



Documents n. 11
rev 00/2012

TECHNICAL DATA SHEET - CABLE CONSTRUCTION

Specification for Extended reach 1Gb/s Ethernet 50 μ m MMF OM2 PLUS
(Dual layer Primary coating)

| Characteristics | Conditions | Specified Values | Units |
|--|--|--------------------|------------|
| | | 50 μ m | |
| Optical Specifications (Uncabled Fibre) | | | |
| Attenuation Coefficient | 850 nm | ≤ 2.2 | dB/km |
| | 1300 nm | ≤ 0.5 | dB/km |
| 1000BASE link Distance | 850 nm (SX) | ≤ 750 | m |
| | 1300 nm (LX) | ≤ 2000 | m |
| Overfilled Modal Bandwidth | 850 nm | 400 to 1000 | Mhz.km |
| | 1300 nm | 400 to 1500 | Mhz.km |
| Numerical Aperture | - | 0.200 ± 0.0015 | - |
| Chromatic dispersion | - | FDDI Spec | - |
| Bending Loss | 850nm, 1300 nm / 100 turn, 75mm diam. | $\leq 0,5$ | dB |
| Backscatter Characteristics¹ | | | |
| • Point of discontinuity ² | 850nm, 1300 nm | $\leq 0,1$ | dB |
| • Irregularities over fibre length | 850nm, 1300 nm | $\leq 0,1$ | dB |
| • Reflections | 850nm, 1300 nm | Not allowed | - |
| • Group Index of Refraction (Typ.) | 850nm | 1.482 | - |
| | 1300 nm | 1.477 | - |
| Geometrical Specifications | | | |
| Core Diameter | - | 50 ± 2 | μ m |
| Core Non-Circularity | - | ≤ 5 | % |
| Core/Cladding Concentricity error | - | ≤ 1 | μ m |
| Cladding Diameter | - | 125.0 ± 1 | μ m |
| Cladding Non-Circularity | - | ≤ 0.7 | % |
| Coating Diameter | - | 242 ± 5 | μ m |
| Coating Non-Circularity | - | ≤ 6 | % |
| Coating/Cladding Concentricity error | - | ≤ 6 | μ m |
| Length | Standar lengths up to | 17.6 | km |
| Environmental Specifications | | | |
| Temperature cycling | 850 nm, 1300 nm / -60°C to 85°C | ≤ 0.1 | dB/km |
| Temperature-Humidity cycling | 850 nm, 1300 nm / -10°C to 85°C, 4-98% RH | ≤ 0.1 | dB/km |
| Water immersion | 850 nm, 1300 nm / 23°C, 30 days | ≤ 0.1 | dB/km |
| Dry Heat | 850 nm, 1300 nm / 85°C, 30 days | ≤ 0.1 | dB/km |
| Damp Heat | 850 nm, 1300 nm / 85°C; 85% RH, 30 days | ≤ 0.1 | dB/km |
| Mechanical Specifications | | | |
| Proof test | Off line | > 0.7 (100) | GPa (kpsi) |
| Dynamic tensile strength (median value) | 0.5 meter gauge length, unaged and aged ³ | > 3.8 (550) | GPa (kpsi) |
| Fatigue parameter (Typ.) | Dynamic fatigue, unaged and aged ³ | $n_d > 25$ | - |
| Coating strip force | Average strip force, unaged and aged ⁴ | 1 to 3 | N |
| | Peak strip force, unaged and aged ⁴ | 1.3 to 8.9 | N |