Thank you for taking time to visit Fiberguide Industries during your visit to BIOS/Photonics West 2014. Fiberguide Industries manufactures over 500 different specialty optical fiber part numbers to meet the needs of our customers. We specialize in optical fiber used for photonics applications, power delivery and sensing, and we also offer data communications fiber. Our high performance coatings enable our fibers to operate at extreme temperatures and survive in harsh environments. Our standard fiber offering is summarized below. Contact us for any non-standard needs.

All Silica Fiber Anhydroguide (AFS) & Superguide (SFS)
Silica Core / Silica Clad / Polymer or Metal Coated Fiber
Multimode, Step Index
Fiberguide’s SFS and AFS fibers are primarily used in photonics applications where individual or bundled large core (>50µm) multimode fibers are needed for the transmission of optical energy. These fibers can be coated with a variety of polymers or metalized, for extreme temperature performance.

<table>
<thead>
<tr>
<th>Material</th>
<th>Core/Clad (um)</th>
<th>NA</th>
<th>λ (nm)</th>
<th>Coating(s)</th>
<th>More</th>
</tr>
</thead>
<tbody>
<tr>
<td>Si/Si (fluorine)</td>
<td>50/125, 100/110, 100/140, 200/220, 300/330, 400/440, 600/660, 800/880, 1000/1100, 1500/1650</td>
<td>0.12</td>
<td>0.22</td>
<td>Superguide (High OH: UV–Vis): 190–1250</td>
<td>Acrylate, Polyimide, Nylon, Tefzel, Aluminum, Gold</td>
</tr>
<tr>
<td>Anhydroguide (Low OH: Vis–IR): 300–2400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hard Coat Fiber Anhydroguide (AFSH) & Superguide (SFSH)
Silica Core / Silica Clad / Hard Polymer Buffer Coated / Polymer Outer Coated Fiber
Multimode, Step Index
Fiberguide’s SFSH & AFSH fibers are similar to the SFS & AFS detailed above, except there is an added layer of hard polymer on top of the silica cladding. This hard coat serves as stable buffer layer that ensures a sufficient bond between the silica cladding and the polymer outer coating, making these fibers the ideal choice for a variety of medical applications.

<table>
<thead>
<tr>
<th>Material</th>
<th>Core/Clad (um)</th>
<th>NA</th>
<th>λ (nm)</th>
<th>Coating(s)</th>
<th>More</th>
</tr>
</thead>
<tbody>
<tr>
<td>Si/Si (fluorine) /Hard Polymer</td>
<td>200/240, 273/300, 365/400, 550/600, 910/1000</td>
<td>0.22</td>
<td></td>
<td>Superguide (High OH: UV–Vis): 190–1250</td>
<td>Nylon, Tefzel</td>
</tr>
<tr>
<td>Anhydroguide (Low OH: Vis–IR): 300–2400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hard Clad Fiber Anhydroguide (APCH) & Superguide (SPCH)
Silica Core / Hard Polymer Clad / Polymer Coated Fiber
Multimode, Step Index
Fiberguide’s SPCH & APCH fibers feature a hard polymer cladding instead of a silica cladding. The hard cladding enables a higher NA (0.37) than a silica cladding, and reduces cost. Hard Clad fibers are the ideal choice for disposable medical products.

<table>
<thead>
<tr>
<th>Material</th>
<th>Core/Clad (um)</th>
<th>NA</th>
<th>λ</th>
<th>Coating(s)</th>
<th>More</th>
</tr>
</thead>
<tbody>
<tr>
<td>Si/Hard Polymer</td>
<td>200/230, 300/330, 400/430, 600/630, 800/830, 1000/1035, 1500/1550</td>
<td>0.37</td>
<td></td>
<td>Superguide (High OH: UV–Vis): 190–1250</td>
<td>Tefzel</td>
</tr>
<tr>
<td>Anhydroguide (Low OH: Vis–IR): 400–2200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Polymer Clad Fiber**  
*Anhydroguide (APC) & Superguide (SPC)*

**Silica Core / Polymer Clad / Polymer Coated Fiber**

**Multimode, Step Index**

Fiberguide’s SPC & APC fibers feature a polymer cladding. This polymer cladding enables a NA of 0.37, but it differs from the hard polymer cladding above because the polymer cladding offers better radiation stability for nuclear research and sensing applications.

