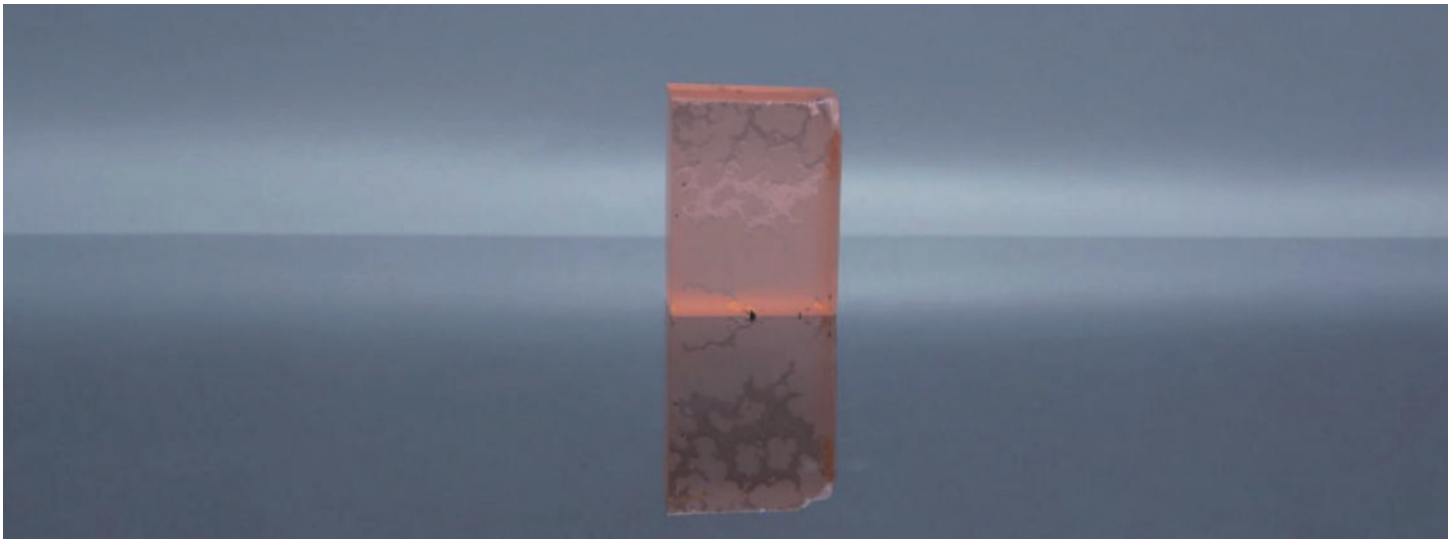
Er,Yb:Glass



DESCRIPTION

Er,Yb:Glass/Er,Yb,Cr:Glass glass product, also known as erbium glass, is a kind of laser glass with good comprehensive performance. Er^{3+}, Yb^{3+} co doped phosphate glass (Er, Yb: phosphate glass) is a well-known and commonly used active medium for emitting laser microns in the "eye safe" spectral range of 1.5-1.6 um.

Laser generation and signal amplification, because the wavelength of 1540nm is just located at the position of human eye safety and optical fiber communication window. 1540nm laser has been widely used in range finder, radar, target recognition and other fields. Phosphate glass combines the long-lived (~8 ms) laser level on $^4I_{13/2}$ Er^{3+} with the low-lived (2-3 ms) $^2F_{5/2}$ excited state of $^4I_{11/2}$ Er^{3+} level resonant with Yb^{3+}. The fast nonradiative multiphonon relaxation from $^4I_{11/2}$ to $^4I_{13/2}$ is due to the interaction between Yb^{3+} and Er^{3+} ions excited at $^2F_{5/2}$ and $^4I_{11/2}$ levels, respectively, which greatly reduces the reverse energy transfer and up conversion losses.

