



Phosphor Information Leaflet

GENERAL

Name	Strontium magnesium disilicate europium dysprosium
Chemical formula	$\text{Sr}_2\text{MgSi}_2\text{O}_7:\text{Eu}^{2+},\text{Dy}^{3+}$
Application areas	Afterglow pigment

OPTICAL PROPERTIES

Excitation maxima @	132 nm (9.4 eV), 200 nm (6.2 eV)
Emission maximum @ 450 nm exc.	486 nm (2.6 eV)
Centroid wavelength	508 nm (2.4 eV)
Full width @ half emission maximum	50 nm
Lumen equivalent	244 lm/W _{opt.}
CIE1931 chromaticity coordinates (x, y)	0.144, 0.352
Band edge of host lattice	
Reflection @ 254 nm	14 %
Decay time $\tau_{1/e}$	~ 1 μs (Eu^{2+}) + few hours (afterglow)

PHYSICAL PROPERTIES

Body colour	Yellow
Density	3.7 g/cm ³
Refractive index (at λ)	
Mineral type	Melilite
Crystal system	Tetragonal
Space group (#)	P-42 ₁ m (113)

