

SCINTILLATION CRYSTALS

LYSO(Ce) Scintillation Crystal

Product Brochure & Technical Reference

Cerium-doped lutetium yttrium orthosilicate for PET and gamma-detector development. Geometry, surface finish, optical coupling and electronics affect system timing and energy response.



Reference product image. Shown geometry is illustrative.

Material reference properties / options

Parameter	Typical Value
Chemical formula	$\text{Lu}_2(1-x)\text{Y}_2x\text{SiO}_5:\text{Ce}$
Crystal structure	Monoclinic
Density	7.1 g/cm ³
Hygroscopicity	Non-hygroscopic
Light yield	Approx. 33,000 photons/MeV
Decay time	36 ns
Emission peak	420 nm
Refractive index	1.82 at 420 nm

Reference values and options for selection. Confirm the material grade, geometry, test conditions and acceptance criteria for the quoted configuration.

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Configuration & quotation

Define the component around your application

Application examples: PET and time-of-flight PET detector modules; SPECT and gamma camera detector designs; High-energy physics calorimeters and timing detectors

Specifications of LYSO(Ce) Crystal

Parameter	Typical Value
Melting point	Approx. 2,050 C
Mohs hardness	5.8
Cleavage plane	None
Energy resolution	Approx. 8% at 662 keV
Intrinsic background	Low intrinsic background from natural Lu-176

Specifications of LYSO(Ce) Crystal

Format	Details
Polished pixels / bars	Custom dimensions; typical sizes from 1 x 1 x 10 mm to 25 x 25 x 30 mm
Polished slabs / plates	Up to 90 mm diameter or custom rectangular format
1D pixelated arrays	1 x 8, 1 x 16, 1 x 32, 1 x 64, or customized layouts
2D pixelated arrays	4 x 4, 8 x 8, 16 x 16, 32 x 32, 64 x 64, or customized layouts
Minimum pixel size	Down to 0.5 x 0.5 mm depending on geometry
Reflector options	BaSO ₄ , ESR, E60, Teflon / PTFE, or application-specific reflector
Surface finish	All-side polished, white-painted, roughened, or as-cut on request
Coupling window	One or two optical-quality polished faces

Prepare your quotation

RFQ input	Information to provide
Material / format	State the material or grade, crystal, screen, panel or bar format and intended application.
Geometry / finish	Provide a drawing, dimensions, tolerances, surface treatment and wrapping or support requirements.
Readout / acceptance	Give the optical readout arrangement and define the test conditions and acceptance criteria.
Order details	Provide quantity, destination and the required delivery schedule.

Reference values and options for selection. Confirm the material grade, geometry, test conditions and acceptance criteria for the quoted configuration.

Send drawings for engineering review

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Open product and inquiry page | Hangzhou, Zhejiang, China