

# laser technology for cutting glass & sapphire

For the glass becoming a demanding material, Workshop of Photonics has developed a unique state of the art glass and sapphire cutting technology to overcome challenges arising from new materials and customers' requirements.

It stands out for ultra-high precision and quality, unachievable with alternative technologies.

## Technology capabilities

- Material - tempered, non-tempered glass and sapphire
- Irregular shape cutting
- High process speed  $\geq 200$  mm/s
- Low chipping  $< 20 \mu\text{m}$  for most materials
- Easy breaking for non-tempered glass and self-breaking for tempered glass
- Smooth side walls after breaking,  $R_a < 1 \mu\text{m}$
- Tested with high DOL glass from  $30 \mu\text{m}$  to 1,3 mm thickness
- DOL layer from  $10 \mu\text{m}$  to  $> 40 \mu\text{m}$
- High bending strength



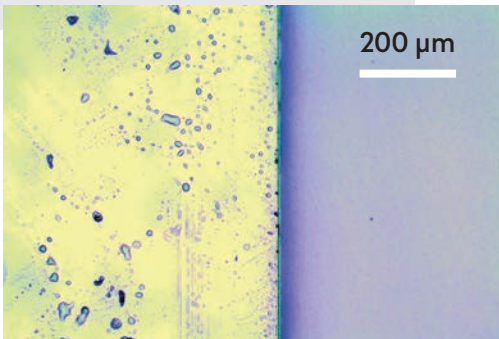
# Solutions for system integrators

- Optimized for 1028-1064 nm wavelength (515-532 on request)
- Sealed monolithic housing
- Integrated monitored linear axis with 15 mm travel (eliminates external Z axis need)
- Optional external Machine vision unit

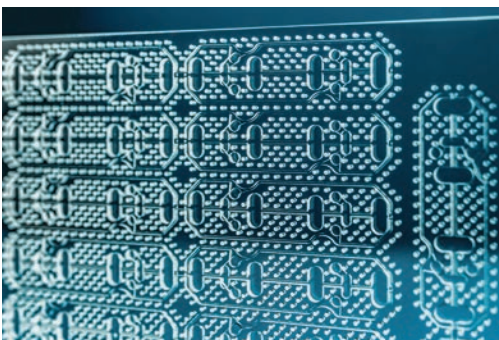
- Optional alignment module for adjustment
- Packages include optical module and technology license
- Dimensions HxWxD: 395x240x95 mm



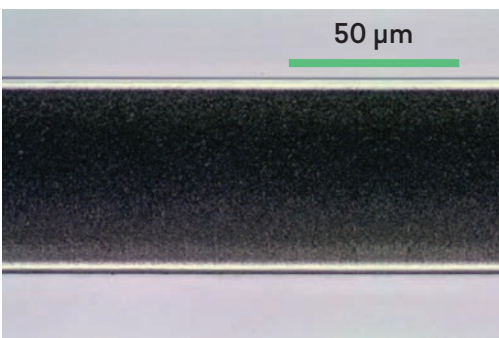
Glass Cutting



Tempered glass 0.55 mm thickness

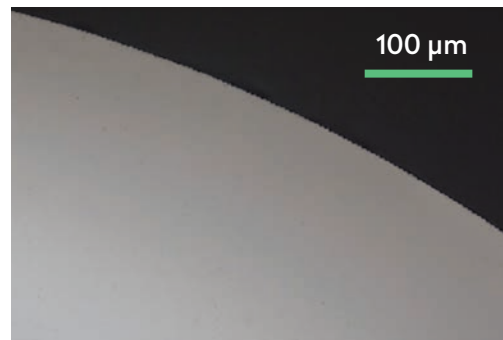


Glass Carrier Wafers

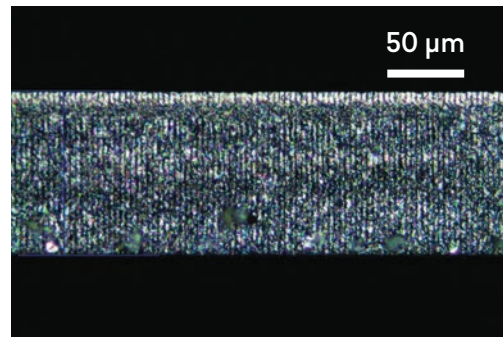


Tempered glass 0.55 mm thickness

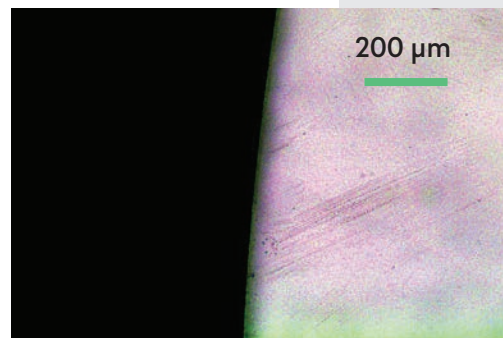
# Transparent material cutting samples



0.6 mm sapphire cutting



Sapphire 0.1 mm thickness. Side view



Sapphire 0.325 mm thickness. Top view