5/130 Ytterbium-Doped Double-Clad Fiber

Nufern’s general purpose Ytterbium-Doped Double-Clad Fiber is available in two-versions — PANDA-style, polarization-maintaining (PM) and non-PM. Designed specifically for CW applications around 1-15 W, these fibers are ideal for applications requiring low-cost fiber laser and amplifier source, such as laser marking, fiber amplifier pumps and IR sources for frequency doubling. These fibers’ telecom-type geometries are compatible with readily available low-cost pump diodes and fiber-based components.

**Typical Applications**
- Laser marking
- Fiber amplifier pumps
- IR sources for frequency doubling

**Features & Benefits**
- NuCOAT™ fluoroacrylate coating — Greater fiber durability in extreme environmental operating & storage conditions
- Low cost double-clad technology — Enables use of high power multimode pump diodes
- Single-mode output — Compatible with standard telecom 980/1060 nm fiber-based components
- PANDA-style stress structure — Linearly polarized output for frequency conversion

### Optical Specifications

<table>
<thead>
<tr>
<th></th>
<th>PM-YDF-5/130-VIII</th>
<th>SM-YDF-5/130-VIII</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating Wavelength</strong></td>
<td>1060 – 1115 nm</td>
<td>1060 – 1115 nm</td>
</tr>
<tr>
<td>Core NA</td>
<td>0.120</td>
<td>0.120</td>
</tr>
<tr>
<td>First Cladding NA (5%)</td>
<td>≥ 0.46</td>
<td>≥ 0.46</td>
</tr>
<tr>
<td>Mode Field Diameter</td>
<td>6.5 ± 0.5 µm @ 1060 nm</td>
<td>6.5 ± 0.5 µm @ 1060 nm</td>
</tr>
<tr>
<td></td>
<td>950 ± 50 nm</td>
<td>950 ± 50 nm</td>
</tr>
<tr>
<td>Cutoff</td>
<td>≤ 15.0 dB/km @ 1200 nm</td>
<td>≤ 10.0 dB/km @ 1200 nm</td>
</tr>
<tr>
<td>Core Attenuation</td>
<td>≤ 15.0 dB/km @ 1095 nm</td>
<td>≤ 15.0 dB/km @ 1095 nm</td>
</tr>
<tr>
<td>Cladding Attenuation</td>
<td>0.60 ± 0.10 dB/m @ 915 nm</td>
<td>0.55 ± 0.10 dB/m @ 915 nm</td>
</tr>
<tr>
<td>Cladding Absorption</td>
<td>1.80 dB/m near 975 nm</td>
<td>1.65 dB/m near 975 nm</td>
</tr>
<tr>
<td>Birefringence</td>
<td>2.5 × 10⁻⁴</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Geometrical & Mechanical Specifications

<table>
<thead>
<tr>
<th></th>
<th>PM-YDF-5/130-VIII</th>
<th>SM-YDF-5/130-VIII</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cladding Diameter</td>
<td>130.0 ± 1.0 µm</td>
<td>N/A</td>
</tr>
<tr>
<td>Cladding Diameter (flat-to-flat)</td>
<td>N/A</td>
<td>130.0 ± 1.5 µm</td>
</tr>
<tr>
<td>Core Diameter</td>
<td>5.0 µm</td>
<td>5.0 µm</td>
</tr>
<tr>
<td>Coating Diameter</td>
<td>245.0 ± 10.0 µm</td>
<td>245.0 ± 10.0 µm</td>
</tr>
<tr>
<td>Coating Concentricity</td>
<td>&lt; 5.0 µm</td>
<td>&lt; 5.0 µm</td>
</tr>
<tr>
<td>Core/Clad Offset</td>
<td>≤ 1.00 µm</td>
<td>≤ 1.00 µm</td>
</tr>
<tr>
<td>Proof test Level</td>
<td>≥ 100 kpsi (0.7 GN/m²)</td>
<td>≥ 100 kpsi (0.7 GN/m²)</td>
</tr>
</tbody>
</table>

The passive version of each fiber is also available - see PM-GDF-5/130 and SM-GDF-5/130