

# OM3 Multimode Optical Fiber

## (Americas, Asia Pacific)

### Technical Information

PANDUIT OM3 fibers exceed industry standards for fiber optic network protocols including Fast Ethernet, Token Ring, Fiber Distributed Data Interface (FDDI), Asynchronous Transfer Mode (ATM) and Fibre Channel. These fibers are capable of transmitting distances of up to 1000m in Gigabit Ethernet (IEEE 802.3z) compliant systems at 850nm and 600m at 1300nm. These fibers are also capable of operating at greater distances (greater than 2000m) with slower protocols such as Fast Ethernet, FDDI, and ATM.

### Geometry

	Dimension	Value
Core Diameter:		50.0 $\mu$ m $\pm$ 2.5 $\mu$ m
Core Non-Circularity:		$\leq$ 5%
Cladding Diameter:		125 $\mu$ m $\pm$ 1 $\mu$ m
Cladding Non-Circularity:		$\leq$ 1%
Core-Cladding Concentricity:		$\leq$ 1.0 $\mu$ m
Coating Diameter:		245 $\mu$ m $\pm$ 10 $\mu$ m
Coating-Cladding Concentricity:		$\leq$ 8 $\mu$ m

### Attenuation

	Wavelength	Value
850nm:		$\leq$ 2.3dB/km
1300nm:		$\leq$ 0.6dB/km
1300nm thru 1380nm:		$\leq$ 1.0dB/km

### Optical Characteristics

	Property	Value
Point Discontinuity:		$\leq$ 0.08dB
Numerical Aperture:		0.200 $\pm$ 0.015
Group Index of Refraction – 850nm:		1.483
Group Index of Refraction – 1300nm:		1.479
Macrobend Attenuation – 100 turns around a 75mm mandrel:		$\leq$ 0.05dB

### Mechanical Properties

	Property	Value
Proof Test:		100 kpsi (0.7 GN/m <sup>2</sup> )
Coating Strip Force:		0.7 lbs (3.0 N)

### Environmental Properties

	Test	Value
Operating Temperature:		-60°C to +85°C
Temperature Dependence - 850nm (-60° C to +85° C):		$\leq$ 0.10dB/km
Temperature Dependence - 1300nm (-60° C to +85° C):		$\leq$ 0.10dB/km
Temperature-Humidity Cycling - 850nm (-10° C to +85° C, >90% RH):		$\leq$ 0.10dB/km
Temperature-Humidity Cycling - 1300nm (-10° C to +85° C, >90% RH):		$\leq$ 0.10dB/km

### Transmission Properties

	Condition	Value
850nm OFL Launch:		1500 MHz-km
850nm EMB Launch:		2000 MHz-km
1300nm OFL Launch:		500 MHz-km

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## *Application Reach*

<i>Ethernet Data Rate</i>	<i>Standard</i>	<i>Transceiver Type</i>	<i>Wavelength</i>	<i>Reach</i>
<b>1 Gb/s</b>	IEEE 802.3z	1GBASE-SX	850nm	Up to 1000m
<b>1 Gb/s</b>	IEEE 802.3z	1GBASE-LX	1310nm	Up to 600m
<b>10 Gb/s</b>	IEEE 802.3ae	10GBASE-SR/SW	850nm	Up to 300m
<b>10 Gb/s</b>	IEEE 802.3ae	10GBASE-LX4	CWDM (1310nm)	Up to 300m
<b>10 Gb/s</b>	IEEE 802.3ae	10GBASE-LRM	1310nm	Up to 220m
<i>Fibre Channel Data Rate</i>	<i>Standard</i>	<i>Transceiver Type</i>	<i>Wavelength</i>	<i>Reach</i>
<b>1 Gb/s</b>	ANSI FC	100-M5E-SN-I	850nm	Up to 860m
<b>2 Gb/s</b>	ANSI FC	200-M5E-SN-I	850nm	Up to 500m
<b>4 Gb/s</b>	ANSI FC	400-M5E-SN-I	850nm	Up to 380m
<b>8 Gb/s</b>	ANSI FC	800-M5E-SN-I	850nm	Up to 150m
<b>10 Gb/s</b>	ANSI 10GFC	1200-M5E-SN-I	850nm	Up to 280m