



Phase masks for high precision laser processing

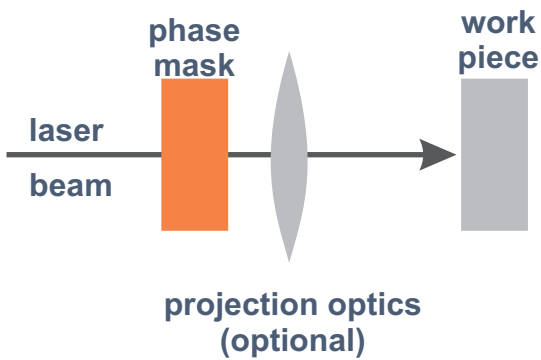
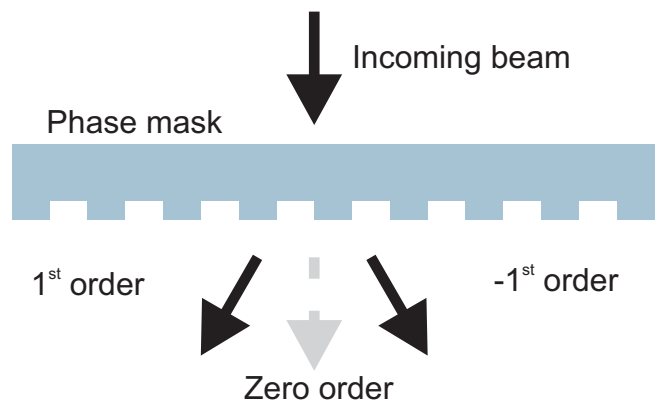
Customized quartz phase masks

Customized phase masks and diffractive phase elements are fabricated employing a new patented method. The masks are made of fused silica and are particularly suitable for laser micro fabrication with UV- and high power lasers using mask imaging optics.

We manufacture a variety of phase masks ranging from simple structures such as 1D- or 2D-gratings and beam shaping optics to highly complex structures defining for example computer generated holograms. The new phase masks are suitable for the entire wavelength range from the near IR to the deep UV (193nm) and can be irradiated with high power. Consequently they can be operated with excimer lasers as well as femtosecond lasers.

Application example: Diffractive beam splitter

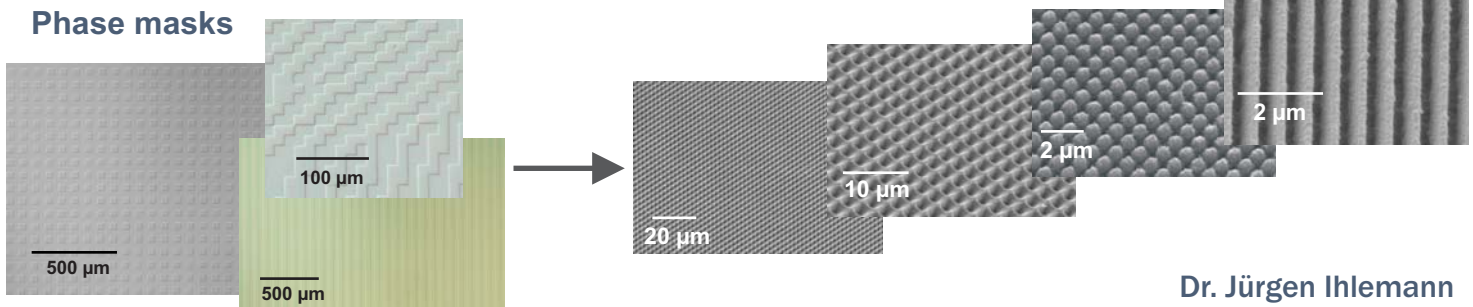
Diffraction grating with zero order suppression and high efficiency in +/- first diffraction order



SiO₂ phase masks - key features

- Large area
- High efficiency
- VUV to NIR
- Perfect zero order suppression

Ablated surface patterns on metals and semiconductors



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