Er^{3+}/Yb^{3+} co doped phosphate glass as LD pumped 1540nm eye safe radiation source can emit eye safe 1540nm laser radiation directly used in laser rangefinders and telecommunications. Er,Yb glass laser with 1540nm wavelength radiation output does not need to add additional components. As an eye safe wavelength laser, 1540um, Er^{3+}/Yb^{3+} co doped phosphate glass laser has attracted much attention because of its compactness and low cost.

Eat14: Yb^{3+}, Er^{3+} co doped phosphate glass, suitable for high repetition rate (1-6Hz) laser diode pumped 1535nm laser. High Yb^{3+} doping can be achieved in this eat14 glass.

FEATURES

- Eye safety
- High optical quality
- Long fluorescent life
- Absorption band is wide
- The slope of high efficiency

APPLICATIONS

- Range finder
- Er glass fiber amplifier
- 1535 nm laser eye safety

www.laser-crylink.com
sales@crylink.com
+86-21-66566068
Building 7, No.718 Baoqi Road, Baoshan District, Shanghai, China

Er,Yb:Glass

THE LASER SPECIFICATION

	EAT14	WM4
The cross section of the stimulated radiation (10^{-20} cm^2)	0.8	0.75
Fluorescence lifetime (ms)	7.7-8.0	7.7-8.2
Center of the laser wavelength (nm)	1535	1535

OPTICAL PROPERTIES

	EAT14	WM4
The refractive index(1535nm)	1.524	1.528
The refractive index(d589.3nm)	1.532	1.536
Abbe number	66	66
dn / dT（10^{-6} /℃）（20～100℃）	-1.72	-3

THERMAL SPECIFICATIONS

	EAT14	WM4
Transition temperature (℃)	556	530
Softening temperature (℃)	605	573
Linear thermal expansion coefficient (10^{-7} / K) (20 ~ 100 ℃)	87	82
Linear thermal expansion coefficient (10^{-7} / K) (100 ~ 300 ℃)	95	96
Optical path length of the heat transfer coefficient (10^{-6})/K	2.9	1.4
Coefficient of thermal conductivity (25 ℃) (W/mK)	0.7	0.7

OTHER SPECIFICATIONS

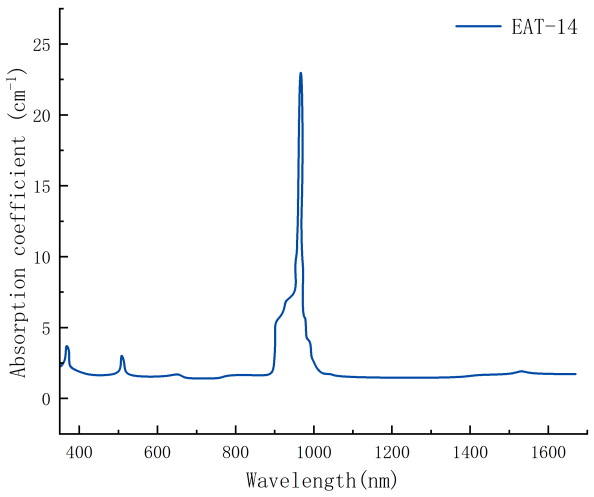
	EAT14	WM4
Density G/cm^3	3.06	2.83
Chemical durability (100 ℃ in weightlessness rate) in distilled water (μg/ hr.cm^2)	52	82

