Founded in 1977, Fiberguide Industries, Inc., a Halma company, is a leading supplier of specialty optical fiber and optical fiber assemblies with sales in over 30 countries. Fiberguide’s mission is to provide customers innovative solutions enabling the advancement of technology and the improvement of safety and health worldwide. Fiberguide’s optical fibers and assembled products allow our OEM customers to create photonics solutions in many industries.

Fiberguide has three ISO 9001:2008 certified manufacturing locations, and is ISO 13485: 2003 certified in the US with sales resources deployed globally to serve our customers.
Fiberguide Industries manufactures over 500 different specialty optical fibers to meet the needs of our customers. These fibers are primarily used for photonics applications involving optical power delivery and optical sensing. Fiberguide offers several high performance metal coated fibers that can operate at extreme temperatures and survive in harsh environments.

Table shows the range of standard fiber types (Fiber Construction, Core / Cladding Sizes, Wavelengths, NAs, and Coatings) that Fiberguide offers.

Non-standard fiber available: Custom Core and Cladding Sizes, Custom NAs, Narrow or Broad Wavelength Transmission, and Custom Coatings.

<table>
<thead>
<tr>
<th>Main Fiber Types</th>
<th>Coating Type vs. Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard Step Index Multimode</strong></td>
<td><strong>Type:</strong> Silica Core / Silica Clad / Polymer or Metal Coated Fiber</td>
</tr>
<tr>
<td><strong>General Photonics Applications</strong></td>
<td><strong>Size:</strong> 50/125µm, 100/110µm, 100/140µm, 200/220µm, 300/330µm, 400/440µm, 600/660µm, 800/880µm, 1000/1100µm, 1500/1650µm</td>
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<tr>
<td><strong>Sensing &amp; Power Delivery</strong></td>
<td><strong>Wavelength:</strong> Superguide (Standard OH: UV – Vis): 190nm – 1250nm, Anhydroguide (Low OH: Vis – IR): 300nm – 2400nm</td>
</tr>
<tr>
<td><strong>NA:</strong> 0.12, 0.22, 0.26</td>
<td></td>
</tr>
<tr>
<td><strong>Coating:</strong> Acrylate, Polyimide, Nylon, Tefzel, Aluminum, Gold</td>
<td></td>
</tr>
</tbody>
</table>

| **UniClad Large Cladding Step Index Multimode** | **Type:** Silica Core / Silica Clad / Polymer Coated Fiber |
| **Laser Power Delivery** | **Size:** 100/500µm, 200/500µm, 300/500µm, 400/500µm, 600/750µm, 800/1000µm |
| **Wavelength:** Superguide (Standard OH: UV – Vis): 190nm – 1250nm, Anhydroguide (Low OH: Vis – IR): 300nm – 2400nm |
| **NA:** 0.20 |
| **Coating:** Nylon |

| **Solarguide Solarization Resistant Step Index Multimode** | **Type:** Silica Core / Silica Clad / Polymer or Metal Coated Fiber |
| **Deep UV Applications** | **Size:** 50/125µm, 100/110µm, 200/220µm, 300/330µm, 400/440µm, 600/660µm |
| **Wavelength:** Superguide (Standard OH: UV – Vis): 190nm – 1250nm, Anhydroguide (Low OH: Vis – IR): 300nm – 2400nm |
| **NA:** 0.22 |
| **Coating:** Polyimide, Aluminum |

| **Graded Index Multimode** | **Type:** Silica Core / Silica Clad / Polymer or Metal Coated Fiber |
| **Datacom & Sensing** | **Size:** 50/125µm, 62.5/125µm |
| **Wavelength:** Superguide (Standard OH: UV – Vis): 190nm – 1250nm |
| **NA:** 0.22 |
| **Coating:** Acrylate, Polyimide, Aluminum, Gold |

| **Single Mode** | **Type:** Silica Core / Silica Clad / Polymer or Metal Coated Fiber |
| **Datacom & Sensing** | **Size:** 4.3/125µm, 9/125µm |
| **Wavelength:** 4.3/125µm: 633nm – 680nm; 9.0/125µm: 1310nm & 1550nm |
| **NA:** 0.12 |
| **Coating:** Acrylate, Polyimide, Aluminum, Gold |

