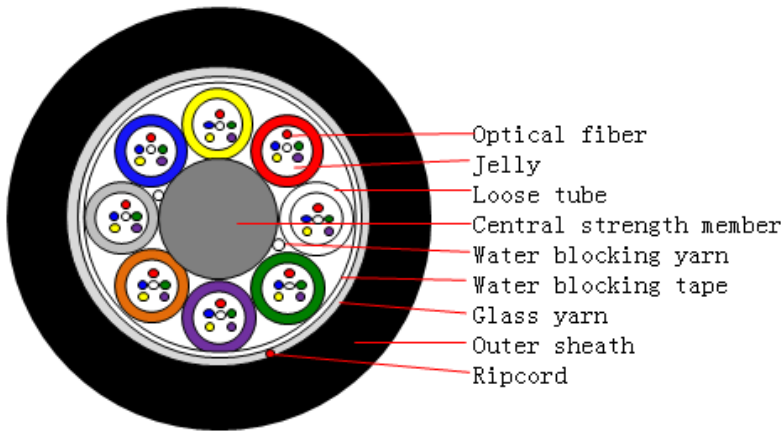


ADSS-48FO.-60span.

1. Cable cross-section



2. Cable Specification

2.1 Introduction

Loose tube construction, tubes jelly filled, elements (tubes and filler rods) laid up around non-metallic central strength member, polyester yarns used to bind the cable core, water blocking tape wrapped the cable core, glass yarn reinforced and HDPE outer sheath.

2.2 Fiber color code

Fiber color in each tube starts from No. 1 Blue.

| | | | | | |
|------|--------|-----|-------|-------|--------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| Blue | Yellow | Red | White | Green | Violet |

2.3 Color codes for loose tube

Tube color starts from No. 1 Blue.

| | | | | | | | |
|------|--------|-----|-------|-------|--------|--------|------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Blue | Yellow | Red | White | Green | Violet | Orange | Gray |

2.4 Cable structure and parameter

| SN | Item | Unit | Value |
|----|-----------------------------|---------|-------------|
| 1 | No. of fibers | count | 48 |
| 2 | No. of fibers per tube | count | 6 |
| 3 | No. of elements | count | 8 |
| 4 | Tube diameter(nominal) | mm | 1.9 |
| 5 | FRP diameter(nominal) | mm | 2.2 |
| 6 | Cable diameter($\pm 5\%$) | mm | 12.2 |
| 7 | Cable weight($\pm 10\%$) | kg/km | 126 |
| 8 | MAT | N | 6000 |
| 9 | Short term crush | N/100mm | 1500 |

Note: Mechanical sizes are nominal values.

3. Characteristic of Optical Cable

3.1 Min. bending radius for installation

Static: 10 x cable diameter

Dynamic: 20 x cable diameter

3.2 Application temperature range

Operation: -40°C ~ +70°C

Installation: -10°C ~ +50°C

Storage/transportation: -40°C ~ +70°C

3.3 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 0.6% - No fiber break and no sheath damage. |
| Crush Test IEC 60794-1-2-E3 | - Load: Short term crush - Load time: 1min | - Loss change \leq 0.1dB@1550nm - No fiber break and no sheath damage. |
| Impact Test IEC 60794-1-2-E4 | - Number of impact: 5 - Times of per point: 1 - Impact energy: 3J - Impact hammer radius:12.5mm | - Loss change \leq 0.1dB@1550nm - No fiber break and no sheath damage. |
| Repeated Bending IEC 60794-1-2-E6 | - Bending radius: 20 x OD - Load: 100N - No. of cycle: 35 | - Loss change \leq 0.1dB@1550nm - No fiber break and no sheath damage. |
| Torsion IEC 60794-1-2-E7 | - Length: 1m - Twist angle: \pm 180° - No. of cycle: 5 | - Loss change \leq 0.1dB@1550nm - No fiber break and no sheath damage. |
| Cable bend IEC 60794-1-2-E11 | -Diameter of mandrel:20 x OD -Number of cycles: 3 | - Loss change \leq 0.1dB@1550nm - No fiber break and no sheath damage. |
| Water Penetration IEC 60794-1-2-F5B | - Height of water: 1m - Sample length: 3m - Time: 24h | - No water leak from the cable core of the opposite end |
| Temperature Cycling IEC 60794-1-2-F1 | - Temperature: -40°C~+70°C - Time of each step: 24h - Number of cycle: 2 | - Loss change \leq 0.1dB/km@1550nm - No fiber break and no sheath damage. |

4. Characteristic of Optical Fiber

G652D fiber information

| | |
|--|---|
| Mode field diameter (1310nm): | $9.2\mu\text{m}\pm 0.4\mu\text{m}$ |
| Mode field diameter (1550nm): | $10.4\mu\text{m}\pm 0.8\mu\text{m}$ |
| Cut off wavelength of cabled fiber (λ_{cc}): | $\leq 1260\text{nm}$ |
| Attenuation at 1310nm: | $\leq 0.32\text{dB/km}$ |
| Attenuation at 1550nm: | $\leq 0.20\text{dB/km}$ |
| Bending loss at 1550nm (100 turns, 30mm radius): | $\leq 0.05\text{dB}$ |
| Dispersion in the range 1288 to 1339nm: | $\leq 3.5\text{ps}/(\text{nm}\cdot\text{km})$ |
| Dispersion at 1550nm: | $\leq 18\text{ps}/(\text{nm}\cdot\text{km})$ |
| Dispersion slope at zero dispersion wavelength: | $\leq 0.092\text{ps}/(\text{nm}^2\cdot\text{km})$ |