# Generic Specification Blown Fibre Units G657A.1

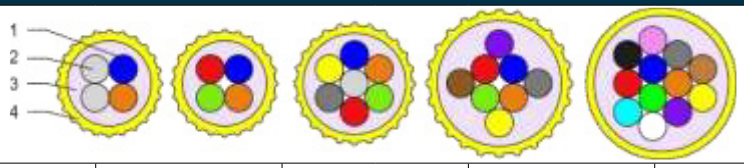
Fibre Unit (BFU) with up to twelve fibres set in an encapsulating layer providing excellent dimensional and thermal stability. An outer thermoplastic layer provides a high level of protection and excellent installation properties. The FU is designed for blowing into microducts and tube bundles. The fibres are dry, not coated with gel, thus permitting fast and contamination –free connections.

The BFU contain 'low water peak' single mode fibres meeting the ITU-T recommendations

## Features & Benefits

- Fibre units are tested according to IEC 60794-5
- Blowing track: 2000m Performance confirmed
- Em-Liner outer sheath for Low Friction and best blowing performance

## Fibre Unity Properties

| | | | | | |
|---|---|---|---|---|---|
| Construction<br>1: Optical Fibre<br>2: Filler (mechanical fibre)<br>3: Encapsulation<br>4: Low friction sheath |  | | | | |
| | 2F | 4F | 6F | 8F | 12F |
| Outer diameter (nominal) | 1.1 mm | 1.1 mm | 1.3 mm | 1.5 mm | 1.6 mm |
| Mass (nominal) | 1.0 mm | 1.0 mm | 1.6 mm | 1.8 mm | 2.2 mm |
| Min Bend Radius | 50 mm | 50 mm | 56 mm | 80 mm | 80 mm |
| Fibre Type | Singlemode compliant with G657A.1 | | | | |
| Temperatures | Storage | | | | 20°C to +70°C |
| | Installation | | | | -10°C to +50°C |
| | Lifetime | | | | -20°C to +60°C |
| Attenuation at 20ºC (dB/km) | 0.40 dB/km max at 1310nm to 1625nm<br>0.30 dB/km max at 1550nm<br>0.34 dB/km max at 1383nm waterpeak | | | | |
| PMDQ (M= 20, Q=0.01%) | ≤0.2 ps / (km)0.5 | | | | |
| Macrobending Performance (individual stripped out fibres) | ≤ 50 mm radius (100 turns) ≤ 0.1 dB at 1550 nm and 1625 nm<br>≤ 0.5 dB at 1550 nm and 1625 nm | | | | |

## Mechanical Performance (all optical measurements at 1550nm)

| Test | Test Method | Test Parameters | Product Specification |
|---|---|---|---|
| Tensile Performance | EN 187000 A1/ 501<br>IEC60 794-12-E1 | Load is 1km mass (1W)<br>Duration 10 min | Fibre strain ≤0.4% at max. force<br>Attenuation increment ≤0.05dB and fibre strain ≤0.05% after test.<br>Given tensile performance above, product lifetime loading as per industry best practice. |
| Tensile Service Load | | Maximum W/3<br>Duration of product lifetime | |
| Flexing | IEC 60794-1-2-E11A<br>Change @ 1550nm | Diam 40mm x 3 turns<br>5 cycles at 20°C | Attenuation ≤0.05dB increment after test. |
| Crush I | IEC 60794-1-2-E3<br>Change @ 1550nm | 100 mm plate, 100N, 1 min,<br>3 tests at different places | ≤0.05dB increment after test. |
| Crush II | IEC 60794-1-2-E3<br>Change @ 1550nm | 100 mm plate, 500N, 15 min,<br>3 tests at different places | No fibres broken. |

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| Environmental Performance (all optical measurements at 1310nm and 1550nm) | | | |
|---|---|---|---|
| **Test** | **Test Method** | **Test Parameters** | **Product Specification** |
| Water Soak | IEC 60794-5 | 1000 hours in water, 18°C/22°C | Test after temp cycle ≤0.07 dB/km change during and after test |
| Temperature Cycle | IEC 60794-1-2-F1 (3 cycles) | +20°C, –40°C, +60°C | Attenuation to be ≤0.5dB/km during test ≤0.1dB/km change during and after test |
| Damp Heat Cycle | IEC 60068-2-38 (10 cycles) | 25°C, 65°C, 25°C, 65°C, 25°C, -10°C, 25°C | Attenuation to be ≤0.5dB/km during test ≤0.1dB/km change during and after test |

| Identification | |
|---|---|
| Sheath Colour | Yellow with black print every 1 metre |
| Fibre Colours: | Blue, Orange, Green, Red, Grey, Yellow, Brown, Violet, Black, Aqua, Pink, White |
| Fillers: | Natural (mechanical fibre) |


**T:** (+44) 01376 346600 **E:** sales@connectix.co.uk **www.connectixbroadbandsystems.com**