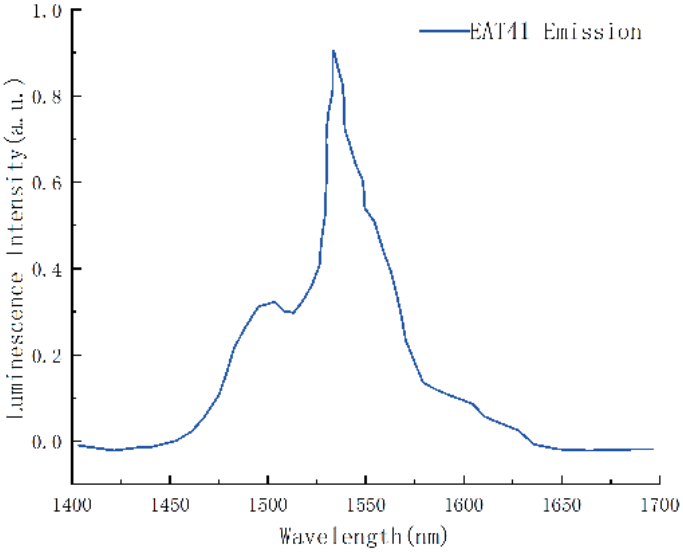
POLISHING SPECIFICATION

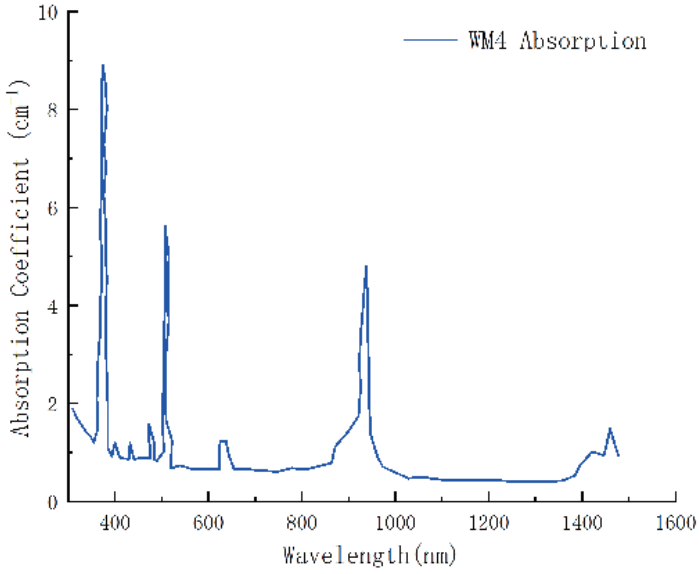
The direction of the tolerance	< 0.5°
The thickness/diameter tolerance	±0.05 mm
The surface roughness	<λ/8@632 nm
Wavefront aberration	<λ/4@632 nm
The surface quality	10/5
Parallelism	10″
Vertical	15'
Clear aperture	>90%
Chamfering	<0.1×45°
The largest size	dia (3-12.7)×（3-150）mm^2

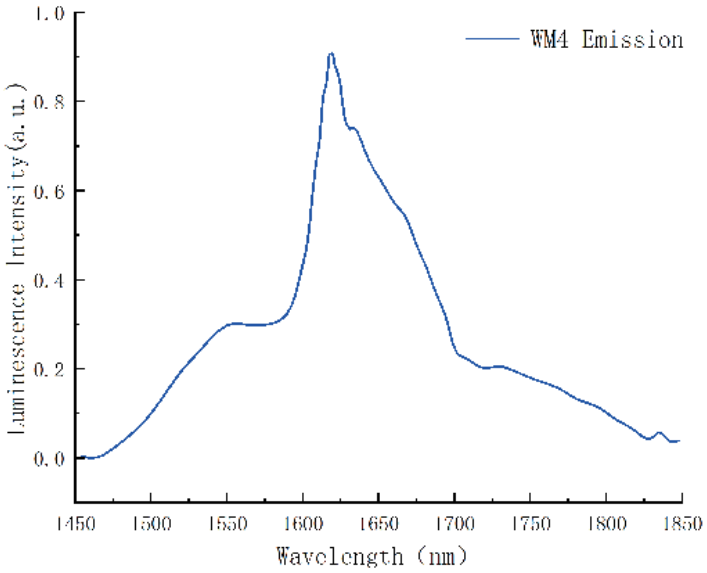
Er,Yb:Glass

SPECTRA









www.crylink.com
sales@crylink.com
+86-21-66566068
Building 7, No.718 Baoqi Road, Baoshan District, Shanghai, China