

DIAMOND

Fiber Optic Components

OPTICAL INTERFACE

The recent trend to increase power in optical transmission systems due to traffic increase and the transition to 100G networks results in a higher power density on the optical interface.

Standard singlemode connectors become susceptible to heat related damage when power density reaches 0.3MW/cm².

DIAMOND offers the **PS** optical interface which expands the MFD of a SM fiber by splicing a GRIN lens at the extremity. The MFD at the end of the connector is thus expanded by a factor of 4, increasing the contact surface by a factor of about 16. As a result the heat issues decrease but cleanliness of the connectors and mating adapters is still important.

Using our Active Core Alignment (ACA) technology, Diamond can achieve unrivaled low IL performance for the PS technology by aligning the fiber exit angle instead of the core eccentricity as Diamond usually does on SM fiber. This Optical Interface is applicable to most connectors interfaces, but due to safety issues Diamond suggests the PS optical interface on E-2000™ and F-3000™ The DMI connector interface is also available for board level terminations.

Specifications of the PS Optical Interfaces:

- 0.1dB Grade ferrules with diameter tolerance < 0.2µm
- ACA with low exit angle < 0.15°
- Eccentricity < 3.5µm
- Increased Mode field Diameter < ca. 35µm
- Ultra polish with 100% Endface inspection for PC and 4° APC

The endface geometry is specified as:

- ▶ Ferrule radius 10÷20mm
- ▶ Core Apex 50µm
- ▶ Protrusion -50÷200 nm (undercut negative)

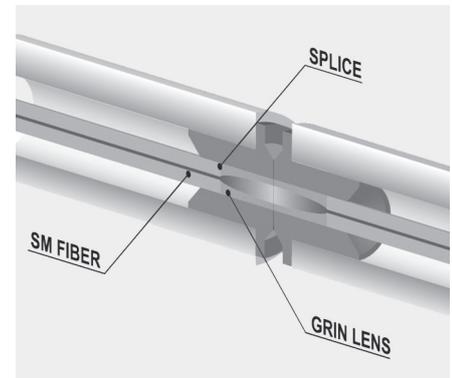
Please, contact us for a list of approved fibers and cables.

FEATURES AND BENEFITS

- ▶ Low Insertion loss
- ▶ Ultra high polish for High return loss
- ▶ Improved power resistance (x16)

AVAILABLE AS

- ▶ Pigtailed and patchcords on the following connector interfaces:
 - E-2000™
 - F-3000™
 - DMI



SPECIFICATIONS

WAVELENGTH (nm)	IL (dB) 97% (typ)	IL max (typ)	RL PC 0° (APC 4°)	
			connected	non-conn.
1625 - 1550 - 1310 1060 - 980 (Corning HI-1060)	0.5 (0.25) 0.9 (0.45)	0.4 (0.2) 0.8 (0.4)	45 (75) 35 (60)*	16 (50)
TEST CONDITIONS	IEC 61300-3-34 Random mating	IEC 61300-3-4 Against Reference	IEC 61300-3-6 OLCR method *OCWR method	

- NOTE** - The above values are intended for the E-2000™ connectors. Other connector mechanical interface display higher values. Please contact Diamond for values on your specific connector type.
- The APC version has an angle of 4° instead of 8°, due to a trade-off between Insertion Loss and Return loss values.

ORDER INFORMATION

To order your connectors using PS technology, please specify:

- ▶ The connector type (E-2000™ PS, F-3000™ PS or DMI PS), wavelength and end-face (PC or APC).
Example: DMI PS1550 APC or E-2000™ PS980 APC
- ▶ Fiber specification: MFD, NA, fiber/cable structure and material, operation wavelength
- ▶ Please refer to the individual data sheets for detailed specifications on individual connector types.