Thermally Expanded Core (TEC) Fiber

Features:
- Low Excess Loss
- Durable for High Power
- Large Expanded Region
- Available in various MFD sizes
- AR Coating Option Available
- ROHS Compliant
- Available in Bare Fiber, Glass Capillary Pigtail

Application:
- Power Coupling
- High Power Connectors
- Fiber Optic Sensors

Description:
Go!Foton’s Thermally Expanded Core Fiber has an enlarged mode field diameter (MFD) obtained by heating a conventional singlemode fiber locally at high temperature (~1300 to 1450 °C). The core expansion rate depends on heating temperature and heating time. TEC Fiber has the feature that although thermal diffusion changes the refractive index profile, the normal frequency does not change and hence the single mode condition is maintained through the process.
**Thermally Expanded Core (TEC) Fiber**

**Specification:**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Unit</th>
<th>15±2</th>
<th>20±2</th>
<th>30±2</th>
<th>40±3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode Field Diameter ¹</td>
<td>um</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Mode Field Diameter</td>
<td>um</td>
<td></td>
<td>10.4*</td>
<td></td>
<td></td>
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<tr>
<td>Fiber Type</td>
<td>-</td>
<td>ITU 652.D Compliant Fiber</td>
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<tr>
<td>Cladding Diameter</td>
<td>um</td>
<td>120±3</td>
<td>116±8</td>
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<tr>
<td>TEC Region Length</td>
<td>mm</td>
<td>1.0±0.5</td>
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</tbody>
</table>

*Notes: 1. Expanded MFD size is verified using a Beam Profiler with 13.5% Clip Level Settings.  
2. Based on SMF28e+ at 1550nm  
3. Required Polishing Length is ≤0.5mm*

**Mechanical Drawing:**

A. TEC Fiber Package:

![Diagram of TEC Fiber Package]

B. TEC Fiber Glass Capillary Package:

![Diagram of TEC Fiber Glass Capillary Package]

C. TEC Fiber Ceramic Ferrule Package:

![Diagram of TEC Fiber Ceramic Ferrule Package]
### Ordering Information:

<table>
<thead>
<tr>
<th>T</th>
<th>E</th>
<th>C</th>
<th>F</th>
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<tbody>
<tr>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Product Category
TECF - Thermally Expanded Core Fiber

#### Product Series
--- 3 Numeric Series

#### Customer Code
--- 3 Letters Series

#### Connectors
0 – None
1 – FC/UPC
2 – FC/APC
3 – SC/UPC
4 – SC/APC
5 – LC/UPC
6 – MU/PC
7 – LC/APC
X – Special or as specified by customer

#### Fiber Length
1 – 1 meter
2 – 2 meters
3 – 3 meters
X – Special or Specified by customer

#### Operating Wavelength
- 550 – 1550nm
- 310 – 1310nm
- XXX – Special or Specified by customer

#### Mode Field Diameter
15 – 15um
20 – 20um
30 – 30um
40 – 40um
XX – Special or specified by customer

#### Package Type
A – Bare Fiber Package, Cleaved
B – Ø 1.8mm Glass Capillary Packaged
C – Ø2.5mm Ceramic Ferrule with Flange Packaged

### Notes:
1. See Mechanical Drawing above for more details of the packaged dimensions.
2. Glass Capillary and Ceramic Ferrule Package is available for MFD 30um and below only.
3. The mechanical fiber length tolerance is ±0.1meters.
4. All ports are with connector of same type
5. Only applicable for products which is not cover by standard specifications

### Example: TECFA3055032
Thermally Expanded Core Fiber, Cleaved Bare Fiber with 30um MFD at 1550nm operating wavelength, 3 meters length with FC/APC termination