

GAGG(Ce) / MATERIAL & GRADE SELECTION

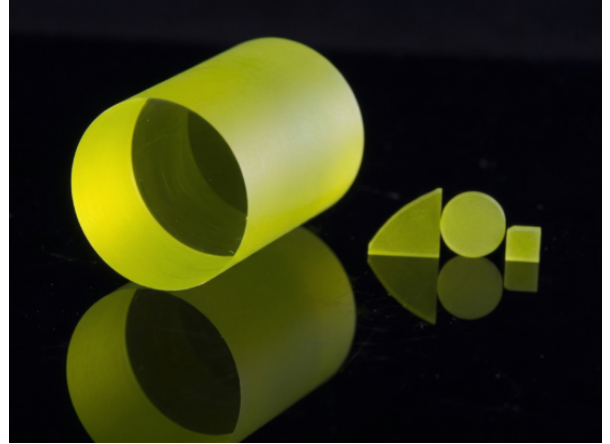
GAGG(Ce)

Crystal Selection Reference

Custom crystals, screens and pixelated arrays

Compare four GAGG(Ce) grades for gamma-ray and X-ray detection. Define the format, optical finish and readout before requesting a quotation.

Emission peak	520 nm
Density	About 6.6 g/cm³
Handling	Non-hygroscopic



Product image published by ATR Crystal.
Shown geometry does not define stock sizes.

Grade comparison

Grade	Reference light yield (photons/MeV)	Decay time (ns)	Afterglow (20 ms)
High light output type	Approx. 54,000	<150	≤0.10%
Low afterglow type	Approx. 45,000	<70	≤0.02%
Fast decay time type	Approx. 30,000	<50	≤0.10%
Balanced type	Approx. 42,000	<90	≤0.10%

Published reference values for engineering comparison. Grade, crystal size, excitation and measurement method affect the result. The website states a 20 ms afterglow observation time; the remaining test conditions and acceptance criteria should be agreed for the quoted configuration.

Available formats

Monolithic crystals

Define finished geometry and optical faces.

Scintillation screens

Review thickness, substrate and camera coupling.

Framed / substrate-coupled screens

Define handling and assembly requirements.

Pixelated arrays

Specify pixel width, pitch, count and readout face.

GAGG(Ce) contains no Lu-176 intrinsic background. Total detector background still depends on the sensor, electronics, shielding, surrounding materials and radiation environment.

Source: ATR Crystal GAGG(Ce) product reference

GAGG(Ce) / CUSTOM QUOTATION INPUTS

Prepare your quotation

Send a drawing or dimensional sketch with the information below. Final specifications and acceptance criteria are confirmed for the quoted configuration.

01 Format and quantity

State monolithic crystal, screen or array. Give the piece or array quantity and the intended gamma-ray or X-ray application.

02 Geometry and layout

Provide finished dimensions and tolerances. For arrays, include pixel cross-section, crystal length, pixel count, pitch and the finished envelope.

03 Grade and acceptance

Identify light output, decay or afterglow priorities. Specify the acceptance criteria and the test method for the quoted component.

04 Surface and readout

Define polished and coupling faces, reflector or coating, and any substrate or frame. Include PMT, SiPM, photodiode or camera details.

Array drawing note: pixel width is different from pitch

Active crystal span = $(N - 1) \times \text{pitch} + \text{pixel width}$

Drawing example only: 4 pixels, 2.9 mm pixel width and 3.0 mm pitch give an active span of 11.9 mm.



11.9 mm active span

The active span excludes outer wrapping, edge reflector, frame and mounting allowance. Specify the finished overall envelope separately.

Send drawings for engineering review

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Product & inquiry form

GAGG(Ce) array options