

| No. | REVISION | DATE |
|-----|----------|------------|
| 1 | V0 | 05/02/2024 |
| 2 | | |
| 3 | | |

Specification

FOR

Self-Supporting Non-Metal Optical Fiber Cable

[ADSS-120M]

Canal autorizado:

Unicor s.a.

www.unicorsa.com.ar

1. CABLE CONSTRUCTION

1.1 CROSS SECTIONAL DIAGRAM



1.2 TECHNICAL SPECIFICATION

| Fiber count | | 6~18FO | 24~36FO | 48~72FO | 96FO | 144FO |
|------------------------|-----------|--|----------|----------|----------|----------|
| Loose Tube | OD(mm) | 2.2 | 2.2 | 2.5 | 2.5 | 2.5 |
| | Material | PBT | | | | |
| Max fiber count/tube | | 6 | 6 | 12 | 12 | 12 |
| No. Of Tubes / Fillers | | 1/5 | 6/0 | 6/0 | 8/0 | 12/0 |
| FRP/Coating(mm) | | 2.3 | 2.3 | 2.6 | 3.0/4.2 | 3.0/7.5 |
| W-Blocking Material | | Water-blocking Tape/Water-blocking Yarn | | | | |
| Strength member | | Ariamid Yarns | | | | |
| Sheath | Thickness | Non. 0.80mm (Inner) | | | | |
| | Thickness | Non. 1.50mm (Outer) | | | | |
| | Material | Black HDPE | | | | |
| OD of cable (mm) | | 12.0±0.2 | 12.0±0.2 | 12.8±0.2 | 14.5±0.2 | 17.8±0.2 |
| N.weight (kg/km) | | 115 | 115 | 127 | 156 | 230 |
| MAT (N) | | 2000 | 2200 | 2600 | 2800 | 3500 |
| RCD Initial Sag | | Up To 120m, Sag 1.0% | | | | |
| Worst Load Condition | | Wind Velocity : 25m/s, Ice Thickness : 0mm | | | | |

2. FIBER AND LOOSE BUFFER TUBE IDENTIFICATION

| | | | | | | | | | | | | |
|-------------|------|--------|-------|-------|-------|---------------|-----|-------|--------|--------|------|------|
| NO. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Tube Color | Blue | Orange | Green | Brown | Slate | White | Red | Black | Yellow | Violet | Pink | Aqua |
| NO. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Fiber Color | Blue | Orange | Green | Brown | Slate | White/natural | Red | Black | Yellow | Violet | Pink | Aqua |

3.OPTICAL FIBER

3.1 Single Mode Fiber

| LTEMS | UNITS | SPECIFICATION | |
|--|------------------------|--|-------------------------------------|
| Fiber type | | G652D | G657A |
| Attenuation | dB/km | 1310nm ≤ 0.36 1550nm ≤ 0.22 | |
| Chromatic Dispersion | ps/nm.km | 1310nm ≤ 3.5 1550nm ≤ 18 1625nm ≤ 22 | |
| Zero Dispersion Slope | ps/nm ² .km | ≤ 0.092 | |
| Zero Dispersion Wavelength | nm | 1300 ~ 1324 | |
| Cut-off Wavelength (λ _{cc}) | nm | ≤ 1260 | |
| Attenuation vs. Bending (60mm x100turns) | dB | (30mm radius, 100ring) ≤ 0.1 @ 1625nm | (10mm radius, 1ring) ≤ 1.5 @ 1625nm |
| Mode Field Diameter | μm | 9.2 ± 0.4 at 1310nm | 9.2 ± 0.4 at 1310nm |
| Core-Clad Concentricity | μm | ≤ 0.5 | ≤ 0.5 |
| Cladding Diameter | μm | 125±1 | 125±1 |
| Cladding Non-circularity | % | ≤ 0.8 | ≤ 0.8 |
| Coating Diameter | μm | 245±5 | 245±5 |
| Proof Test | Gpa | ≥ 0.69 | ≥ 0.69 |

3.2 Multi Mode Fiber

| LTEMS | UNITS | SPECIFICATION | | | | | |
|---------------------------------------|--------|---------------|-------------|-------------|---------|---------|-------|
| | | 62.5/125 | 50/125 | OM3-150 | OM3-300 | OM4-550 | |
| Fiber Core Diameter | μm | 62.5±2.5 | 50.0±2.5 | 50.0±2.5 | | | |
| Fiber Core Non-circularity | % | ≤6.0 | ≤6.0 | ≤6.0 | | | |
| Cladding Diameter | μm | 125.0±1.0 | 125.0±1.0 | 125.0±1.0 | | | |
| Cladding Non-circularity | % | ≤2.0 | ≤2.0 | ≤2.0 | | | |
| Coating Diameter | μm | 245±10 | 245±10 | 245±10 | | | |
| C0at-Clad Concentricity | μm | ≤12.0 | ≤12.0 | ≤12.0 | | | |
| Coating Non-circularity | % | ≤8.0 | ≤8.0 | ≤8.0 | | | |
| Core-Clad Concentricity | μm | ≤1.5 | ≤1.5 | ≤1.5 | | | |
| Attenuation | 850nm | dB/km | 3.0 | 3.0 | 3.0 | | |
| | 1300nm | dB/km | 1.5 | 1.5 | 1.5 | | |
| OFL | 850nm | MHz . km | ≥160 | ≥200 | ≥700 | ≥1500 | ≥3500 |
| | 1300nm | MHz . km | ≥300 | ≥400 | ≥500 | ≥500 | ≥500 |
| The biggest theory numerical aperture | / | 0.275±0.015 | 0.200±0.015 | 0.200±0.015 | | | |

