

LETTER

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Letter

Controlling the bandwidth of W-type plastic-clad silica optical fibers

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**Abstract**

A new design of a multimode plastic-clad silica optical fiber that takes the characteristic W-shaped index profile is proposed. The bandwidth and steady-state loss are determined for such a W-type plastic-clad silica optical fiber for the different structural parameters of the fiber. We have shown that the bandwidth of a W-type plastic-clad silica optical fiber is significantly higher (up to 15 times at a fiber length of 2 km) than the bandwidth of the singly clad step index plastic-clad silica optical fiber.

Keywords: W-type plastic-clad silica optical fiber, bandwidth, steady-state loss