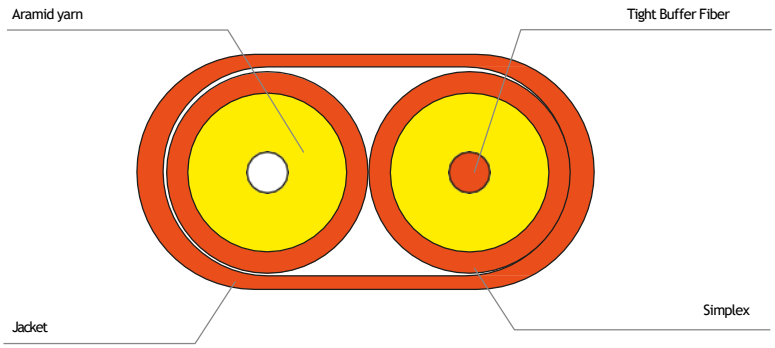
# Twin Duplex Cable Patchcords

atg offers a board variety of fibre optic cable for all indoor access and structure cabling application such as simplex, duplex, tight buffer, distribution, breakout and ribbon cable. Fitting most of the indoor application environment , whatever for short distance cabling or premises structure cabling.

G652D, G657A1/A2, OM1 62.5/125um, OM2 50/125um, OM3 and OM4 fibres are available.

## Features

- Dual fiber design, optimum for patchcord preparation
- Indoor short distance cabling
- Small bending, light weight and highly flexible
- Easy to Install and terminate
- Flame retardant or LSZH jacket is available
- Comply to TIA/EIA568b-3 and ISO/IEC 11801




## Fire Performances

General

| | |
|---|---|
| Flame Retardant | IEC 60332-1, IEC 60332-2, IEC 60332-3, BS EN 50265, BS EN 50266 |
| Fire Retardant | BS EN ISO 4589-3 Annex A (FT >= 280°C) |
| Low Smoke Capacity | IEC 61034 1/2, BS EN 50268-2 Annex B (>=60% Light Transmittance) |
| The Values for The Light Transmittance | BS EN 50268-2 |
| Oxygen Index Testing Method | BS EN ISO 4589-2, ASTMD-2863 |
| Halogen Free | IEC 60754-1/2, BS EN 50267-2-3 Annex A (pH >=4.3) |

## Specifications

General

| | |
|---|---|
| Flame Rating | LSZH / FRNC* |
| Fiber Category | Singlemode / Multimode |
| | |
| Temperature Range | |
| Operation | -20°C to +70°C |
| | |
| Cable Design | |
| Fiber Count | 2 |
| Buffering Diameter | 900 µm |
| Tight Buffer Type | Standard - strip up to 10cm or Easy strip |
| Tight Buffer Colour | Singlemode: White + Yellow |
| | Multimode: White + Orange |
| Tensile Strength Elements and/or Armouring Layer 1 | Aramid yarn |
| Subunit Jacket Material | PVC/Flame-retardant, non-corrosive / low-smoke, zero-halogen |
| | (FRNC / LSZH) |
| Subunit Jacket Colour ** | Yellow / Orange / Aqua |
| Outer Jacket Material | PVC/Flame-retardant, non-corrosive / low-smoke, zero-halogen |
| | (FRNC / LSZH) |
| Outer Jacket Colour ** | Yellow / Orange / Aqua |
| Outer Jacket Nominal Thickness | 0.6mm |

*For LSZH model only
**Customized colour available upon request

| Mechanical Characteristics Cable | | | Unit |
|---|---|---|---|
| Fiber Count | 2 | | |
| Outer Diameter | 4.0*7.0 | 3.1*5.2 | mm |
| Nominal Weight | 31 | 18 | kg/km |
| Max. Tension (Short-term) | 200 | 300 | N |
| Max. Tension (Long-term ) | 100 | 160 | N |
| Max. Crushing Resistance | 1000 | | $N/100mm^2$ |
| Bending Radius (Loading) | 20 | | D |
| Bending Radius (Without Loading) | 10 | | D |

**Please contact atg for more detail and delivery times**

Copyright 2020 atg Technology Group Limited 34 William Pickering Drive Albany www.atgltd.co.nz

