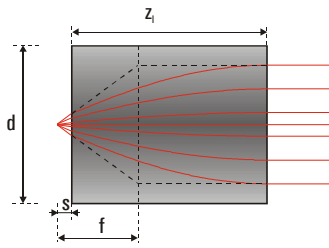
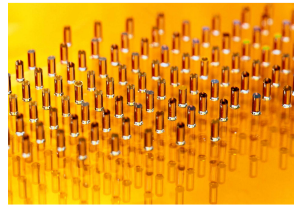


## GRIN rod lenses



## Gradient index lenses for fiber coupling and beam shaping of laser diodes



Order example: GT-LFRL-100-025-50-CC (670)

Design wavelength  
Coating Code  
NA: 0.5  
Pitch: 0.25  
Diameter: 1.0 mm  
Laser Focusing Rod Lens  
GRINTECH

- Working distance, design wavelength and lens length deviating from these standards can also be produced
- 8° angled facet available on request
- ZEMAX files can be [DOWNLOADED](#) from our website

Pitch P	Working distance s (mm)	Numerical Aperture NA	Lens length z <sub>1</sub> (mm)	Focal length f (mm)	Gradient constant g (mm <sup>-1</sup> )	Refractive index at the center of the profile n <sub>0</sub>	wavelength λ (nm)	Product code
<b>Diameter d: 0.5 mm</b>								
0.25	0	0.54	1.15	0.45	1.367	1.629	670	GT-LFRL-050-025-50-CC (670)
0.23	0.06	0.54	1.05	0.45	1.367	1.629	670	GT-LFRL-050-023-50-CC (670)
0.25	0	0.53	1.16	0.45	1.358	1.624	810	GT-LFRL-050-025-50-CC (810)
0.23	0.06	0.53	1.06	0.46	1.358	1.624	810	GT-LFRL-050-023-50-CC (810)
0.25	0	0.52	1.17	0.46	1.343	1.616	1310-1550	GT-LFRL-050-025-50-CC (1550)
0.23	0.06	0.52	1.07	0.47	1.343	1.616	1310-1550	GT-LFRL-050-023-50-CC (1550)
0.25	0	0.20	3.06	1.28	0.513	1.524	670*	GT-LFRL-050-025-20-CC
0.24	0.08	0.20	2.94	1.28	0.513	1.524	670*	GT-LFRL-050-023-20-CC
<b>Diameter d: 1.0 mm</b>								
0.25	0	0.53	2,32	0,91	0,676	1.629	670	GT-LFRL-100-025-50-CC (670)
0.23	0.12	0,53	2,12	0,92	0,676	1.629	670	GT-LFRL-100-023-50-CC (670)
0.25	0	0,53	2,34	0,92	0,671	1.624	810	GT-LFRL-100-025-50-CC (810)
0.23	0.12	0,53	2,13	0,93	0,671	1.624	810	GT-LFRL-100-023-50-CC (810)
0.25	0	0,52	2,36	0,93	0,664	1.616	1310-1550	GT-LFRL-100-025-50-CC (1550)
0.23	0.12	0,52	2,16	0,94	0,664	1.616	1310-1550	GT-LFRL-100-023-50-CC (1550)
0.25	0	0.20	6.10	2.55	0.257	1.524	670*	GT-LFRL-100-025-20-CC
0.24	0.16	0.20	5.86	2.56	0.257	1.524	670*	GT-LFRL-100-024-20-CC
<b>Diameter d: 1.8 mm</b>								
0.25	0	0,52	4,27	1,67	0,367	1.629	670	GT-LFRL-180-025-50-CC (670)
0.23	0.23	0,52	3,88	1,69	0,367	1.629	670	GT-LFRL-180-023-50-CC (670)
0.25	0	0,51	4,30	1,69	0,365	1.624	810	GT-LFRL-180-025-50-CC (810)
0.23	0.23	0,51	3,91	1,71	0,365	1.624	810	GT-LFRL-180-023-50-CC (810)
0.25	0	0,51	4,35	1,72	0,361	1.616	1310-1550	GT-LFRL-180-025-50-CC (1550)
0.23	0.23	0,51	3,96	1,73	0,361	1.616	1310-1550	GT-LFRL-180-023-50-CC (1550)
0.25	0	0.20	11.07	4.62	0.142	1.524	670*	GT-LFRL-180-025-20-CC
0.24	0.28	0.20	10.64	4.63	0.142	1.524	670*	GT-LFRL-180-024-20-CC
<b>Diameter d: 2.0 mm</b>								
0.25	0	0,50	4,91	1,92	0,320	1.629	670	GT-LFRL-200-025-50-CC (670)
0.23	0.25	0,50	4,48	1,94	0,320	1.629	670	GT-LFRL-200-023-50-CC (670)
0.25	0	0,50	4,94	1,94	0,318	1.624	810	GT-LFRL-200-025-50-CC (810)
0.23	0.25	0,50	4,52	1,96	0,318	1.624	810	GT-LFRL-200-023-50-CC (810)
0.25	0	0,49	4,99	1,97	0,314	1.616	1310-1550	GT-LFRL-200-025-50-CC (1550)
0.23	0.25	0,49	4,57	1,99	0,314	1.616	1310-1550	GT-LFRL-200-023-50-CC (1550)

\* Rod lenses with NA 0.2 for other wavelengths are available on request.

GRIN rod lenses are offered with antireflection coatings (R < 0.5 % for the design wavelength and incidence angles of 0 ... 30° corresponding to measurements on a reference substrate)

Coating Code: NC: no coating (reflection loss approx. 12 %)  
C1: λ = 670 nm  
C2: λ = 800 ... 960 nm  
C5: λ = 1310 ... 1550 nm

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

Tolerances:

lens length z<sub>1</sub>: ± 5% due to variations of the gradient constant  
working distance s: ± 0.02 mm  
diameter d: + 0 / -0.01 mm  
Please ask for tighter diameter tolerances

Surface quality:

5 / 3 x 0.025; L 3 x 0.005; E 0 (defined by DIN ISO 10110-7:2000-02).

The surface quality is defined within 90 % of the lens diameter. Outside of this area defects are allowed.

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