| **Hard Coat** | **Type:** Silica Core / Silica Clad / Hard Polymer Buffer Coated / Polymer Outer Coated Fiber |
| **Medical Laser Applications** | **Size:** 200/240µm, 273/300µm, 365/400µm, 550/600µm, 910/1000µm |
| **Wavelength:** Superguide (Standard OH: UV – Vis): 190nm – 1250nm, Anhydroguide (Low OH: Vis – IR): 300nm – 2400nm |
| **NA:** 0.22 |
| **Coating:** Nylon, Tefzel |

| **Hard Clad** | **Type:** Silica Core / Hard Polymer Clad / Polymer Coated Fiber |
| **General Photonics & Illumination Medical Sensing & Power Delivery** | **Size:** 200/230µm, 300/330µm, 400/430µm, 600/630µm, 800/830µm, 1000/1035µm, 1500/1550µm |
| **Wavelength:** Superguide (Standard OH: UV – Vis): 190nm – 1250nm, Anhydroguide (Low OH: Vis – IR): 300nm – 2400nm |
| **NA:** 0.17 |
| **Coating:** Tefzel |

| **Polymer Clad** | **Type:** Silica Core / Polymer Clad / Polymer Coated Fiber |
| **General Photonics & Illumination High Radiation Sensing** | **Size:** 200/300µm, 300/400µm, 400/500µm, 600/700µm, 800/900µm, 1000/1100µm, 1500/1650µm, 2000/2150µm |
| **Wavelength:** Superguide (Standard OH: UV – Vis): 190nm – 1250nm, Anhydroguide (Low OH: Vis – IR): 300nm – 2400nm |
| **NA:** 0.37 |
| **Coating:** Nylon |
Concept Exploration:
Fiberguide has 30+ years of experience developing solutions to the most challenging problems in collaboration with our OEM customers.

Customer Need

CNC Component Machining:
Fiberguide’s CNC Machining Operation in Caldwell, Idaho produces over 10,000 high precision production parts a month.
• 9 x CNC Turning Centers, with up to 5 Axes
• 5 x CNC Milling Centers
• Tolerances as tight as 1 ten-thousandth of an inch (0.0001”)

Assembly Manufacturing:
Fiberguide’s Assembly Facilities in Caldwell, Idaho and Shanghai, China specialize in high quality production-level manufacturing. We grind and polish well over 10 million individual fibers every year.
• Main Assembly Types
  • Complex Bundled Assemblies
  • High Temperature Assemblies
  • High Power Assemblies
  • V-Grooves & Arrays
  • Vacuum Feedthroughs
• Manufacturing Capabilities
  • Fiber Mapping and Precision Fiber Placement
  • Custom Sheathing and Furcation
  • Engineered Assemblies
    • Angled Cleaves
    • Tapers
    • End Caps
    • Fusing
  • Precision Mechanical Grinding & Polishing including Shaped Tips
  • Laser Fiber Polishing
Mechanical/Optical Engineering Design:
Fiberguide’s design and applications engineers have over 150 years of combined experience allowing us to quickly move from concepts to robust designs using 2D & 3D CAD and optical modeling in Zemax.

Rapid Prototyping:
For prototypes and pilot programs, Fiberguide’s skilled machinists are able to create low volume production representative machined parts in our model shop. This allows our customers to finalize their designs before volumes ramp to production levels.

Optical Fiber Manufacturing:
Fiberguide’s fiber draw facility in Sterling, New Jersey has four draw towers with a total capacity of 150km per day. We offer 500+ specialty fiber options and the capability to draw tapers as well as custom fibers.

Mechanical & Optical Testing:
Fiberguide has advanced mechanical and optical metrology equipment to prove our manufacturing processes and to characterize and test our products.  
- Zygo® & FiBO® Telcordia Interferometers  
- 2 x MicroVu® Optical Imaging Systems  
- Photon® Goniometric Radiometer  
- High Power Solid State Laser  
- 250nm – 1550nm Light Sources  
- Numerical Aperture Conservation Testing  
- Bundle & Single Fiber Optical Test Benches
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