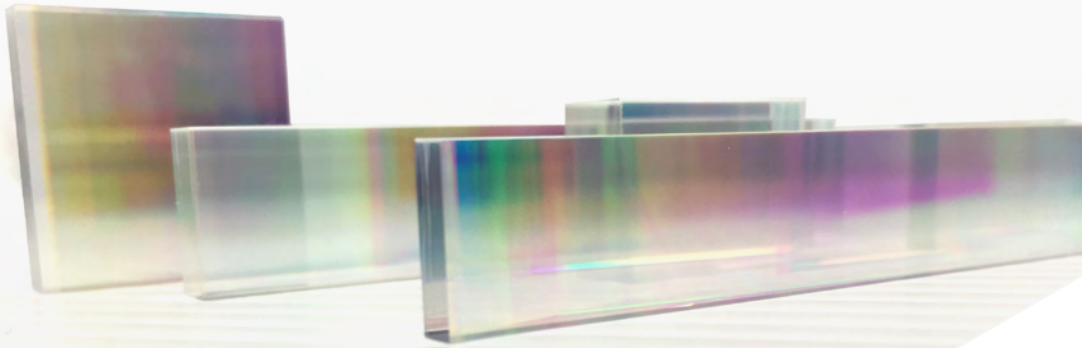


# II-VI



## T-1200-1310 Series

# High Efficiency Transmission Diffraction Grating

### PRODUCT OVERVIEW

T-1200-1310 series lithographically patterned transmission diffraction grating is designed to be used in demanding industrial applications (Telecom, Spectroscopy, Lidar and others).

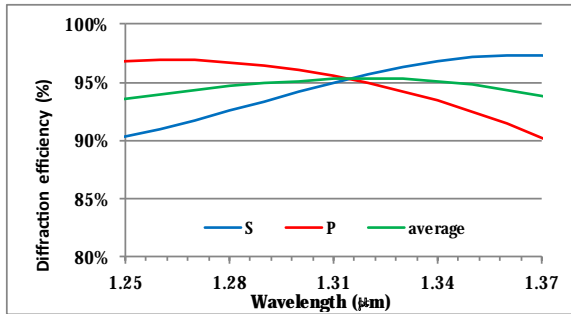
It is characterized by high efficiency, low polarization sensitivity and high power handling. Gratings produced by II-VI undergo extensive quality assurance, have proven reliability track record and competitively priced.

#### Product Key

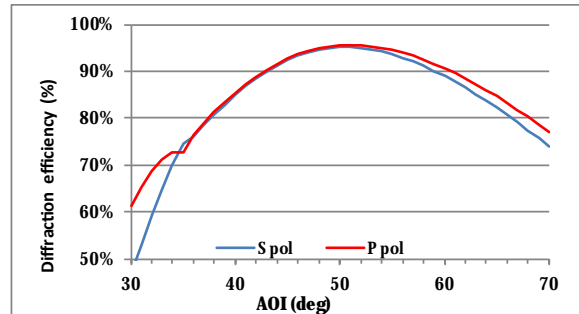
**T - 1200 - 1310 - 27x10 - 90**  
Transmission    Groove Density    Width x Height, mm    Min Efficiency, %  
Central Wavelength    Groove || to Height

# T-1200-1310 Series High Efficiency Transmission Diffraction Grating

The polarization independent transmission grating has 1201.20 lines/mm and designed to operate in telecom O band (1275 to 1345 nm) at 52° angle of incidence (AOI). Extended wavelength range performance and angular sensitivity information is provided below.

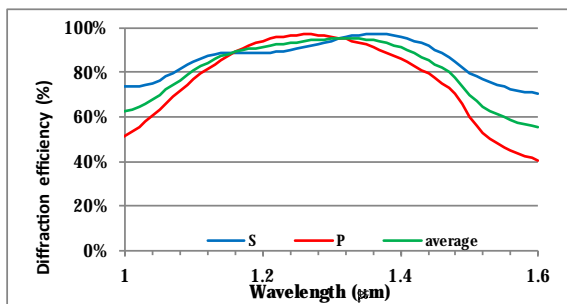


Typical absolute diffraction efficiency at AOI 52°\*

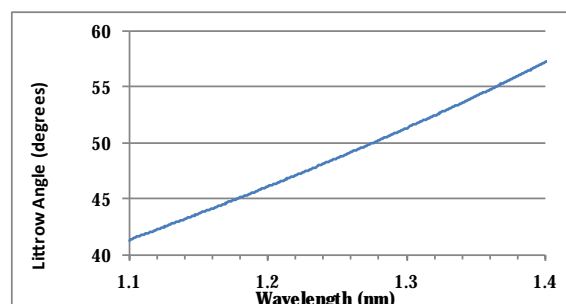


Diffraction efficiency at 1310 nm as a function of AOI\*

Extended operational range: The grating may operate over broader wavelength range provided that suitable anti-reflective coating and angle of incidence is used. The plot below shows simulated performance\* over extended range assuming fixed input angle (designed Littrow angle of 52°), not accounting for AR coating losses. Optimal input angle for each wavelength is shown on the right.



Typical absolute diffraction efficiency at AOI 52°\*



Optimal input angle for each wavelength (Littrow condition)

\* Simulated performance shown (for guidance only)

## Specifications

Description		
Line Density	1201.2	Lines/mm
Line Density Uniformity	± 0.001	Lines/mm
Angle of Incidence (AOI) <sup>1</sup>	52 ± 1	°
Wavelength Range	1310 ± 35	nm
Optimal polarization <sup>2</sup>	Any	
Diffraction Efficiency <sup>3</sup>	≥90	%
Dimension tolerances	±0.2 for grating size and width	
Substrate Thickness	0.675 ± 0.050 mm	
Material	Fused silica, dielectric layers	
Scratch/Dig <sup>4</sup>	60/40 standard, 40/20 and 20/10 custom	

Notes:

- <sup>1</sup> Optical grating performance will remain substantially similar over a 5° variation in angle of incidence.
- <sup>2</sup> p-polarization: electric field vector is perpendicular to the grating lines; s-polarization is orthogonal to p.
- <sup>3</sup> Guaranteed and tested at 1310 nm for both polarizations (not over the wavelength range).
- <sup>4</sup> As per MIL-PRF-1380B in the clear aperture; no requirements outside of the clear aperture.