

PLASTIC SCINTILLATORS & SCREENS

HZ-140 ZnS(Ag) Alpha Screen

Product Brochure & Technical Reference

A ZnS(Ag) alpha-sensitive screen on a PMMA substrate. Specify the coated active area separately from the panel outline, and review how surface protection affects alpha-particle access.



Reference product image. Shown geometry is illustrative.

Material reference properties / options

Property	PMMA Substrate	ZnS(Ag) Coating
Material	PMMA	ZnS(Ag)
Density	1.19 g/cm ³	4.1 g/cm ³
Refractive index	1.49	Not specified
Light output relative to anthracene	Not applicable	280%
Peak emission	Not applicable	450 nm
Scintillation decay time	Not applicable	200 ns
Operating temperature	-40 to +55°C	-40 to +55°C
Coating areal density	Not applicable	4.5 mg/cm ²

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

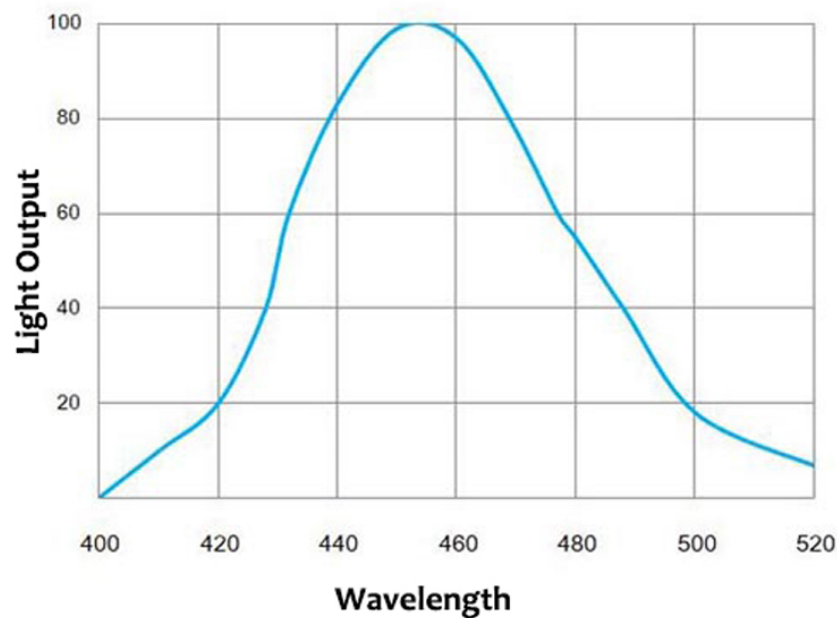
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Configuration & quotation

Define the component around your application

Application examples: Hand-held alpha probes and surface contamination meters; Whole body contamination monitoring systems; Large-area alpha-ray detection installations

Coating emission spectrum



Reading the reference

Reference emission spectrum for the ZnS(Ag) scintillating coating. The PMMA substrate provides support; define the active coating area and optical collection geometry.

Material reference for selection. Confirm final performance and test conditions for the quoted configuration.

HZ-140 Structure and Design Notes

Layer / Item	Function	Design Notes
ZnS(Ag) coating	Primary alpha-sensitive scintillating layer	The standard coating areal density is 4.5 mg/cm ² . Uniformity and coating area should be specified for large panels.
PMMA substrate	Mechanical support and optical backing	Substrate thickness can be 0.1-10 mm depending on rigidity, transparency, handling and housing design.
Active area	Alpha-sensitive detection surface	The active coated area should be defined separately from the total mechanical panel size if margins are required.
Readout method	PMT, SiPM, photodiode or optical module	Sensor area, light-guide geometry and coupling method influence collection efficiency.
Protection method	Open surface, protective film or housing-defined surface	Any protective layer must be reviewed carefully because alpha particles are easily stopped by surface materials.
Panel size	Custom shapes and large-area formats	Panels up to 1000 x 1000 mm can be reviewed with handling and uniformity requirements.

Properties of HZ-140 Plastic Scintillators

Property	PMMA Substrate	ZnS(Ag) Coating
Substrate thickness	0.1-10 mm	Not applicable
Maximum panel size	Up to 1000 x 1000 mm, depending on order requirements	Coated area and uniformity to be confirmed

Prepare your quotation

RFQ Item	Information to Provide
Application	Surface contamination meter, whole body monitor, alpha detector panel, laboratory alpha counter or custom detector assembly.
Panel geometry	Total size, active area, thickness, shape, edge margin, mounting holes and drawing.
Material structure	PMMA substrate thickness, ZnS(Ag) coating density, coated side and coating area.
Optical readout	PMT, SiPM, photodiode, light guide, reflector, optical grease or coupling requirement.
Surface requirement	Coating uniformity, surface protection, handling condition and inspection method.
Operating condition	Temperature range, humidity, cleaning method, housing design and expected mechanical stress.
Order information	Prototype quantity, batch quantity, inspection report requirement, packaging and 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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