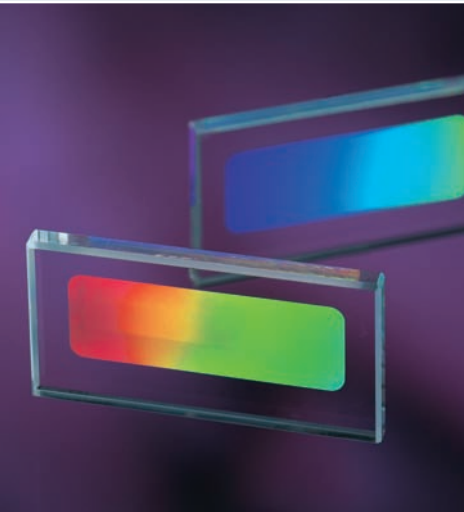




Rectangular Phase Mask



Features

- Rectangular substrate allows for easy alignment
- Grating lengths from 20.0 mm to 45.0 mm
- Holographically recorded

Applications

- Dense wavelength division multiplexing (DWDM) filters, and add/drop modules
- Frequency lockers and pump stabilizers
- Chirped phase masks used to manufacture gain-flattening filters for erbium-doped fiber amplifiers

Technical Specifications

Operating Wavelength (nm)	190 to 400
Phase Mask Period (μm)	0.4 to 1.2
Period Manufacturing Tolerance (nm)	±0.3 for unchirped masks (±0.1 optional)
Period Measurement Accuracy (nm)	±0.02
Dimensions	Substrate size/Aperture 17.2 mm x 24.5 mm/10 mm x 20 mm 17.2 mm x 38.1 mm/10 mm x 34 mm 17.2 mm x 50.8 mm/10 mm x 45 mm Custom sizes optional
Chirp Range (for chirped masks)(nm/cm)	0.03 to 40
Diffraction Efficiency (%)	≤3 in 0 th order; ≥33 in ±1 st order (RPM) ≤5 in 0 th order; ≥30 in ±1 st order (RPMC) for the periods between 0.7 μm and 1.2 μm
Damage Threshold (J/cm ²)	Better than 1 per pulse at 50 Hz at 248 nm
Material	Corning 7980, Suprasil
Substrate Flatness	λ at 248 nm, both sides
Scratch and Dig	20 to 10
AR Coating	Optional
Wedge (arcsec)	<30
Thickness (mm)	3.175 ±0.125

For chirped masks: center period precision: ±0.5 nm with ±200 μm center positioning error.

Rectangular Phase Mask

Ordering Information

RPM (RPMC if chirped) - <wavelength of laser> -
<mask period> - <(grating dimension (W x L)) substrate dimension (W x L)>

Example: a 17.2 mm x 25.4 mm dimension phase mask to be used with a KrF excimer laser at 248 nm with a period of 1.0600 μm , is specified as:

RPM - 248 - 1.0600 - (10 x 20) 17.2 x 25.4

Example for 8 nm/cm chirped mask:

RPMC - 248 - 1.0600 - (10 x 20) 17.2 x 25.4 - 8 nm/cm



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