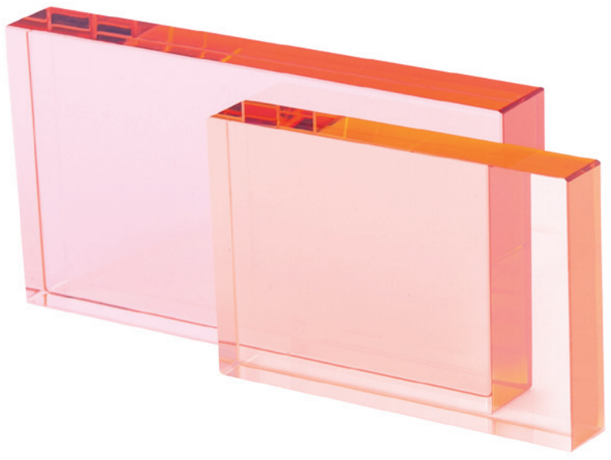
DIGCO®

Erbium doped phosphate glasses for **LD & flash lamp** pumped laser



Size/Doping: OEM ordered using the following,

W & H: Block Width & Height (mm)

L: Block Length (mm)

D: Doping (%)

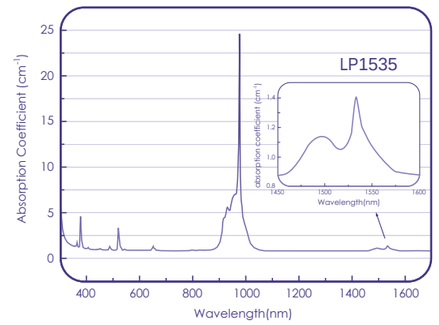
F: Finish (P=Plane, W=Wedge, B=Brewster)

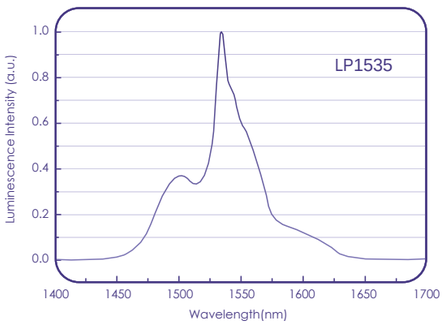
C: Coating Requirements

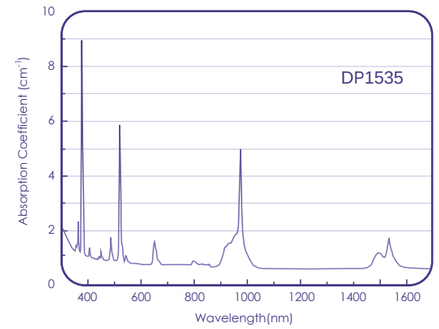
Laser output at 1535 nm can be realized in erbium doped phosphate glass. Since this wavelength is safe for the eyes and stays in the communication window, erbium doped phosphate glass can find wide applications in communication, laser rangefinders, laser medical treatment, laser cosmetics, etc. Erbium laser glass with various doping concentrations can be produced according to the customer's requirements.

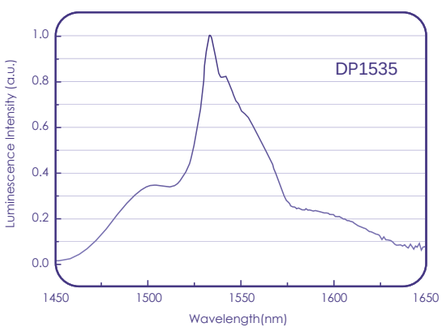
ET-S: Cr3+,Yb3+ , Er3+ co-doped phosphate glass for ion-exchange purpose,which is applicable in flash lamp pumped 1535nm laser;

ET-L: Yb^{3+}, Er^{3+} co-doped phosphate glass, which is applicable in high repetition rate (1-6Hz) laser diode pumped 1535nm laser. High Yb^{3+} doping can be realized in this ET-L glass.









PROPERTIES	LP1535	DP1535
Laser Specifications		
Cross section for stimulated emission ($10^{-20}cm^2$)	0.8	0.8
Fluorescent lifetime (ms)*	8.3-8.6	9.4-9.8
Center lasing wavelength (nm)	1535	1535
Optical Specifications		
Refractive index (1535nm)	1.560	1.560
Refractive index (d 589.3nm)	1.530	1.530
Abbe value	66	66
dn/dT (10^{-6}/°C) (20~100°C)	-1.72	-3.00
Thermal Specifications		
Transformation temp.(°C)	480	520
Softening temp.(°C)	520	565
Coeff.of linear thermal expansion (10^{-7}/K) (20~100°C)	87	82
Coeff.of linear thermal expansion (10^{-7}/K) (100~300°C)	95	96
Thermal coeff. of optical path length (10^{-6}/K) (20~100°C)	2.9	1.4
Thermal conductivity (25°C) (W/m K)	0.75	0.75
Other Specifications		
Density(g/cm³)	3.00	3.00
Chemical durability (weigh loss rate at 100°C distilled water) (μg/hr.cm²)	52	82

*The fluorescent lifetime changes with the erbium concentration.The concentration for LD pumped laser is 0.13-1.3 x10^{20} /cm³ , for flash lamp pumped lasr is 0.16-0.32x10^{20} /cm³