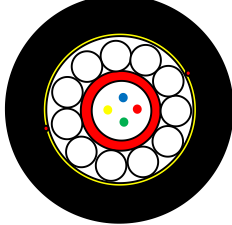


1. Application / Construction

| | | | |
|---------------------------------|--|-----------------------------|---------------------------|
| Identification | OFC-4 G.657A1/G.657A2-DC-S1 | | |
| Application | Duct and aerial installation | | |
| Cross Section (not to scale) | <p style="text-align: center;">4 fibers</p>  | | |
| Configuration | <ul style="list-style-type: none"> - Loose tube with 4 optical fibers and jelly inside - Aramid yarn(s) - Dielectric armor : round FRP - Outer sheath: PE, Anti-UV - Ripcord*2 under sheath | | |
| Temperature Range | Storage and transport -40 to +70°C | Installation -5 to +45°C | Operation -30 to +60°C |
| Standards | IEC 60793-1, IEC 60793-2, IEC 60794-4-20, EN 50290-2-24 | | |
| ZTT Specification | ZTT 20-109344-6-B | | |
| Customer Reference | Common Standard | | |

2. Dimensions

| | | |
|------------------------------|----|-----|
| Fiber counts | | 4 |
| Outer diameter (± 0.3) | mm | 4.9 |
| Weight | kg | 24 |

Sizes and values without tolerances are nominal values

3. Mechanical Properties

| | |
|-----------------------|-----------------|
| Fiber counts | 4 |
| MAT | 800N |
| Crush | 1000N/10cm |
| Static bending radius | 15xOD |
| Impact | 5Nm |
| Torsion | $\pm 180^\circ$ |

See Point 6: Test Methods

4. Marking

| | | | | | | | | | | |
|--------------|----------|------------|-----------|-------------|--|--|--|--|--|--|
| Fiber Colors | 1 red | 2 green | 3 blue | 4 yellow | | | | | | |
| Tube Colors | 1 red | | | | | | | | | |

Outer Sheath: black, ink jet print, marking in 1 meter intervals as follows:

ZTT Drop Cable 4 <Fiber Type> <Batch No.> <meter marking>




5. Optical Fiber

| Standard | ITU-T G.657A1 UBIF®R10 | |
|------------|---|---|
| Optical | Fibre attenuation (after cabling) .. @ 1310 nm .. @ 1550 nm | ≤0.36 dB/km ≤0.23 dB/km |
| | Zero Dispersion Wavelength | 1300-1324nm |
| | Zero dispersion slope | ≤0.092 ps/nm ² ·km |
| | Dispersion coefficient | ≤3.5 ps/(nm·km)@1310nm ≤19 ps/(nm·km)@1550nm |
| | PMD Individual | ≤0.2 ps/√km |
| | Cable cut-off wavelength | ≤1260 nm |
| | Mode field diameter (MFD) | 8.8 ± 0.4 μm@1310 nm |
| | Macro bending loss (1 turn Ø20 mm) | @1550 nm ≤0.75 dB @1625 nm ≤1.5 dB |
| Geometric | Cladding diameter | 125 ± 0.7 μm |
| | Core/clad concentricity error | ≤0.5 μm |
| | Cladding non-circularity | ≤ 1.0 % |
| | Coating diameter (Colored) | 250 ± 15 μm |
| Mechanical | Proof stress | ≥ 0.69 Gpa |

| Standard | ITU-T G.657A2 UBIF®R7.5 | |
|------------|---|---|
| Optical | Fibre attenuation (after cabling) .. @ 1310 nm .. @ 1550 nm | ≤0.36 dB/km ≤0.23 dB/km |
| | Zero Dispersion Wavelength | 1300-1324nm |
| | Zero dispersion slope | ≤0.092 ps/nm ² ·km |
| | Dispersion coefficient | ≤3.5 ps/(nm·km)@1310nm ≤19 ps/(nm·km)@1550nm |
| | PMD Individual | ≤0.2 ps/√km |
| | Cable cut-off wavelength | ≤1260 nm |
| | Mode field diameter (MFD) | 8.6 ± 0.4 μm@1310 nm |
| | Macro bending loss (1 turn Ø15 mm) | @1550 nm ≤0.5 dB @1625 nm ≤1.0 dB |
| Geometric | Cladding diameter | 125 ± 0.7 μm |
| | Core/clad concentricity error | ≤0.5 μm |
| | Cladding non-circularity | ≤ 1.0 % |
| | Coating diameter (Colored) | 250 ± 15 μm |
| Mechanical | Proof stress | ≥ 0.69 Gpa |

6. Test Methods

| Test | Conditions | Acceptance criteria |
|---------------------------------------|---|---|
| Tension Loading IEC 60794-1-2 E1 | Tensile strength: See point3 Tensioned length: ≥ 25 m, 10min | - Fiber strain ≤ 0.6%, by clamps - Δα reversible |
| Impact Resistance IEC 60794-1-2 E4 | Radius =300 mm, number of places/tests: 3 Impact energy: 5 J | - Δα reversible |
| Static bending IEC 60794-1-2 E11A | R=15xOD, U bending, 3 cycles | - Δα reversible |
| Torsion/Twist IEC 60794-1-2 E7 | Sample length:2m, Test condition: see Point 3, 10cycles | - Δα reversible |

| | | |
|---|--|-------------------------------------|
| Crush/Compression IEC 60794-1-2 E3 | Crush: see Point 3, 1min Number of tests: 3 | - $\Delta\alpha$ reversible |
| Temperature cycling IEC 60794-1-2 F1 | -30°C..+60°C t1=8h, 2 cycles | - $\Delta\alpha \leq 0.1$ dB/km |
| Water penetration IEC 60794-1-2 F5B | Sample length: 3 m, water column height: 1 m Test duration: 24 h, | - No leakage from cable core (Tube) |

All optical measurements at 1550 nm

7. Stress-Sag Data Sheet

Cable Parameters:

| Sl. | Description | Unit | Parameters |
|-----|---------------------------------|----------------------|------------|
| | | | 4F |
| 1 | Overall diameter | mm | 4.9 |
| 2 | Sectional area | mm ² | 3.25 |
| 3 | Nominal weight | Kg/km | 24 |
| 4 | Modulus of elasticity | KN/mm ² | 54.66 |
| 5 | Coefficient of linear expansion | 10 ⁻⁶ /°C | 9.57 |

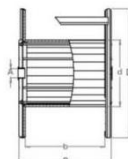
Sag Sheet [4F]:

| Span | Installation* | | NESC Light | |
|------|---------------|---------|------------|---------|
| | Sag | Tension | Sag | Tension |
| M | % | N | % | N |
| 40 | 1 | 120 | 2.67 | 420 |
| 50 | 1 | 160 | 2.83 | 500 |
| 60 | 1 | 190 | 2.97 | 570 |
| 70 | 1 | 220 | 3.10 | 640 |
| 80 | 1 | 250 | 3.21 | 700 |

Note:

1. Marked is installation state, ZTT designed the installation temperature 16°C, wind speed 5m/s and no ice coating.
2. ZTT design optical fiber cable would meet tension requirement under the worst weather conditions, and can be kept in good working condition

8. Logistics

| | | | |
|----------------|-----------------------------------|-----------------------------|--|
| Cable type | Length (-1%/+3%) | 2000m |  <p>D*d*B in cm</p> |
| OFC-4...-DC-S1 | Drum type Dimensions Weight | Plywood 60*40*40 54kg | |

Dimensions including protection. Indicative values, actually delivered drum sizes and weights may deviate. Cable ends sealed with caps

