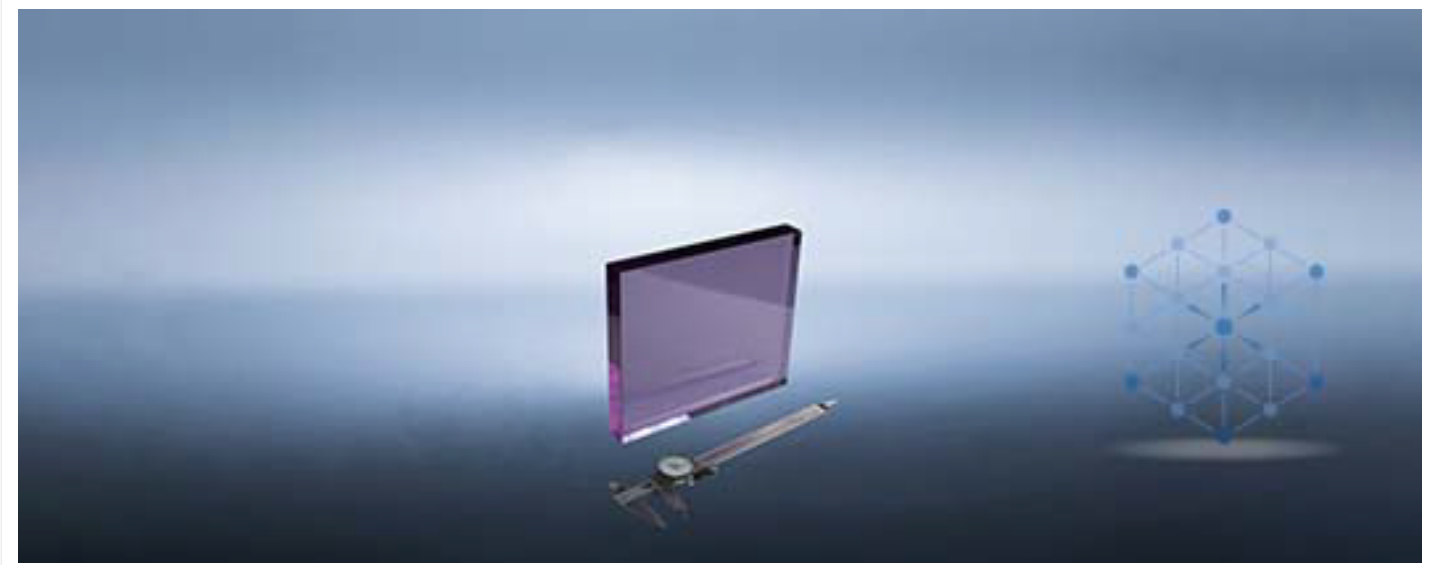


NSG₂ Nd:Glass



DESCRIPTION

Nd-doped silicate glass is a kind of laser glass with neodymium as active ion and silicate glass as the base body. It has larger stimulated emission cross section and wider effective fluorescence line width. Also, it has good laser performance and gain performance. It can be widely used in the manufacture of lasers. This wider line of glass and the availability of narrower ultrashort pulses make it the first choice for lasers with high energy and high peak power.

APPLICATIONS

- Diode lasers
- Laser glasses
- Compact Single-Mode Nd-Doped Silicate Glass Multitrench Fiber(MTF)
- Ultrafast Laser Inscribed Nd-Doped Silicate Glass Waveguide Laser

FEATURES

- High ultraviolet transmission
- Low concentration emission lifetime
- High emission cross-section
- Low thermal expansion coefficient
- Good thermal mechanical properties

PARAMETERS

Laser Specifications

Property	Value
Cross section for stimulated emission (10^{-20}cm^2)	2.7 ± 0.1
	≥ 380 (Nd_2O_3 :0.5wt%)
	≥ 360 (Nd_2O_3 :1.0wt%)
Lifetime at 1053nm(μsec)	≥ 330 (Nd_2O_3 :2.0wt%)
	≥ 270 (Nd_2O_3 :3.0wt%)
Effective bandwidth(nm)	34
Fluorescence peak wavelength(nm)	1060
Absorption coefficient(cm^{-1})	≤ 0.0015 (1053nm)



NSG₂ Nd:Glass

Optical Specifications

Property	Value
Non-linear refractive index coeff. $n_2(\times 10^{-13} \text{e.s.u})$	≤ 1.6
Refractive index(1053nm)	1.560 ± 0.003
Abbe value	59
$d_n/d_t(10^{-6}/^\circ\text{C})(20\sim 100^\circ\text{C})$	2

Thermal Specifications

Property	Value
Transformation temp.($^\circ\text{C}$)	485
Softening temp.($^\circ\text{C}$)	530
Coeff.of linear thermal expansion ($10^{-2}/\text{K})(30\sim 100^\circ\text{C})$	95
Coeff.of linear thermal expansion ($10^{-2}/\text{K})(30\sim 300^\circ\text{C})$	102
Thermal coeff.of optical path length ($10^{-6}/\text{K})(50\sim 100^\circ\text{C})$	7
Thermal conductivity(25°C) (W/Mk)	1.2

SPECTRA

