

Berk-Tek Description:	Enhanced <sup>1</sup> Single-mode (AB)	62.5/125 Multimode* (CB)	50/125 Multimode* (EB)	50/125 Multimode* (FB)	50/125 Multimode* (XB)	50/125 Multimode* (WB)**
ISO/IEC	OS2	OM1	OM3	OM4	Exceeds OM4	OM5
Mode Field or Core Diameter	9.2 ± 0.4 μm @ 1310 nm	62.5 ± 2.5 μm	50 ± 2.5 μm	50 ± 2.5 μm	50 ± 2.5 μm	50 ± 2.5 μm
Max. Core to Cladding Concentricity	0.5 μm	1.0 μm	1.5 μm	1.5 μm	1.5 μm	1.5 μm
Cladding Diameter	125 ± 0.7 μm	125.0 ± 2.0 μm	125.0 ± 1.0 μm	125.0 ± 1.0 μm	125.0 ± 1.0 μm	125.0 ± 1.0 μm
Numerical Aperture	0.14	0.275 ± 0.015	0.200 ± 0.015	0.200 ± 0.015	0.200 ± 0.015	0.200 ± 0.015
Max. Cable Attenuation (dB/km) @ 850/1300 nm	N/A	3.5/1.0	2.8/0.8	2.8/0.8	2.8/0.8	2.8/0.8
Max. Cable Attenuation (dB/km) @ 1310/1550 nm	Loose Tube: 0.4/0.3 <sub>2</sub>	N/A	N/A	N/A	N/A	N/A
	Tight Buffer: 0.5/0.5					
Minimum Bandwidth (MHz·km) @ 850/1300 nm	N/A	200 <sub>3</sub> /500 <sub>3</sub>	2000 <sub>4</sub> /500 <sub>3</sub>	4700 <sub>4</sub> /500 <sub>3</sub>	4900 <sub>4</sub> /500 <sub>3</sub>	4700 <sub>4</sub> /500 <sub>3</sub>
100 MbE transmission distance (meters) @ 850/1300 nm	> 5000 @ 1310 nm	300/2000	300/2000	300/2000	300/2000	300/2000
1 GbE transmission distance (meters) @ 850/1300 nm	> 5000 @ 1310 nm	300/600	1000/600	1040/600	1210/600	1040/600
10 GbE transmission distance (meters) @ 850/1300 nm	> 10,000 @ 1310 nm	36/300 <sub>5</sub>	300/300 <sub>5</sub>	550/300 <sub>5</sub>	600/300 <sub>5</sub>	550/300 <sub>5</sub>
40-SR4/100-SR10 GbE transmission distance (meters) @ 850 nm	10k <sub>6</sub> @ 1310 nm	N/A	100 <sub>6</sub>	150 <sub>6</sub>	300 <sub>7</sub>	190 <sub>6</sub>
100G-SR4 transmission distance (meters) @ 850 nm	N/A	N/A	70 <sub>8</sub>	100 <sub>8</sub>	TBD	100 <sub>8</sub>
<b>Fiber Specifications</b>		<b>Doc #: PS 0309.AC</b>			<b>Date: 1/9/23</b>	

<sup>1</sup> Enhanced SMF-improved performance across 1260 nm to 1625 nm wavelength spectrum. Low dispersion @ 1310 nm and low attenuation in 1383 nm water-peak region allows use of extended band (1360 nm to 1460 nm). Complies with ITU-T G.652.D, ITU-T G.657.A1, and IEC 60793-2-50 Annex C.

<sup>2</sup> Optional Maximum Attenuation values 0.3/0.2 dB/km @ 1310/1550 nm are available for certain Loose Tube cables. Contact Berk-Tek for further information.

<sup>3</sup> Overfilled launch per TIA/EIA-455-204.

<sup>4</sup> Effective Modal Bandwidth (EMB) as characterized by Differential Mode Delay (DMD) measurement per TIA/EIA-455-220. Minimum OFL bandwidth @ 850 nm per TIA/EIA-455-204 is 1500 MHz·km for EB, 3500 MHz·km for FB and WB, and 3675 MHz·km for XB fiber. WB minimum EMB @ 953 nm is 2470 MHz·km per TIA/EIA-455-220.

<sup>5</sup> 10GbE Transmission distance @ 1300 nm applies to 10GBASE-LX4 (CWDM) only.

<sup>6</sup> 40/100 GbE Transmission distance per IEEE 802.3ba

<sup>7</sup> The enhanced performance of XB fiber provides 300 m reach that far exceeds the distance specified in the 40G/100G per IEEE 802.3ba standard of 150 m on OM4 fiber. The reach calculation is based on cable attenuation ≤ 3.0 dB/km at 850 nm, 1.0 dB of connector loss, and a VCSEL spectral width of ≤ 0.45 nm.

<sup>8</sup> 100G-SR4 transmission distance per IEEE 802.3bm

\* No Mode Conditioning Patch Cord required. All 10GbE Transmission distances (except XB) @ 850 nm assume a maximum cable attenuation of 3.0 dB/km and a connection and splice loss of 0.8 dB. For XB, a maximum cable attenuation of 3.0 dB/km and a connection and/or splice loss of 0.65 dB is assumed.

\*\* WB OM5 fiber is designed and specified per TIA 492-AAAE to support at least four WDM channels at a minimum speed of 28 Gbps per channel through the 850-953 nm window.

NOTE: All fibers other than 62.5 μm are bend-optimized and are compliant to the fiber requirements of the current issue of Telcordia GR-20-CORE.

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