

BendBright™ OM2+ Multimode Fibre



APPLICABLE STANDARDS

- IEC / EN 60793-2-10: type A1-OM2
- ISO / IEC 11801: Category OM2
- TIA / EIA 492 AAAF (formerly 492 AAAB)

Issue Date: August 2024  
Supersedes: October 2020

OPTICAL SPECIFICATIONS

BANDWIDTH (OFL)

| Attribute                             | Units  | Specified Values |
|---------------------------------------|--------|------------------|
| Overfilled Modal Bandwidth at 850 nm  | MHz·km | ≥ 750            |
| Overfilled Modal Bandwidth at 1300 nm | MHz·km | ≥ 500            |

BANDWIDTH (EMB)

| Attribute                           | Units  | Specified Values |
|-------------------------------------|--------|------------------|
| Effective Modal Bandwidth at 850 nm | MHz·km | ≥ 950            |

ATTENUATION

| Attribute                          | Units | Specified Values |
|------------------------------------|-------|------------------|
| Attenuation coefficient at 850 nm  | dB/km | ≤ 2.3            |
| Attenuation coefficient at 1300 nm | dB/km | ≤ 0.6            |

NUMERICAL APERTURE

| Attribute          | Specified Values |
|--------------------|------------------|
| Numerical aperture | 0.200 ± 0.015    |

MACROBENDING LOSS

| Conditions                          | Wavelength    | Units | Specified Values |
|-------------------------------------|---------------|-------|------------------|
| Mandrel Radius = 7.5 mm, 2 Turns    | 850 / 1300 nm | dB    | ≤ 0.2 / ≤ 0.5    |
| Mandrel Radius = 15 mm, 2 Turns     | 850 / 1300 nm | dB    | ≤ 0.1 / ≤ 0.3    |
| Mandrel Radius = 37.5 mm, 100 Turns | 850 / 1300 nm | dB    | ≤ 0.5 / ≤ 0.5    |

## MULTIMODE SYSTEM REACH

| IEEE Standard | Units | Transmission Distance |
|---------------|-------|-----------------------|
| 1000BASE-SX   | m     | 750                   |
| 10GBASE-SR    | m     | 150                   |

## CHROMATIC DISPERSION

| Attribute                               | Conditions                      | Units                    | Specified Values                   |
|-----------------------------------------|---------------------------------|--------------------------|------------------------------------|
| Zero Dispersion Wavelength, $\lambda_0$ |                                 | nm                       | $1295 \leq \lambda_0 \leq 1340$    |
| Zero Dispersion Slope, $S_0$            | $1295 \leq \lambda_0 \leq 1310$ | ps/[nm <sup>2</sup> ·km] | $\leq 0.105$                       |
|                                         | $1310 \leq \lambda_0 \leq 1340$ | ps/[nm <sup>2</sup> ·km] | $\leq 0.000375 (1590 - \lambda_0)$ |

## BACKSCATTER CHARACTERISTICS <sup>1</sup>

| Attribute                            | Conditions      | Units | Specified Values |
|--------------------------------------|-----------------|-------|------------------|
| Point Discontinuity <sup>2</sup>     | 850 nm, 1300 nm | dB    | $\leq 0.1$       |
| Irregularities over fibre length     | 850 nm, 1300 nm | dB    | $\leq 0.1$       |
| Reflections                          | -               | -     | Not allowed      |
| Group Index of Refraction at 850 nm  | -               | -     | 1.482 (typical)  |
| Group Index of Refraction at 1300 nm | -               | -     | 1.477 (typical)  |

<sup>1</sup> OTDR measurement with 0.5  $\mu$ s pulse width.

<sup>2</sup> Mean of bi-directional measurement

## GEOMETRICAL SPECIFICATIONS

### GLASS GEOMETRY

| Attribute                         | Units   | Specified Values |
|-----------------------------------|---------|------------------|
| Core Diameter                     | $\mu$ m | $50 \pm 2.5$     |
| Core non-Circularity              | %       | $\leq 5$         |
| Core-Cladding Concentricity Error | $\mu$ m | $\leq 1.0$       |
| Cladding Diameter                 | $\mu$ m | $125.0 \pm 1.0$  |
| Cladding non-Circularity          | %       | $\leq 0.7$       |

### COATING GEOMETRY

| Attribute                            | Units   | Specified Values |
|--------------------------------------|---------|------------------|
| Coating Diameter                     | $\mu$ m | $242 \pm 7$      |
| Coating non-Circularity              | %       | $\leq 5$         |
| Coating-Cladding Concentricity Error | $\mu$ m | $\leq 10$        |

## MECHANICAL SPECIFICATIONS

### Proof Test <sup>3</sup>

The entire spool length is subjected to a tensile proof stress  $\geq 0.7$  GPa (100 kpsi) ; 1% strain equivalent

<sup>3</sup> Higher proof test available upon request

## COATING PERFORMANCE

| Attribute                                                 | Units | Specified Values                          |
|-----------------------------------------------------------|-------|-------------------------------------------|
| Average Coating Strip Force, unaged and aged <sup>4</sup> | N     | $1 \leq F_{\text{avg-strip}} \leq 3$      |
| Peak Coating Strip Force, unaged and aged <sup>4</sup>    | N     | $1.3 \leq F_{\text{peak-strip}} \leq 8.9$ |

<sup>4</sup> Aging at 23°C, 30 days

## FIBRE STRENGTH

| Attribute                                                                       | Units | Specified Values          |
|---------------------------------------------------------------------------------|-------|---------------------------|
| Dynamic Tensile Strength (0.5 meter gauge length), unaged and aged <sup>5</sup> | GPa   | median $> 3.8$ (550 kpsi) |
| Dynamic Fatigue, unaged and aged 5                                              | -     | $n_d \geq 20$             |

<sup>5</sup> Aging at 85°C, 85% RH, 30 days

## ENVIRONMENTAL SPECIFICATIONS

| Environmental test             | Test Conditions          | Induced attenuation at 850, 1300 nm (dB/km) |
|--------------------------------|--------------------------|---------------------------------------------|
| Temperature Cycling            | -60°C to +85°C           | $\leq 0.1$                                  |
| Temperature - Humidity Cycling | -10°C to +85°C, 4-98% RH | $\leq 0.1$                                  |
| Water Immersion                | 30 days; 23°C            | $\leq 0.1$                                  |
| Dry Heat                       | 30 days ; 85°C           | $\leq 0.1$                                  |
| Damp Heat                      | 30 days; 85°C; 85% RH    | $\leq 0.1$                                  |

## OTHERS

| Attribute | Specified Values                           |
|-----------|--------------------------------------------|
| Length    | Up to 17.6 km per spool                    |
| Coating   | Acrylate Coating; Coloured (ink) and Clear |

All measurements in accordance with ITU-T G650 recommendations

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