4.Mechanical and Environmental Performance of the Cable

| NO. | ITEMS | TEST METHOD | ACCEPTANCE CRITERIA |
|-----|------------------------|--|--|
| 1 | Tensile Loading Test | #Test method:IEC 60794-1-E1 -. Long-tensile load: 0.5MAT -. Short-tensile load: As MAT -. Cable length: ≥50m | -. Attenuation increment@1550nm:≤0.1dB -. No jacket cracking and fiber breakage |
| 2 | Crush Resistance Test | #Test method:IEC 60794-1-E3 -.Long load: 300 N/100mm -.Short load: 1000 N/100mm Load time: 1 minutes | -. Attenuation increment@1550nm:≤0.1dB -. No jacket cracking and fiber breakage |
| 3 | Impact Resistance Test | #Test method:IEC 60794-1-E4 -.Impact height: 1M -.Impact weigh: 500g -.Impact point: ≥5 -.Impact frequency: ≥3/point | -. Attenuation increment@1550nm:≤0.1dB -. No jacket cracking and fiber breakage |
| 4 | Repeated Bending | #Test method:IEC 60794-1-E6 -.Mandrel diameter: 20D (D = cable diameter) | -. Attenuation increment@1550nm:≤0.1dB -. No jacket cracking and fiber |

| | | | |
|---|--------------------------|---|--|
| | | -Subject weight: 25kg -Bending frequency: 30 times -Bending speed: 2s/time | breakage |
| 5 | Torsion Test | #Test method:IEC 60794-1-E7 -Length: 1m -Subject weight: 25kg -Angle: ±180 degree -Frequency: ≥10/point | - Attenuation increment@1550nm:≤0.1dB - No jacket cracking and fiber breakage |
| 6 | Water Penetration Test | #Test method:IEC 60794-1-F5B -Height of pressure head: 1m -Length of specimen: 3m -Test time: 24 hours | - No leakage through the open cable end |
| 7 | Temperature Cycling Test | #Test method:IEC 60794-1-F1 -Temperature steps: +20°C、—40°C、+70°C、+20°C -Testing Time: 24 hours/step -Cycle index: 1 | - Attenuation increment@1550nm:≤0.1dB - No jacket cracking and fiber breakage |
| 8 | Drop Performance | #Test method:IEC 60794-1-E14 -Testing length: 30cm -Temperature range: 70±2°C -Testing Time: 24 hours | - No filling compound drop out |
| 9 | Temperature | Operating:-40°C~+60°C Store/Transport :-50°C~+70°C Installation -20°C~+60°C | |

5. FIBER OPTIC CABLE BENDING RADIUS

Static bending: ≥10 times than cable out diameter

Dynamic bending: ≥20times than cable out diameter.

6. PACKAGE AND MARK

6.1 PACKAGE

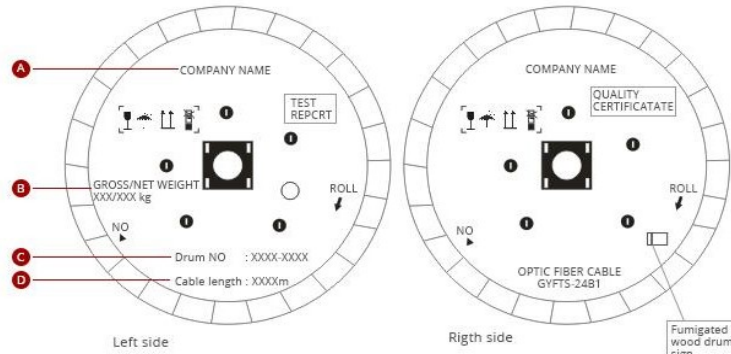
Not allowed two length units of cable in one drum, two ends should be sealed,. Two ends should be packed inside drum, reserve length of cable not less than 3 meters.

6.2 MARK

Cable Mark: length, brand

Drum Mark: Manufacturer, cable category, No. of drum, length, GW. direction of rotation, manufacturing date.

Mark



Usually we only attach Test Report on the out package of the cable, but we could also mark as your requirements, such as:

1. Company Name
2. Cross / Net weight
3. Drum No: XX
4. Cable Length : XX

7. TEST REPORT

Test report and certification supplied.

-The end of Specification-