


1. Application / Construction

| | | | |
|---------------------------------|--|------------------------------|---------------------------|
| Identification | GJYF6H-12...144 G.657A1 | | |
| Application | Indoor / Outdoor in duct or in building distribution | | |
| Cross Section (not to scale) | <p style="text-align: center;">12..144 fibers</p>  | | |
| Configuration | <ul style="list-style-type: none"> - Micro modules with 12 optical fibers and water blocking yarn(s) - Central strength member: FRP or LSZH Coated FRP - Aramid yarns (with water blocking yarns, if necessary) - WB Glass yarns with water blocking yarns, anti-rodent - Outer sheath: LSZH, black, Anti-UV, one ripcord under the sheath - CPR performance: Dca s2, d2, a1 | | |
| Temperature Range | Storage and transport -40 to +70°C | Installation -20 to +50°C | Operation -40 to +70°C |
| Standards | IEC 60793-1, IEC 60793-2, IEC 60794-2 | | |
| ZTT Specification | 21-XJ04865-B | | |
| Customer Reference | Common standard | | |

2. Dimensions

| | | | | | | |
|-------------------------|----|------|------|------|------|-------|
| Number of fibers | / | 12 | 24 | 48 | 96 | 144 |
| Micro modules x fibers | / | 1x12 | 2x12 | 4x12 | 8x12 | 12x12 |
| Micro modules / Dummies | / | 1/3 | 2/2 | 4/0 | 8/0 | 12/0 |
| Outer diameter (±0.5) | mm | 6.7 | | | 8.3 | 10.3 |
| Weight/km | kg | 44 | | | 70 | 100 |

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

3. Mechanical Properties

| | |
|-------------------------------|--|
| Max. tensile load (Install.) | 720~750 N |
| Max. tensile load (permanent) | ≥ 250 N |
| Crush resistance / 10 cm | Installation: 1000 N, Permanent: ≥ 300 N |
| Bending radius (installation) | 20x cable Ø |
| Bending radius (operation) | 10x cable Ø |

See Point 6: Test Methods

4. Marking

| | | | | | | | | | | | | |
|--------------|------------|----------|-------------|------------|-----------|-----------|------------|------------|-------------|------------|--------------|------------|
| Fiber Colors | 1 white | 2 red | 3 yellow | 4 green | 5 blue | 6 grey | 7 brown | 8 black | 9 violet | 10 aqua | 11 orange | 12 pink |
| Tube Colors | 1 white | 2 red | 3 yellow | 4 green | 5 blue | 6 grey | 7 brown | 8 black | 9 violet | 10 aqua | 11 orange | 12 pink |

Outer Sheath: black, ink jet, marking in 1 meter intervals as follows (for example):

ZTT OPTICAL CABLE GJYF6H-12 G.657A1 <batch ID> <meter marking >

5. Optical Fiber

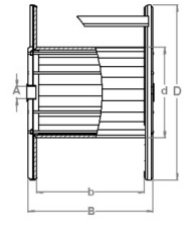
| Standard | ITU-T G.657A1 UBIF®R10 | | |
|------------|--|----------------------------------|--------------------------------|
| Optical | Fiber attenuation .. cabled | @ 1310 nm ≤0.36 dB/km | @ 1550 nm ≤0.22 dB/km |
| | Mode field diameter (MFD) | (8.6~9.2) ± 0.4 μm @1310nm | |
| | Zero dispersion wavelength | 1300~1324 nm | |
| | Zero dispersion slope | ≤0.092 ps/nm ² · km | |
| | Polarization mode dispersion (PMD) | ≤0.2 ps/√km | |
| | Cable cut-off wavelength | ≤1260 nm | |
| | Macro bending loss .. 10 turns, Ø30 mm .. 1 turn, Ø20 mm | @1550 nm ≤0.25 dB ≤0.75 dB | @1625 nm ≤1.0 dB ≤1.5 dB |
| Geometric | Coating diameter (Colored) | 250 ± 15μm | |
| | Cladding diameter | 125 ± 1.0μm | |
| | Core/clad concentricity error | ≤0.6μm | |
| | Cladding non-circularity | ≤ 1.0% | |
| Mechanical | Proof stress | ≥ 0.69Gpa | |

6. Test Methods

| Test | Conditions | Acceptance criteria |
|---|---|---------------------------------|
| Tensile strength IEC 60794-1-2 E1 | Tensile strength: see Point 3 Sample length: ≥ 50 m, Duration: 1 min | - Δα reversible - No damage |
| Crush resistance IEC 60794-1-2 E3 | Crush: see Point 3 Test duration: 1 min, number of test: 3 | - Δα reversible - No damage |
| Impact IEC 60794-1-2 E4 | Impact energy: 1 J R = 300 mm, number of places/tests: 3 | - Δα reversible - No damage |
| Torsion IEC 60794-1-2 E7 | Sample length: 2 m ± 180°, 10 cycles | - Δα reversible - No damage |
| Bend IEC 60794-1-2 E11A | Bending radius: 10x cable Ø 4 bends, 3 cycles | - Δα reversible - No damage |
| Temperature cycling IEC 60794-1-2 F1 | -40°C → +70°C 8 hours at each step, 2 cycles | - Δα ≤ 0.15dB/km - No damage |
| Water penetration IEC 60794-1-2 F5 | Sample length: 3 m, Water height: 1 m Test duration: 24 h | - No water leakage |

All optical measurements at 1550 nm

7. Logistics

| Cable type | Length Tolerance | 0.5km -1% / +3% | 1km -1% / +3% |  D*d*B in cm |
|----------------------|---|------------------------|----------------------|--|
| GJYF6H-12~48 G.657A1 | Drum Type Dimensions (Tolerance: ±5cm) Weight (kg) | Plywood 62*40*42 28 | Wood 80*50*50 90 | |
| GJYF6H-96 G.657A1 | | Wood 80*50*50 85 | Wood 85*50*75 120 | |
| GJYF6H-144 G.657A1 | | Wood 85*60*75 102 | Wood 95*60*75 160 | |

Dimensions including protection. Indicative values, actually delivered drum sizes and weights may deviate. Cable ends sealed with caps. The plywood drum should be stored in a dry condition and no raining area.

| | | | | | |
|----------------|--------------|-----------------|-----------------|-----------------|---------------------|
| B | Sept.22,2021 | Tim | Erica | Xue Zhaojian | Fiber type: G.657A1 |
| A | Sept.04,2021 | Tim | Erica | Xue Zhaojian | / |
| Version | Date | Prepared | Reviewed | Approved | Remark |

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