# Fibre Specifications (Singlemode)

| Characteristics | | G652D | G657A1 | G657A2 |
|---|---|---|---|---|
| Optical Characteristics | | | | |
| Attenuation | 1310nm | ≦0.40 dB/km | ≦0.40 dB/km | ≦0.40 dB/km |
| | 1383nm* | ≦0.34 dB/km | ≦0.35 dB/km | ≦0.35 dB/km |
| | 1460nm* | - | ≦0.25 dB/km | ≦0.25 dB/km |
| | 1490nm* | - | - | ≦0.23 dB/km |
| | 1550nm | ≦0.30 dB/km | ≦0.30 dB/km | ≦0.30 dB/km |
| | 1625nm* | ≦0.23 dB/km | ≦0.23 dB/km | ≦0.23 dB/km |
| Attenuation vs. Wavelength | 1285-1330nm* | ≦0.03 dB/km | ≦0.03 dB/km | ≦0.03 dB/km |
| Max. α difference | 1525-1575nm* | ≦0.02 dB/km | ≦0.02 dB/km | ≦0.02 dB/km |
| Dispersion coefficient | 1285-1340nm | ≧-3.4≦3.4 ps/(nm · km) | ≧-3.4≦3.4 ps/(nm · km) | - |
| | 1550nm | ≦18 ps/(nm · km) | ≦18 ps/(nm · km) | - |
| | 1625nm | ≦22 ps/(nm · km) | ≦22 ps/(nm · km) | - |
| Zero dispersion wavelength | | 1312±12 nm | 1300~1324 nm | 1300~1324 nm |
| Zero dispersion slope | | ≦0.091 ps/nm$^2$ · km | ≦0.092 ps/nm$^2$ · km | ≦0.092 ps/nm$^2$ · km |
| Typical value | | 0.086 ps/nm$^2$ · km | 0.086 ps/nm$^2$ · km | 0.04 ps/nm$^2$ · km |
| PMD | | | | |
| Maximum Individual Fibre | | ≦0.1 ps/√km | ≦0.1 ps/√km | ≦0.1 ps/√km |
| Link Design Value(M=20,Q=0.01%) | | ≦0.06 ps/√km | ≦0.06 ps/√km | ≦0.06 ps/√km |
| Typical value | | 0.04 ps/√km | 0.04 ps/√km | 0.04 ps/√km |
| Cable cutoff wavelength λcc | | ≦1260 nm | ≦1260 nm | ≦1260 nm |
| Mode field diameter(MFD) | 1310nm | 8.7~9.5 um | 8.4~9.2um | 8.4~9.2 um |
| | 1550nm | 9.9~10.9 um | 9.3~10.3 um | 9.3~10.3 um |
| Effective group index of refraction(Neff) | 1310nm | 1.466 | 1.466 | 1.466 |
| | 1550nm | 1.467 | 1.467 | 1.467 |
| Point discontinuities | 1310nm | ≦0.05 dB | ≦0.05 dB | ≦0.05 dB |
| | 1550nm | ≦0.05 dB | ≦0.05 dB | ≦0.05 dB |
| Geometrical Characteristics | | | | |
| Cladding diameter | | 125.0±0.7 um | 125.0±0.7 um | 125.0±0.7 um |
| Cladding non-circularity | | ≦1.0 % | ≦0.7 % | ≦0.7 % |
| Coating diameter | | 245.0±7 um | 245.0±5 um | 245.0±5 um |
| Coating-cladding concentricity error | | ≦12.0 um | ≦12.0 um | ≦12.0 um |
| Coating non-circularity | | ≦6.0 % | ≦6.0 % | ≦6.0 % |
| Core-cladding concentricity error | | ≦0.6 um | ≦0.5 um | ≦0.5 um |
| Curl(radius) | | ≧4 m | ≧4 m | ≧4 m |
| Delivery length | | 2.1 to 50.4 km/reel | 2.1 to 50.4 km/reel | 2.1 to 50.4 km/reel |

