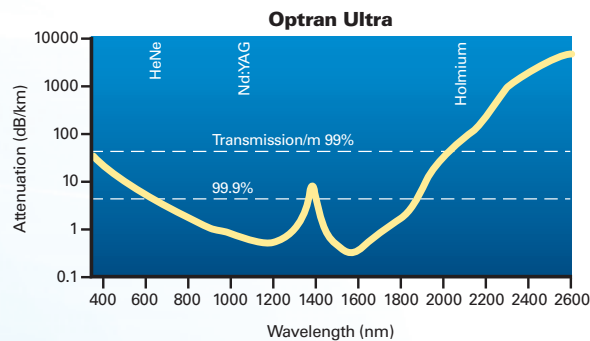
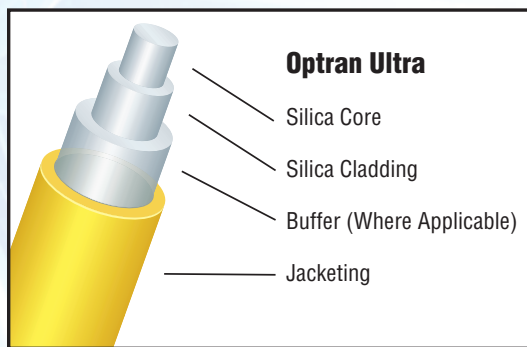


# CeramOptec®

Innovative Fiber Optics...Every Step of the Way™

As the innovative leader of the fiber optic industry, CeramOptec is proud to introduce its new line of high NA optical fiber—Optran Ultra. Optran Ultra fibers offer unmatched performance with their 0.37, 0.44, and 0.53 numerical apertures. Ideal for a broad range of applications, from spectroscopy to sensing, CeramOptec's innovative Optran Ultra fibers exhibit exceptional spectral transmission from 350 – 2200 nm.



## Applications

- Industrial / Scientific
  - Spectroscopy
  - Sensors
  - Laser welding/soldering/marketing
  - Laser delivery
  - Nuclear plasma diagnostics
- Medical
  - Medical diagnostics
  - Laser delivery
- Analytical instruments
- Laser diode pigtailling
- Pyrometry
- Semiconductor capital equipment
- Photodynamic therapy

## Features

- Broad VIS / NIR spectral range: 350 – 2200 nm
- High laser damage resistance
- Broad temperature range: -190° to +400°C
- High core to clad ratio
- Biocompatible materials
- Radiation resistance: 10<sup>9</sup> rad. total
- Sterilizable by ETO and other methods
- Manufactured at GMP and ISO 9001 compliant facility
- All dielectric, non-magnetic construction

## Properties

- Step index profile
- Available NAs:
  - Optran Ultra 0.37: NA 0.37 ± 0.02
  - Optran Ultra 0.44: NA 0.44 ± 0.02
  - Optran Ultra 0.53: NA 0.53 ± 0.02
- Temperature Capability:
  - Optran Ultra 0.37: -190° to +400°C
  - Optran Ultra 0.44: -40° to +130°C
  - Optran Ultra 0.53: -40° to +100°C
- Standard proof test: 70 kpsi
- Core/clad ratios: 1:1.1 and others available upon request
- Minimum bend radius:
  - 100 x clad radius (momentary)
  - 300 x clad radius (long term)
- Laser damage threshold:
  - Nd:YAG 5.4 J/mm<sup>2</sup> (1 ms pulse) at 1060 nm
  - Nd:YAG 1.3 kW/mm<sup>2</sup> (CW) at 1060 nm

### Optran Ultra 0.37 Specifications

Product Code	Ø Core (µm) ± 2%	Ø Cladding (µm) ± 2%	Ø Jacket (µm) ± 5%
	Silica Core	Silica Cladding	
<b>Polyimide</b>			<b>Polyimide</b>
WF 100/110 P 37	100	110	125
WF 200/220 P 37	200	220	245
WF 400/440 P 37	400	440	470
WF 600/660 P 37	600	660	710

### Optran Ultra 0.44 Specifications

Product Code	Ø Core (µm) ± 2%	Ø Cladding (µm) ± 2%	Ø Buffer (µm) ± 3%	Ø Jacket (µm) ± 5%
	Silica Core	Silica Cladding		
<b>Tefzel</b>				<b>Tefzel</b>
WF 200/220 H T 44	200	220	250	500
WF 400/440 H T 44	400	440	470	600
WF 600/660 H T 44	600	660	690	800

### Optran Ultra 0.53 Specifications

Product Code	Ø Core (µm) ± 2%	Ø Cladding (µm) ± 2%	Ø Buffer (µm) ± 3%	Ø Jacket (µm) ± 5%
	Silica Core	Silica Cladding		
<b>Tefzel</b>				<b>Tefzel</b>
WF 200/220 H T 53	200	220	250	500
WF 400/440 H T 53	400	440	470	600
WF 600/660 H T 53	600	660	690	800

#### Notes:

Custom sizes are available upon request.

NA is measured at the 95% intensity angle.

Tefzel® is a registered DuPont product.

CeramOptec strives to ensure the accuracy of all information provided; however, we imply no warranties and disclaim any liability in connection with the use of this information.

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#### Innovative Fiber Optics...Every Step of the Way

CeramOptec was founded in 1986 and today is a global leader in the production of stock and custom silica / silica, plastic-clad silica, and hard polymer-clad silica optical fibers; fused capillary tubing; DPSS lasers; diode modules; and low loss bundles and assemblies for UV, VIS, and IR transmission, medical laser delivery, sensors, plasma fusion, and spectroscopy.

With several facilities worldwide, we are able to provide our customers with local, prompt, and reliable service and products. By maintaining complete control over the entire manufacturing process—from preform manufacturing to finished fiber product—we are able to provide the highest quality control, custom solutions, and competitive pricing to our customers.

Please visit <http://www.ceramoptec.com> for more information.

CeramOptec is a subsidiary of biolitec™ AG.

Please visit <http://www.biolitec.com> for more information.