<table>
<thead>
<tr>
<th>Material</th>
<th>Core/Clad (um)</th>
<th>NA</th>
<th>λ</th>
<th>Coating(s)</th>
<th>More</th>
</tr>
</thead>
</table>
| Si/Polymer                | 200/300, 300/400, 400/500, 600/700, 800/900, 1000/1100, 1500/1650, 2000/2150 | 0.37 | Superguide (High OH: UV–Vis): 190–1250  
                       |                |     |            | Anhydroguide (Low OH: Vis–IR): 400–2200 | Nylon |

**Solarguide**  
*Solarization Resistant UV Fiber*

**Silica Core / Silica Clad**

**Multimode, Step Index**

Fiberguide’s Solarguide fiber is hydrogen infused to improve long-term attenuation stability at short UV wavelengths (190nm – 230nm). Solarguide fibers are the ideal choice for UV Spectroscopy, Lithography, Excimer Laser Systems, and UV curing applications that use Deuterium Lamps or other UV sources below 230nm.

<table>
<thead>
<tr>
<th>Material</th>
<th>Core/Clad (um)</th>
<th>NA</th>
<th>λ</th>
<th>Coating(s)</th>
<th>More</th>
</tr>
</thead>
<tbody>
<tr>
<td>Si (hydrogen infused)/Si (fluorine)</td>
<td>50/125, 100/110, 200/220, 300/330, 400/440, 600/660</td>
<td>0.22</td>
<td>Superguide (High OH: UV–Vis): 190–1250</td>
<td>Polyimide, Aluminum</td>
<td>Polyimide, Aluminum</td>
</tr>
</tbody>
</table>

**Anhydrous Graded Index (AGI)**  
*Multimode*  
*download*

**Silica Core / Silica Clad / Polymer or Metal Coated Fiber**

**Multimode, Graded Index**

Fiberguide’s AGI fibers feature a graded index profile instead of a step index profile. These fibers are primarily used in data transmission applications where more bandwidth is needed than step index fibers can offer. These fibers are available with Acrylate coatings and also high performance Polyimide, Aluminum, and Gold coatings that allow them to exceed the temperature performance levels of standard fibers.

<table>
<thead>
<tr>
<th>Material</th>
<th>Core/Clad (um)</th>
<th>NA</th>
<th>λ</th>
<th>Coating(s)</th>
<th>More</th>
</tr>
</thead>
<tbody>
<tr>
<td>Si (Germanium)/Si</td>
<td>50/125, 62.5/125</td>
<td>50µm: 0.200, 62.5µm: 0.275</td>
<td>Optimized for 850 &amp; 1300</td>
<td>Acrylate, Polyimide, Aluminum, Gold</td>
<td>Polyimide, Aluminum, Gold</td>
</tr>
</tbody>
</table>

**Anhydrous Silica (ASI)**  
*Single Mode*

**Silica Core / Silica Clad / Polymer or Metal Coated Fiber**

**Single Mode**

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**Contact Us**  
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Fiberguide’s Single Mode Fibers are used in data transmission applications as well as photonics applications where a single optical path, or mode, is desired. These fibers are available with Acrylate coatings and also high performance Polyimide, Aluminum, and Gold coatings that allow them to exceed the temperature performance levels of standard fibers.

<table>
<thead>
<tr>
<th>Material</th>
<th>MFD/Clad (um)</th>
<th>NA</th>
<th>λ</th>
<th>Coating(s)</th>
<th>More</th>
</tr>
</thead>
<tbody>
<tr>
<td>Si (Germanium)/Si</td>
<td>4.3/125, 9.0/125</td>
<td>0.12</td>
<td>4.3/125µm: 633 – 680, 9.0/125µm: 1310</td>
<td>Acrylate, Polyimide, Aluminum, Gold</td>
<td></td>
</tr>
</tbody>
</table>

**High Power Fiber UniClad Fiber**

**Silica Core / Silica Clad / Polymer Coated Fiber**

**Multimode, Step Index**

Fiberguide’s Universal Clad, or UniClad, optical fibers are Silica Core/Silica Clad/Polymer Coated fibers designed for high power transmission and other applications where a large cladding relative to the core is beneficial. These fibers feature a fixed 500µm cladding diameter, with a 100µm – 400µm core size, making laser alignment and splicing easier. The larger 600µm and 800µm core sizes use proportionally larger cladding.

