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VANGUARD PRODUCTS GROUP, INC., D/B/A VANGUARD PROTEX
GLOBAL

Petitioner

v.

INVUE SECURITY PRODUCTS, INC.

Patent Owner

Case No.: IPR2020-00069
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EXHIBIT 2015

Fiber Optic Installations

A Practical Guide

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Optical Fiber

3.1 Optical Fiber Composition

An *optical fiber* is a long, cylindrical, transparent material that confines and propagates light waves (see Fig. 3.1). It is comprised of three layers: the center core that carries the light, the cladding layer covering the core that confines the light to the core, and the coating that provides protection for the cladding. The core and cladding are commonly made from silica glass, while the coating is a plastic or acrylate cover.

The silica core and cladding layers differ slightly in their composition due to small quantities of material such as boron or germanium added during the manufacturing process. This alters the *index of*

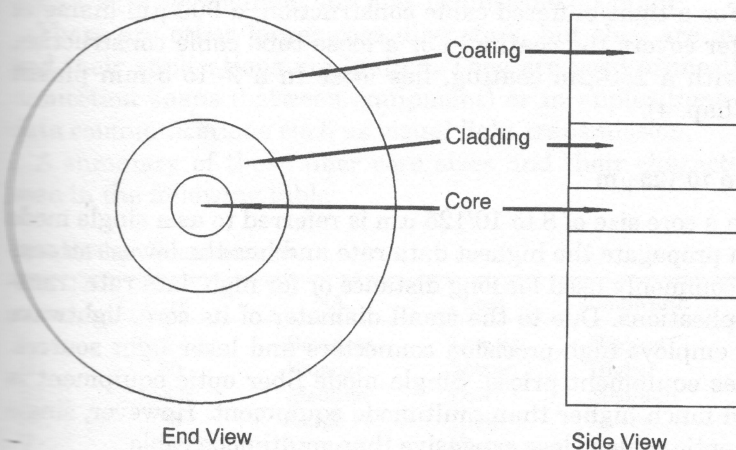


Figure 3.1 Optical fiber.