

LG960 'Eye-Safe' Laser Glass

Phosphate laser glass for range finding and medical applications at 1.5 μ m

Product information

LG960 is an Erbium – Yttrium doped phosphate laser glass with improved thermo-mechanical figure of merit usable in flash lamp and diode pumped solid state laser applications. It offers possibilities for increased load and/or repetition rates.

Applications

- Rangefinders
- LIDAR
- Medical lasers for dermatological use

Quality assurance

Quality control is carried out under rigorous final inspection of the finished component. Selected glass properties and doping levels are measured for every melt. Measurements include chemical composition control, a range of photometric measurements, physical property test and inspection of inner quality.

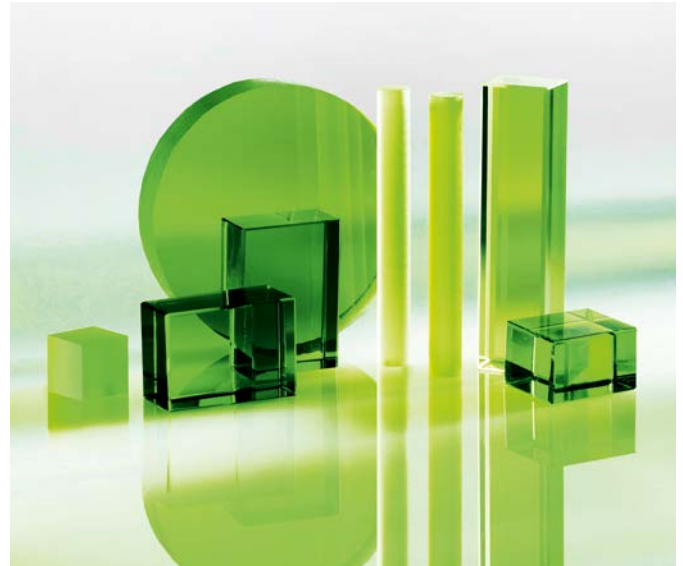
Forms of supply

The glass is available as fully finished components, such as rods, slabs and discs, manufactured according to customer specifications including dielectric coatings (AR, HR, etc.) with high laser damage threshold.

Application support

Please contact us with your laser components specification. Our experienced expert application team will find the right solution for your application.

Erbium has significant absorption at the lasing wavelength. For further information please contact a sales representative.



Erbium Laser Properties

Emission Cross Section Maxima λ [nm]	1534.3
Effective Linewidth [nm]	42.9
Linewidth FWHM [nm]	23.0
Radiative Lifetime τ_{Rad} [ms] (calc.)	11.0
Emission Cross Section σ_{em} [10^{-21} cm ²]	6.7
Fluorescence Lifetime [ms]	10.1

Optical Properties

n_d	1.545
v_d	62.5
n_2 [10^{-20} m ² /W] (calc.)	3.6
dn/dT relative at 1.54 μ m [10^{-6} /K]	
$n_{1534\text{ nm}}$ (calc. from Sellmeier)	
Stress Optical Coefficient K [10^{-6} mm ² /K]	

Sellmeier Coefficients

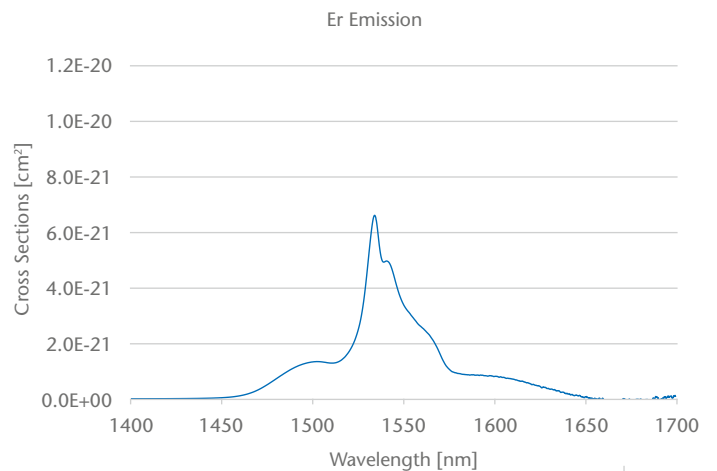
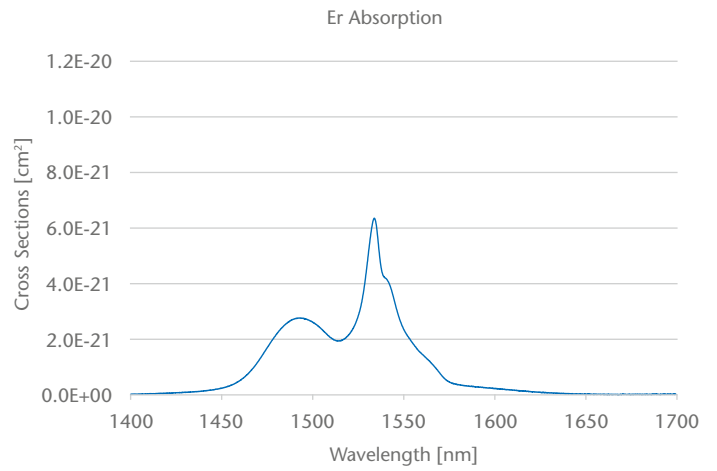
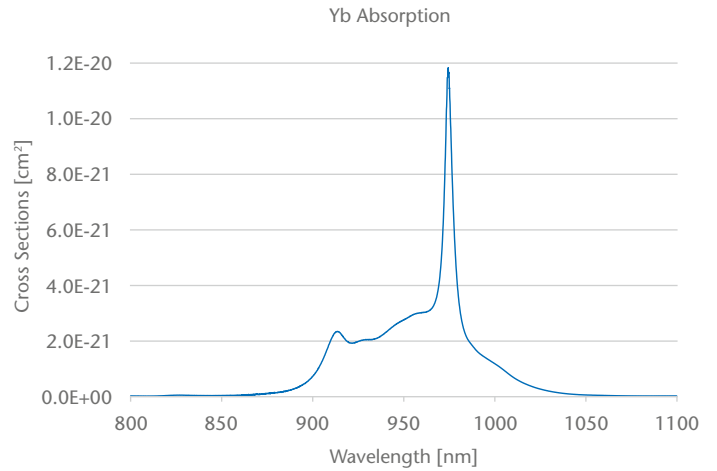
B1	C1
B2	C2
B3	C3

Physical Properties

Density ρ [g/cm ³]	3.14
Thermal Conductivity $\lambda_{90^\circ\text{C}}$ [W/(m·K)]	0.65
Young's Modulus E [10^3 N/mm ²]	66.5
Poisson's Ratio μ	0.25
Fracture Toughness, K_{1C} [MPa·m ^{1/2}]	0.7
Knoop Hardness $HK_{0.1/20}$	417
Heat Capacity $c_{p, 25^\circ\text{C}}$ [J/(g·K)]	
Thermal Expansion $\alpha_{(+20/+300^\circ\text{C})}$ [10^{-6} /K]	10.0
Thermal Expansion $\alpha_{(+20/+40^\circ\text{C})}$ [10^{-6} /K]	7.8
Transformation Temperature T_g [°C]	489

Chemical Properties

SR
AR
FR
CR



Version February 2016 | SCHOTT Advanced Optics reserves the right to make specification changes in this product flyer without notice.

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