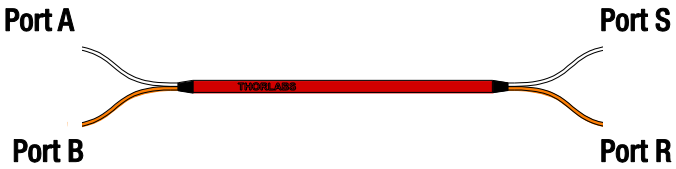


FINAL INSPECTION REPORT

Description: Double-Clad Fiber Coupler, 1060 nm

Item #: DC1060LEFA

SN: 1601001

Operating Wavelength Range: 960 - 1260 nm

Maximum Single Mode Core Insertion Loss: 0.5 dB

Minimum Multimode Inner Cladding Transfer: 60%

Fiber Type:

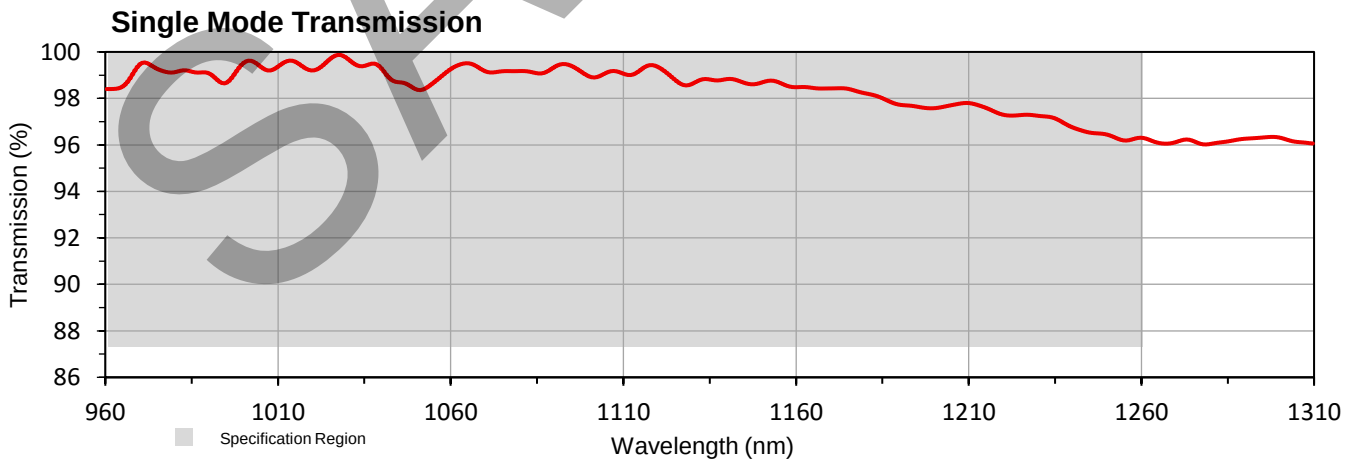
Double-Clad Fiber (Ports A and S): 4/102/125 µm

Multimode Fiber (Ports B and R): 200/220 µm

Coupler Test Data[a]			
Input-Output Path	Port S to Port B (Multimode Inner Cladding)		
Wavelength[b]	635 nm		
Transfer[c]	71 %		
Input-Output Path	Port A to Port S (Single Mode Core)		
Wavelength	960 nm[d]	1060 nm[d]	1260 nm[d]
Insertion Loss[e]	0.07 dB	0.03 dB	0.16 dB
Transmission[f]	98.4 %	99.3 %	96.3 %

a. All values are measured at room temperature without connectors. See Verification Test Setup for details.
b. Multimode Transfer is flat over a wide wavelength range. Test Data at 635 nm is indicative of the performance over the 400 - 1600 nm wavelength range.
c. Multimode Transfer is defined as the ratio of the output power from Port B over the input power at Port S, as indicated in the coupler drawing above.
d. The guaranteed operating range of the device is from 960 to 1260 nm. It is shown by the gray shaded area on the accompanying graph.
e. Insertion Loss (dB) is the ratio of the input power at Port A to the output power from the core of Port S as a function of wavelength.
f. Calculated from Insertion Loss data above.

