

SC1107

- **Low background**
- **High detection efficiency**

The side-hole type **NaI(Tl) scintillator** is a detector with a side-hole passing vertically through the axis of the cylindrical NaI(Tl) crystal.

It is housed in aluminum cases and, for measurements, light output can be obtained from an optical window mounted on one or both sides of the edges while passing the specimen through the side-hole.

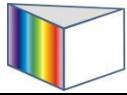


Basic Properties

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Density(g/cm ²)	3.67
Melting Point (K)	924
Cleavage plane	<100>
Hardness(Mohs)	2
Hygroscopic	yes
Refractive index at emission peak	1.85
Emission Peak wavelength (nm)	415
Decay time (ns)	250
Light yield (photons/KeV)	38

Features

- High detection efficiency
- Low background



Application Notes

1. Environmental Monitoring of nuclear radiation

Nuclear radiation exist universally in our daily life environment, when the radiation intensity higher than security standard, it would be harmful or even lethal to human beings. For its excellent scintillating properties, NaI(Tl) crystals are widely used to make the detectors to monitor nuclear radiation in the industrial and daily life environment, wide field and space.

2. Nuclear medicine

NaI(Tl) crystals are widely used in the nuclear imaging technology, such as the isotope therapeutic apparatus, Gamma ray cameras ect.. Nuclear imaging is high in sensitivity and accurate in testing results, the method is easy and secure.

3. Industrial CT and security inspection

The NaI(Tl) are used in the metallurgy industrial to test the speed of metal liquid, to test the thickness of the steel plates, they are also used in the level sensors or switches for solid or liquids. Some security inspection instruments use the NaI(Tl) crystals to test the explosive materials.

4. Well logging

The NaI(Tl) crystals detect the Gamma ray in the well, by the analysis of the spectrum of the detected scintillating light, the concentration and distribution of the uranium (U), potassium (K) and thorium (Th) in the stratum can be calculated, and the well can be evaluated. NaI(Tl) crystals has high light output and insensitive to temperature change, it has been the first choice for the well logging applications.

Modules or types

Introduction

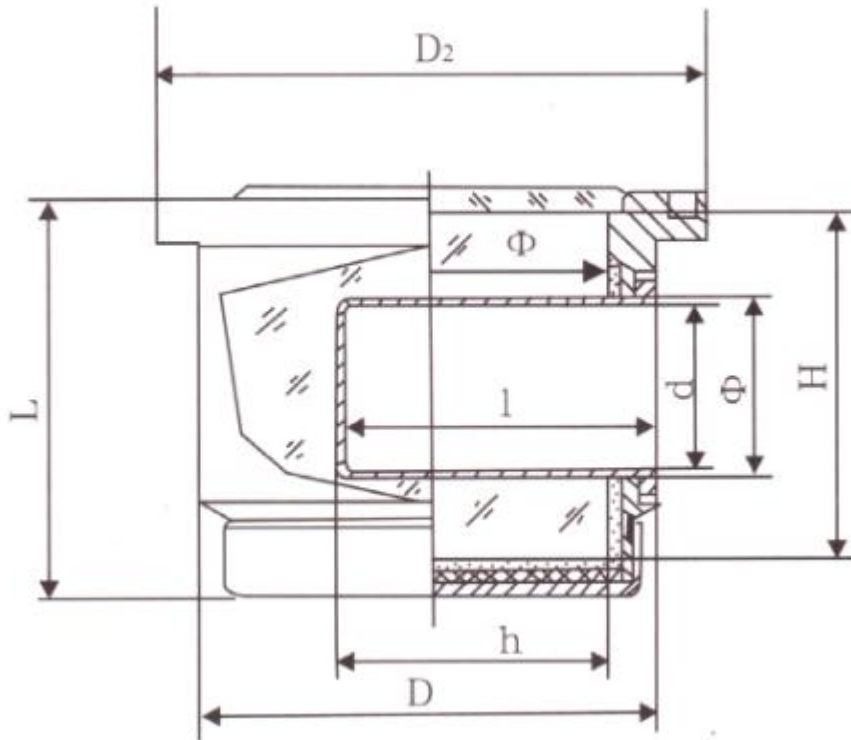
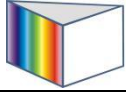
Model	Type	Category	Package	Remark
SC1107	Side-hole type	B(rimmed)	Aluminum shell, thin Aluminum entrance window, end optical window	X-ray and low 款-ray detection

Size of SC1107

Unit: mm

Crystal size				Outer dimension				Detection efficiency (I-125)	The Background under 20mm Lead shield(I-125)
Φ	H	φ	h	L	D	I	d		
40	40	20	30	47	52	35	19	≥78%	≅ 80cpm
40	30	20	Through-hole	34*	58*		19	≥75%	≅ 60cpm

Note: The size can be adjusted according to customer requirements.



SC1107 NaI(Tl) drawing