<table>
<thead>
<tr>
<th>Type</th>
<th>Material</th>
<th>MFD/Clad (um)</th>
<th>NA</th>
<th>λ</th>
<th>Coating(s)</th>
<th>More</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multimode, Step index</td>
<td>Si/Fluorine</td>
<td>100/500, 200/500, 300/500, 400/500, 600/750, 800/1000</td>
<td>0.20</td>
<td>Superguide (High OH: UV–Vis): 190–1250 Anhydroguide (Low OH: Vis–IR): 300–2400</td>
<td>Nylon</td>
<td></td>
</tr>
</tbody>
</table>

**High Temperature Fiber**

Fiberguide Industries offers metalized optical fibers using our proprietary manufacturing processes. These high performance coatings enable our fibers to operate at extreme temperatures and survive in harsh environments. Our standard metalized fiber offering is detailed below and on the accompanying spec sheets. Please contact us for any non-standard fiber needs: Custom Core / Cladding Sizes, Custom NAs, Narrow / Broad Wavelength Transmission, etc.

**Gold Coated Fiber**

**Silica Core / Silica Clad / Gold Coated Fiber**

Fiberguide’s Gold Coated Fibers are designed to achieve the widest temperature range (-269°C to +700°C / -452°F to +1292°F) of any optical fiber on the market. This, combined with excellent corrosion resistance, and the fiber’s ability to be soldered or brazed, makes it the ideal fiber for many high temperature applications such as turbine flame monitoring, oil and gas down-hole sensing, and high vacuum or pressure applications.

Available in the following fiber series. (See above for more detail.)

- Step Index Multimode: Anhydroguide (AFS) & Superguide (SFS) Silica Core / Silica Clad
- Graded Index Multimode: Anhydrous Graded Index (AGI) Silica Core / Silica Clad
- Single Mode: Anhydrous Silica (ASI) Single Mode Silica Core / Silica Clad

**Aluminum Coated Fiber**

Fiberguide’s Aluminum Coated Fibers are designed to achieve the widest temperature range (-269°C to +700°C / -452°F to +1292°F) of any optical fiber on the market. This, combined with excellent corrosion resistance, and the fiber’s ability to be soldered or brazed, makes it the ideal fiber for many high temperature applications such as turbine flame monitoring, oil and gas down-hole sensing, and high vacuum or pressure applications.

Available in the following fiber series. (See above for more detail.)

- Step Index Multimode: Anhydroguide (AFS) & Superguide (SFS) Silica Core / Silica Clad
- Graded Index Multimode: Anhydrous Graded Index (AGI) Silica Core / Silica Clad
- Single Mode: Anhydrous Silica (ASI) Single Mode Silica Core / Silica Clad

Contact Us

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www.fiberguide.com
Silica Core / Silica Clad / Aluminum Coated Fiber
Fiberguide’s Aluminum Coated Fibers are designed for a wide temperature range (-269°C to +400°C / -452°F to +752°F) and superior strength (> 100kpsi). This allows for long life at extended stress levels in applications that require tight bends. Also, the strong chemical bond between the silica cladding and the aluminum enables direct termination without pistoning. This bond also makes aluminum coating the ideal choice to preserve deep UV performance in Fiberguide’s Solarguide product family.

Available in the following fiber series. (See above for more detail.)
- Step Index Multimode: Anhydroguide (AFS) & Superguide (SFS) Silica Core / Silica Clad, Solarguide Silica Core / Silica Clad – Solarization Resistant UV Fiber
- Graded Index Multimode: Anhydrous Graded Index (AGI) Silica Core / Silica Clad
- Single Mode: Anhydrous Silica (ASI) Single Mode Silica Core / Silica Clad

Capillary Tubing
Fiberguide’s Fused Silica Capillary Tubing is used for micro-fluidics applications and in gas chromatography (GC) separation columns. These capillaries are coated with polyimide for mechanical stability and versatile uses.

Standard Specifications
- Pure Fused Silica Construction
- Outside Diameters: 90µm – 435µm
- Inside Diameters: 2µm – 320µm
- Coating: Polyimide
- Temperature Range: -190°C to +350°C / -310°F to +662°F

Fiber Optic Assemblies
In addition to supplying bulk fiber, Fiberguide offers thousands of different configurations of single fiber and bundled assemblies for a wide variety of photonics systems. Please consider Fiberguide as your source for turnkey optical fiber assemblies and related products.

Contact Us:
Contact your Fiberguide Sales Representative today for more information.

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