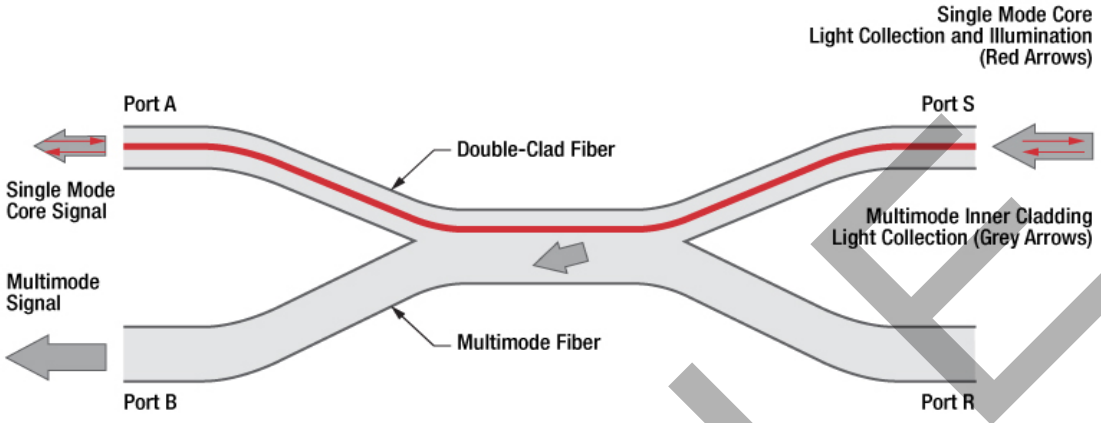
Coupler Test Data



While this coupler is specified between 960 and 1260 nm, Thorlabs provides data between up to 1310 nm to provide insight into how this particular device would perform if used outside its guaranteed operating range. The out-of-band performance can vary from device to device.

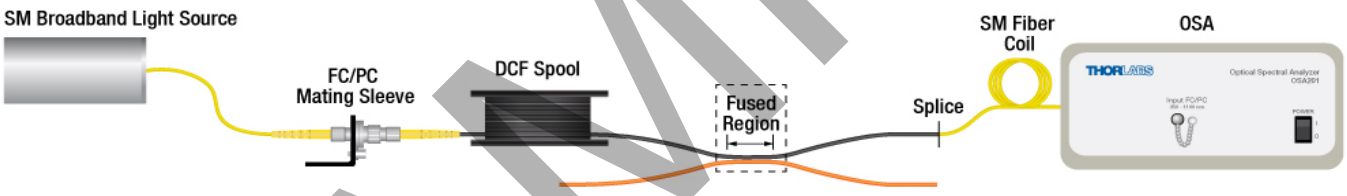
Verified by: Lucas Majeau Date: 8/27/2015

Principle of Operation



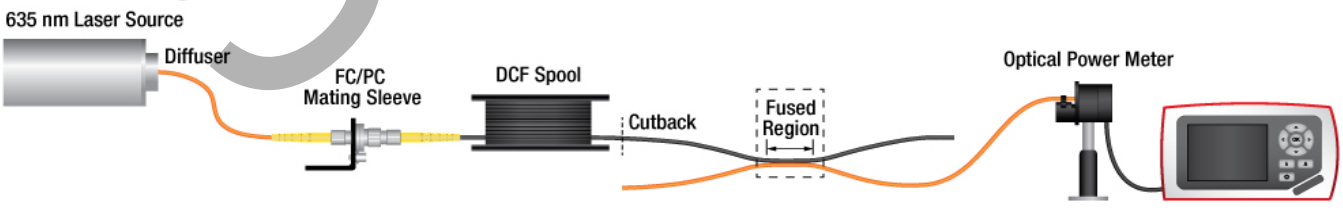
Verification Test Setup

(1) Single Mode Insertion Loss/Transmission Measurement



The single mode input of the coupler is connected to a Broadband Light Source (BBS) through an 1060-OCT fiber and a spool of double-clad fiber (DCF). The single mode coupler output is spliced to a coiled 1060-OCT patchcord (to insure cladding modes are stripped) that leads to an Optical Spectrum Analyzer (OSA). A spectrum is recorded before and after the coupler manufacturing process. The difference between the two spectra can be defined as either Insertion Loss (dB) or Transmission (%).

(2) Multimode Transfer



The multimode input of the coupler is connected to a diffused 635 nm laser source through a 105/125 µm multimode fiber and a spool of DCF. Doing so ensures that the inner cladding modes are filled. The 200/220 µm fiber output of the coupler is connected to a silicon photodiode optical power meter. A first optical power is recorded. The coupler is then removed from the measurement setup and the DCF spool is connected directly to the same power meter. A second optical power is recorded. The Multimode Inner Cladding Transfer is defined as the ratio of the first to second power measurements (%).