

Title (en)

HIGHER WAVELENGTH OPTIMIZED OPTICAL FIBER WAVEGUIDE

Title (de)

FÜR HÖHERE WELLENLÄNGEN OPTIMIERTER GLASFASERLICHTLEITER

Title (fr)

GUIDE D'ONDE A FIBRES OPTIQUES OPTIMISE PAR DE PLUS GRANDES LONGUEURS D'ONDE

Publication

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Application

**EP 00975196 A 20000915**

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Abstract (en)

[origin: WO0127667A2] Single mode optical fiber waveguides are disclosed that offer a broader band for transmission over the wavelength range of about 1300 nm to about 1700 nm with reduced bending loss. The extended ranges of these fibers are achieved by altering the optical characteristics of the fiber, namely, the MAC number, the mode field diameter ("MFD"), and the cut-off wavelength. The single mode fibers disclosed exhibit a lower MFD and higher cut-off wavelength as a result of altering the MAC number of the optical fiber waveguide. In addition, optical fiber transmission systems, wave division multiplexing ("WDM") systems, and optical fiber ribbon cables are disclosed that incorporate the single mode optical fiber of the present invention.

[origin: WO0127667A2] Single mode optical fiber waveguides with reduced bending losses for wavelength range of 1300 nm to 1700 nm are disclosed. The extended ranges are achieved by altering the optical characteristics of the fiber, namely, the MAC number, the mode field diameter ("MFD"), and the cut-off wavelength. The single mode fibers disclosed exhibit a lower MFD and higher cut-off wavelength. In addition, optical fiber transmission systems, wave division multiplexing ("WDM") systems, and optical fiber ribbon cables are disclosed that incorporate the single mode optical fiber. Figure 2 shows the refractive index profile as a function of the fiber radius. Figure 6 illustrates a ribbon cable (700) with 4 fibers in a matrix material (708). Each fiber consists of a central core (702), a cladding layer (703), a primary (704) and a secondary polymer layer (705) and a colored ink coating layer (706).

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