

# Polarcor™ UltraThin™ Glass Polarizers

## Product Information



Photonic  
Materials

### PI202

Issued: October 2005

Supersedes: February 2005

Polarcor™ UltraThin™ is a 30-micron thick glass polarizer that provides greater versatility for managing polarization in components throughout a telecommunications network and for developing high performance, cost effective components. The durability of Polarcor UltraThin is similar to that of the standard Polarcor product. UltraThin is unique due to the thinness of the material, allowing low loss fiber-to-fiber and fiber-to-device coupling without expensive micro lenses.

### Product Description

Polarcor is made from a highly durable borosilicate glass containing elongated silver crystals aligned along a common axis. It has served the telecommunications market since 1984 and is the polarization material of choice for polarization dependant isolators used in DFB lasers for telecommunications networks. In the standard 200 and 500-micron thick product, polarization occurs within 25 to 50 microns of each surface; in the UltraThin product, polarization occurs throughout the entire body of the glass. UltraThin serves as a linear polarizer to reduce signal-to-noise ratio.



*UltraThin™ attached  
to ferruled SMF*

## Performance

<i>Key Performance Parameters of Corning UltraThin</i>	
Thickness	30 microns +/- 10 microns
Wavelength and Bandwidth	1310 nm (1275-1345 nm) 1550 nm (1510-1590 nm)
Standard Size	1 mm x 2 mm
Extinction	> 23 dB
Refractive Index (n)	n @ 1310nm = 1.511, n @ 1550nm = 1.510
Transmission	> 98%, excluding surface reflective losses

### Performance

- Low insertion loss
- High extinction
- Large clear aperture (80% of edge dimension)
- High transmission
- Monolithic glass polarizer

### Enabling

These key performance attributes enable the following benefits:

### Key Benefits

- Low loss fiber-to-fiber coupling
- High performance
- Ease of alignment
- Ease of integration
- Device miniaturization
- Durability

## Applications

- Modulators
- Fiber polarizers
- Polarization clean-up

Figure 1

Calculated Coupling Loss for Two Single-Mode Fibers Separated by UltraThin with Index of 1.510 at 1550 nm

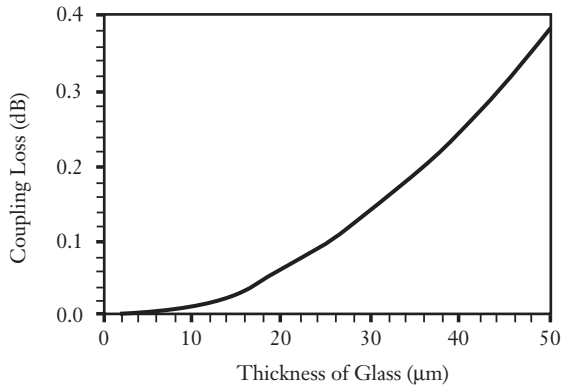


Figure 1. This chart shows the excess coupling loss at different UltraThin thickness' (varying gaps) when deploying UltraThin between two fibers.

Figure 2

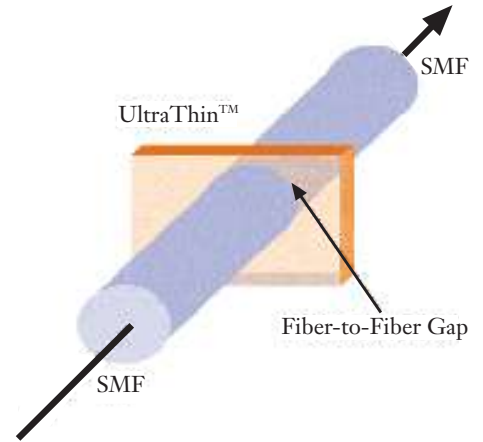


Figure 2. This schematic diagram illustrates UltraThin placement in the gap between two single-mode fibers.

## Ordering Information

Please specify the following when ordering:

- |                                 |   |
|---------------------------------|---|
| • Wavelength and Bandwidth (nm) | 1310 nm _____ 1550 nm _____ Other _____ |
| • Quantity (pieces)             | Please specify _____                    |
| • Application                   | Please specify _____                    |
| • Other Special Requirements    | Please specify _____                    |



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