

Optical Fiber Theory Set

Cat. No. D20-1614-W0

Purpose

Optical fibers are made of quartz or plastic with good transmissivity. Light incident on one end of the transparent fiber is reflected successively and transmitted at the other end.

The optical fiber in this set is made of transparent acrylic resin mixed with fine aluminum powder and it allows the course of the laser beam that passes through it to be observed. You can observe the status of transmission of the visible laser beam incident at one end of the fiber and repeatedly reflected until it reaches the other end.



1. Specifications

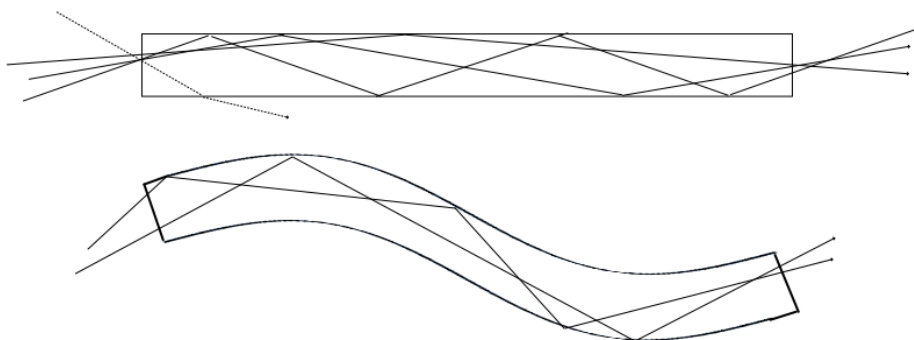
Material: Acrylic resin

Size: 1) Straight bar type: 20 x 20 x 195 mm
 2) S-shaped bar type: 20 x 20 x 200 mm

2. Experimental method

1) If a visible laser beam is emitted at one end of the straight bar, it is reflected repeatedly in this bar until it reaches the other end. If you change the angle of incidence, the number of repeated reflections also changes. Beams that exceed the critical angle of incidence will be radiated outside the bar (see dotted line).

2) The same results will be obtained if you perform the experiment using the S-shaped type bar. The results show that light is transmitted even if the optical fiber has bends in it.



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