



Phosphor Information Leaflet

GENERAL

Name	Yttrium aluminate garnet erbium
Chemical formula	$Y_3Al_5O_{12}:Er^{3+}$
Application areas	Laser gain media, Luminescent marker

OPTICAL PROPERTIES

Excitation maxima @	255 nm (4.86 eV), 362 nm (3.43 eV), 380 nm (3.26 eV), 406 nm (3.05 eV), 449 nm (2.76 eV), 486 nm (2.55 eV)
Emission maximum @ 380 nm exc.	522 nm (2.38 eV), 540 nm (2.30 eV), 552 nm (2.25 eV), 1.645 μ m (0.55 eV)
Centroid wavelength	630 nm (1.97 eV)
Full width @ half emission maximum	Lines
Lumen equivalent	435 lm/W _{opt.}
CIE1931 chromaticity coordinates (x, y)	0.320, 0.650
Band edge of host lattice	170 nm (7.29 eV)
Reflection @ 381 nm	83 %

PHYSICAL PROPERTIES

Body colour	White
Density	4.56 g/cm ³
Refractive index (at λ)	1.83 (589.3 nm)
Mineral type	Garnet
Crystal system	Cubic
Space group (#)	I a -3 d (230)

