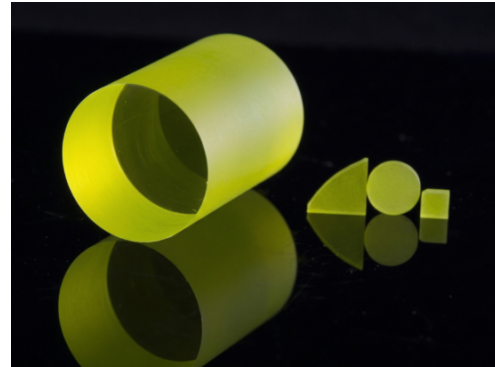


SCINTILLATION CRYSTALS

GAGG(Ce) Scintillation Crystal

Product Brochure & Technical Reference

GAGG(Ce) scintillation crystals for radiation detection and imaging. Select the material grade around light output, decay and afterglow requirements, then define geometry, finish and readout.



Reference product image. Shown geometry is illustrative.

Material reference properties / options

Parameter	High Light Output Type	Low Afterglow Type	Fast Decay Time Type	Balanced Type
Scintillation decay time	<150 ns	<70 ns	<50 ns	<90 ns
Emission peak wavelength	520 nm	520 nm	520 nm	520 nm
Refractive index at peak wavelength	1.9	1.9	1.9	1.9
Density	6.6 g/cm ³	6.6 g/cm ³	6.6 g/cm ³	6.6 g/cm ³
Light yield	Approx. 54,000 photons/MeV	Approx. 45,000 photons/MeV	Approx. 30,000 photons/MeV	Approx. 42,000 photons/MeV
Energy resolution at 137Cs, 5 x 5 x 5 mm	Approx. 6%	Approx. 6%	Approx. 7%	Approx. 6%
Radiation hardness	10 ⁵ rad	10 ⁵ rad	10 ⁵ rad	10 ⁵ rad
Hygroscopicity	No	No	No	No

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

SCINTILLATION CRYSTALS

Configuration & quotation

Define the component around your application

Application examples: Gamma-ray detection and compact detector modules; X-ray medical imaging and industrial inspection; PET/SPECT research and nuclear medicine instrumentation

Available GAGG(Ce) Product Formats

Format	Typical Use	Design Notes
Monolithic crystal	Gamma detection, spectroscopy, compact modules	Dimension, thickness, surface finish, and readout surface should be defined.
Ultra-thin scintillation screen	X-ray imaging, beam visualization, microscope-coupled detection	Freestanding or substrate-coupled designs can be reviewed.
Framed screen	Handling-sensitive thin screens	Aluminum or stainless-steel frames can improve manipulation and assembly.
Pixelated GAGG(Ce) array	PET/SPECT research, SiPM modules, imaging detectors	Pixel size, pitch, reflector, crosstalk, and bonding method should be specified.
Coated or marked screen	Optical readout or beam alignment	Reflection coating, AR coating, diffusion painting, conductive coating, grid, cross, or scale can be discussed.

Different Types of GAGG(Ce) Scintillators

Type	Light Yield	Decay Time	Afterglow
High light output type	Approx. 54,000 photons/MeV	<150 ns	≤0.10% @ 20 ms
Low afterglow type	Approx. 45,000 photons/MeV	<70 ns	≤0.02% @ 20 ms
Fast decay time type	Approx. 30,000 photons/MeV	<50 ns	≤0.10% @ 20 ms
Balanced type	Approx. 42,000 photons/MeV	<90 ns	≤0.10% @ 20 ms

Properties of GAGG(Ce) Scintillators

Parameter	High Light Output Type	Low Afterglow Type	Fast Decay Time Type	Balanced Type
Crystal structure	Cubic	Cubic	Cubic	Cubic
Cleavage plane	No	No	No	No
Mohs hardness	8	8	8	8
Afterglow	≤0.10% @ 20 ms	≤0.02% @ 20 ms	≤0.10% @ 20 ms	≤0.10% @ 20 ms

Prepare your quotation

RFQ Item	Information to Provide
Product type	Monolithic crystal, scintillation screen, substrate-coupled screen, framed screen, or pixelated array.
Crystal dimensions	Length, width, thickness, diameter, pixel size, pitch, tolerance, and drawing if available.
GAGG(Ce) grade	High light output, low afterglow, fast decay time, balanced type, or application-based recommendation.
Surface and coating	Polishing, roughening, reflection coating, AR coating, diffusion painting, conductive coating, or markings.
Readout method	PMT, SiPM, photodiode, CCD/CMOS camera, fiber coupling, or other optical readout.
Acceptance criteria	Visual inspection, dimensional tolerance, light output, afterglow, uniformity, energy resolution, or other test requirement.

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

sales@atrscintillator.com | +86 17796747312

Open product and inquiry page | Hangzhou, Zhejiang, China