

## 0.22 NA TECS Double-Clad, Step-Index, High Power Multimode Fiber



### Description

Thorlabs' 0.22 NA TECS hard-clad, multimode, step-index fibers feature double-clad fiber construction (TECS hard coating over fluoride-doped silica cladding), allowing for high power handling capabilities. The strong bonding of the silica to TECS cladding prevents pistoning and provides more stable terminations in addition to a dual-waveguide design, which results in improved bend performance.

### Specifications

0.22 NA TECS Step-Index, Multimode Fiber	
Wavelength Range	400 - 2200 nm (Low OH) 250 - 1200 nm (High OH) <sup>a</sup>
Core / Cladding	Pure Silica / Fluorine-Doped Silica
Coating	TECS Hard Fluoropolymer
Buffer	Tefzel
Operating Temperature (Tefzel Buffer)	-60 to 125 °C
Numerical Aperture (NA)	0.22 ± 0.02
Proof Test	≥100 kpsi
Max Attenuation @ 808 nm	10 dB/km

a. Solarization may occur at wavelengths below 300 nm

#### Visible to Near-IR Transmission (Low OH)

Item #	Core Diameter	Cladding Diameter	Coating Diameter	Buffer Diameter	Max Power Capability	
					Pulsed <sup>a</sup>	CW <sup>b</sup>
FG200LCC	200 ± 8 μm	240 ± 5 μm	260 ± 6 μm	400 ± 30 μm	1.0 MW	0.2 kW
FG273LEC	273 ± 10 μm	300 ± 6 μm	330 ± 10 μm	400 ± 30 μm	1.87 MW	0.37 kW
FG365LEC	365 ± 14 μm	400 ± 8 μm	425 ± 10 μm	730 ± 30 μm	3.4 MW	0.7 kW
FG550LEC	550 ± 19 μm	600 ± 10 μm	630 ± 10 μm	1040 ± 30 μm	7.6 MW	1.5 kW
FG910LEC	910 ± 30 μm	1000 ± 15 μm	1035 ± 15 μm	1400 ± 50 μm	25.1 MW	5.0 kW

#### UV to Visible Transmission (High OH)

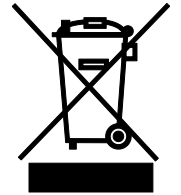
Item #	Core Diameter	Cladding Diameter	Coating Diameter	Buffer Diameter	Max Power Capability	
					Pulsed <sup>a</sup>	CW <sup>b</sup>
FG200UCC	200 ± 8 μm	240 ± 5 μm	260 ± 6 μm	400 ± 30 μm	1.0 MW	0.2 kW
FG273UEC	273 ± 10 μm	300 ± 6 μm	330 ± 10 μm	400 ± 30 μm	1.87 MW	0.37 kW
FG365UEC	365 ± 14 μm	400 ± 8 μm	425 ± 10 μm	730 ± 30 μm	3.4 MW	0.7 kW
FG550UEC	550 ± 19 μm	600 ± 10 μm	630 ± 10 μm	1040 ± 30 μm	7.6 MW	1.5 kW
FG910UEC	910 ± 30 μm	1000 ± 15 μm	1035 ± 15 μm	1400 ± 50 μm	25.1 MW	5.0 kW

a. Based on 5 GW/cm<sup>2</sup> for 1064 nm Nd:YAG laser with 10 ns pulse length and input spot size equal to 80% of the core diameter.

b. Based on 1 MW/cm<sup>2</sup> for 1064 nm Nd:YAG laser with input spot size equal to 80% of the core diameter.

## Specifications Cont.

Item #	Max Core-Glass Cladding Offset	Max Core-TECS Coating Offset	Bend Radius (Short Term / Long Term)	Stripping Tool
FG200LCC FG200UCC	2.5 $\mu\text{m}$	6 $\mu\text{m}$	26 mm / 52 mm	T12S18
FG273LEC FG273UEC	4 $\mu\text{m}$	7 $\mu\text{m}$	32 mm / 64 mm	T14S18
FG365LEC FG365UEC	5 $\mu\text{m}$	8 $\mu\text{m}$	43 mm / 86 mm	T21S31
FG550LEC FG550UEC	8 $\mu\text{m}$	10 $\mu\text{m}$	48 mm / 96 mm	T28S46
FG910LEC FG910UEC	12 $\mu\text{m}$	12 $\mu\text{m}$	69 mm / 138 mm	M44S67



## Attenuation Curves

