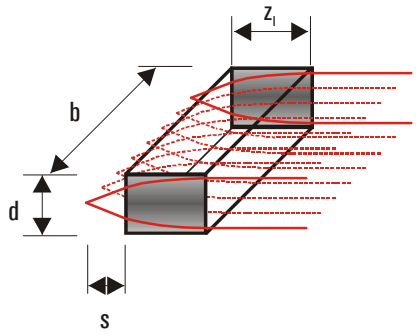
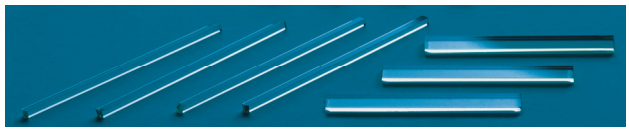
GRIN Cylindrical Lenses



- Gradient index lenses for the fast axis collimation of high power laser diode bars, high brightness diodes and other beam shaping purposes
- Plane surfaces



Thickness (mm)	Pitch P	Working distance s (mm)	Numerical Aperture NA	Lens length z_l (mm)	Focal length f (mm)	Gradient constant g (mm^{-1})	Refractive index at the center of the profile n_0	Width b (mm)	Wavelength λ (nm)	Product code
1.00	0.24	0.08	0.5	2.34	0.97	0.634	1.624	14	810	GT-LFCL-100-024-50-CC

- Working distance, design wavelength and lens length deviating from these standard as customized solution are available on request
- different lens width available upon request

GRIN cylindrical lenses are offered without antireflection coatings as standard. Antireflection coatings (R < 1.0 % for the design wavelength and incidence angles of 0 ... 30° corresponding to measurements on a reference substrate) can be offered:

Coating Code: NC: no coating (reflection loss approx. 12 %) - standard
C2: λ = 800 ... 1000 nm

One - sided coatings are available on request.

Order example:

GT – LFCL – 100 – 024 – 50 – CC – (670)	
GT	GRINTECH
LFCL	Laser Focusing Cylindrical Lens
100	Thickness: 1.0 mm
024	Pitch: 0.24
50	NA: 0.50
CC	Coating Code: NC or C2

Variations due to modifications of the production process are possible. It is the user´s responsibility to determine suitability for the user´s purpose.

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Tolerances / Handling Instructions

Tolerances:

For all of our single lenses we have the following fabrication tolerances and quality criteria:

Tolerances:		Surface quality:
lens length z_l:	± 5% due to variations of the gradient constant	5 / 3 x 0.025; L 3 x 0.005; E 0
working distance s:	± 0.02 mm	(defined by DIN ISO 10110-7:2000-02).
diameter d:	+ 0 / -0.01 mm	The surface quality is defined within 90 % of the lens diameter.
	- tighter diameter tolerances on request	Outside of this area defects are allowed.

Storage and Handling of Lenses

Storage

GRIN lenses and lens systems should be stored in a dry environment. For short term storage, the plastic box or foam packing in which the lenses are shipped will provide adequate storage.

Recommended storage temperature: -20°C - 80°C.

Storage boxes should ensure that the lenses do not touch each other to prevent chipping and scratches. Best is to use the original box.

Handling

Lenses should be carefully handled with plastic tweezers, preferably those with a tapered end. Lenses should be picked up out of their individual compartments by firmly holding each on its side cylinder surface (not the polished ends). Especially small sized lenses may stick to the lens box material and can be lost during removal.

Cleaning

If it is necessary to clean the lens surfaces due some dust or other contaminant which may impair the optical performance GRINTECH generally recommends the use of ethyl alcohol as a cleaning solvent maybe combined with some smooth lintfree lens cleaning tissue. Acetone may also be used, but it should be pure enough otherwise it can leave some residue on the lens surface.

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