



Cladding Mode Suppression Fiber

For Fabrication of High-Performance FBGs
CMS-1550-R2

Features

- In a 30 dB grating, the even cladding modes are < 0.1 dB deep
- Splice loss to standard single-mode fiber ~ 0.05 dB
- Requires hydrogen loading for photosensitivity
- Fast FBG writing time due to carefully chosen dopant levels



Technical Specifications

Product code	CMS-1550-R2
Numerical aperture	0.14
Mode field diameter at 1550nm	$9.6 \pm 0.8 \mu\text{m}$
LP ₁₁ cut-off wavelength	$1200 \pm 50 \text{ nm}$
Attenuation at 1550 nm	< 30 dB/km
Core/cladding offset	$\leq 0.5 \mu\text{m}$
Coating	UV-cured dual acrylate
Screen proof test	150 kpsi
Splicing loss to standard single mode fiber	~ <0.05 dB

StockerYale's CMS-1550-R2 is intended for the fabrication of high-quality fiber Bragg gratings. Applications include DWDM filters, dispersion compensating filters and gain-flattening filters. In StockerYale's cladding mode suppression fibers, the coupling of the core mode to counter-propagating even cladding modes is highly suppressed, virtually eliminating cladding mode loss peaks in the transmission spectrum.

Due to unique propriety FBG simulation software, StockerYale is able to design CMS fiber that attains the achievable physical limit of cladding mode suppression. For example, in a grating that is 30 dB deep (in the transmission spectrum), the cladding mode loss peaks are less than 0.1 dB. The numerical aperture and mode field diameter of CMS-1550-R2 are matched to those of standard single-mode fiber, so that fusion splices result in losses of ~ 0.05 dB. A suitable hydrogenation recipe would be 95 degrees C, 1500 psi (100 atm) for 24 hours (resulting in ~ 6000 ppm hydrogen).



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