*Attenuation loss of barefiber

# Fibre Specifications (Multimode)

| Characteristics | | 62.5/125 (OM1) | 50/125 (OM2) | OM3/OM4 | OM5 |
|---|---|---|---|---|---|
| Geometry Characteristics | | | | | |
| Core Diameter | | 62.5±2.5 um | 50±2.5 um | 50±2.5 um | 50±2.5 um |
| Core Non-circularity | | ≦5.0 % | ≦5.0 % | ≦5.0 % | ≦5.0 % |
| Cladding Diameter | | 125.0±1.0 um | 125.0±1.0 um | 125.0±1.0 um | 125.050±1.0 um |
| Cladding Non-circularity | | ≦1.0 % | ≦1.0 % | ≦0.6 % | ≦0.6 % |
| Coating Diameter | | 245±7 um | 245±7 um | 245±7 um | 245±7 um |
| Coating/Cladding Concentricity Error | | ≦10.0 um | ≦10.0 um | ≦10.0 um | ≦10.0 um |
| Coating Non-circularity | | ≦6.0 % | ≦6.0 % | ≦6.0 % | ≦6.0 % |
| Core/Cladding Concentricity Error | | ≦1.5 um | ≦1.5 um | ≦1.0 um | ≦1.0 um |
| Delivery Length | | up to 17.6 km/reel | up to 17.6 km/reel | up to 8.8 km/reel | up to 8.8 km/ reel |
| Optical Characteristics | | | | | |
| Attenuation | 850nm | ≦3.5 dB/km | ≦3.5 dB/km | ≦3.5 dB/km | ≦3.5 dB/km |
| | 953nm* | - | - | - | ≦1.7 dB/km |
| | 1300nm | ≦1.5 dB/km | ≦1.5 dB/km | ≦1.5 dB/km | ≦1.5 dB/km |
| Overfilled Modal Bandwidth | 850nm | ≧200 MHz · km | ≧500 MHz · km | ≧1500/≧3500 MHz · km | ≧3500 MHz · km |
| | 953nm | - | - | - | ≧1850 MHz · km |
| | 1300nm | ≧500 MHz · km | ≧500 MHz · km | ≧500/≧500 MHz · km | ≧500 MHz · km |
| Effective Modal Bandwidth | 850nm | - | - | ≧2000/≧4700 MHz · km | ≧4700 MHz · km |
| | 953nm | - | - | - | ≧2470 MHz · km |
| 10Gb/sWDM | | - | - | -100/150 m | 150 m |
| 40Gb/sWDM | | - | - | 300/500 m | 440 m |
| 40GBASE-SR4 / 100GBASE SR10 | 850nm | - | - | 1000/1100 m | 200 m |
| 10GBASE-SR | 850nm | - | 150 m | 300/500 m | - |
| 1000BASE-SR | 850nm | - | 750 m | 1000/1100 m | - |
| DMD Specification | | - | - | – | - |
| Numerical Aperture | | 0.275±0.015 | 0.200±0.015 | 0.200±0.015 | 0.200±0.015 |
| Group Refractive index | | 1,496 | 1,482 | 1.482 | 1,482 |
| | | 1,491 | 1,477 | 1.477 | 1,477 |
| Zero Dispersion Wavelength, $\lambda_0$ | | 1320-1365 nm | 1295-1340 nm | 1295-1340 nm | 1297-1328 nm |
| Zero Dispersion Slope,$S_0$ | | - | - | - | ≦4(-103)/(840λ/840)$^4$ ) |
| | | - | – | – | ps/nm$^2$ · km |
| Zero Dispersion Slope,S01295nm≦$\lambda_0$≦1310nm | | - | ≦0.105 ps/nm$^2$ · km | ≦0.105 ps/nm$^2$ · km | - |
| 1310nm≦$\lambda_0$≦1340nm | | - | ≦0.000375(1590-$\lambda_0$) ps/nm$^2$ · km | - | - |
| 1320nm≦$\lambda_0$≦1348nm | | ≦0.11 ps/nm$^2$ · km | - | ≦0.000375(1590-$\lambda_0$)ps/nm$^2$ · km | - |
| 1348nm≦$\lambda_0$≦1365nm | | ≦0.001(1458-$\lambda_0$) ps/nm$^2$ · km | - | - | - |

Copyright 2020 atg Technology Group Limited 34 William Pickering Drive Albany www.atgltd.co.nz