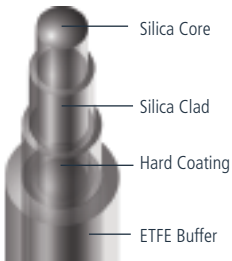


# Specification Sheet



Multimode Step-Index  
**HCXtreme™ Fibers** for high power in tight bends



HCXtreme Fiber coating technology solves the problem of fiber failure due to excessive bending of optical fiber under power. In testing down to 2.5 mm radius bend, HCXtreme

fibers continued to transmit power without breakage.\*

For further details and testing methodology, request our white paper, entitled "Study of Optical Fiber Damage Under Tight Bend with High Optical Power at 2140 nm."

## 272-29 HCXtreme

## 365-22 HCXtreme

### Optical Properties

Numerical aperture	0.29	0.22
Attenuation @ 850 nm	≤12 dB/km	≤10 dB/km
Water content	Low OH	Low OH

### Dimensions/Geometric Properties

Core diameter	272 ± 10 μm	365 ± 10 μm
Cladding diameter	326 ± 10 μm	400 ± 10 μm
Hard coating diameter	356 ± 10 μm	430 ± 10 μm
Buffer diameter	420 ± 30 μm	730 ± 30 μm
Clad/coating offset	≤10 μm	≤9 μm
Standard buffer color	blue	blue

### Coating/Buffer Descriptions

Coating material	Hard coating	Hard coating
Buffer material	ETFE	ETFE
Operating temperature	-65 to +125°C	-65 to +125°C

### Mechanical and Testing Data

Bend radius:	Short-term	≥24 mm	≥29 mm
	Long-term	≥40 mm	≥47 mm
Proof test level		≥100 kpsi (0.689 GPa)	≥100 kpsi (0.689 GPa)

Product Description Code:	272-29 HCXtreme	365-22 HCXtreme
Order by Part Number: Location <b>A</b>	<b>F18939</b>	<b>F18940</b>

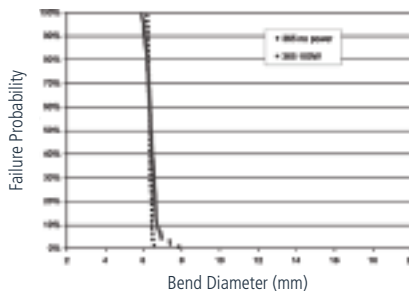
Typical Applications	Cascaded Laser Power Delivery • Near-IR (up to 2100 nm) Laser Power Delivery • High-Power Laser Delivery • Laser Surgery • Laser Welding and Cutting • Industrial Cabling
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**Options:** Core Diameter, Clad Diameter, Numerical Aperture, Proof Test, Cabling, Connectorization, Metalization, Additional Coatings, Carbon Coating, other Buffer Colors, Low Bioburden Packaging and Manufacturing

\*Actual performance in any given application should be validated by customer testing.

	550-22 HCxtreme	940-22 HCxtreme	
<b>Optical Properties</b>			
Numerical aperture	0.22	0.22	
Attenuation @ 850 nm	≤10 dB/km	≤10 dB/km	
Water content	Low OH	Low OH	
<b>Dimensions/Geometric Properties</b>			
Core diameter	550 ± 12 μm	940 ± 15 μm	
Cladding diameter	600 ± 10 μm	1000 ± 15 μm	
Hard coating diameter	630 ± 10 μm	1035 ± 15 μm	
Buffer diameter	750 ± 30 μm	1400 ± 50 μm	
Clad/coating offset	≤9 μm	≤11 μm	
Standard buffer color	blue	blue	
<b>Coating/Buffer Descriptions</b>			
Coating material	Hard coating	Hard coating	
Buffer material	ETFE	ETFE	
Operating temperature	-65 to +125°C	-65 to +125°C	
<b>Mechanical and Testing Data</b>			
Bend radius:	Short-term	≥58 mm	≥73 mm
	Long-term	≥94 mm	≥118 mm
Proof test level	≥75 kpsi (0.517 GPa)	≥100 kpsi (0.689 GPa)	
Product Description Code:	550-22 HCxtreme	940-22 HCxtreme	
Order by Part Number: Location <b>A</b>	<b>F18941</b>	<b>F18942</b>	
Typical Applications	Cascaded Laser Power Delivery • Near-IR (up to 2100 nm) Laser Power Delivery • High-Power Laser Delivery • Laser Surgery • Laser Welding and Cutting • Industrial Cabling		

**Failure Probability vs. Fiber Bend Diameter**  
with and without Laser Power  
for 365-22 HCxtreme Fiber, Part #F18940



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