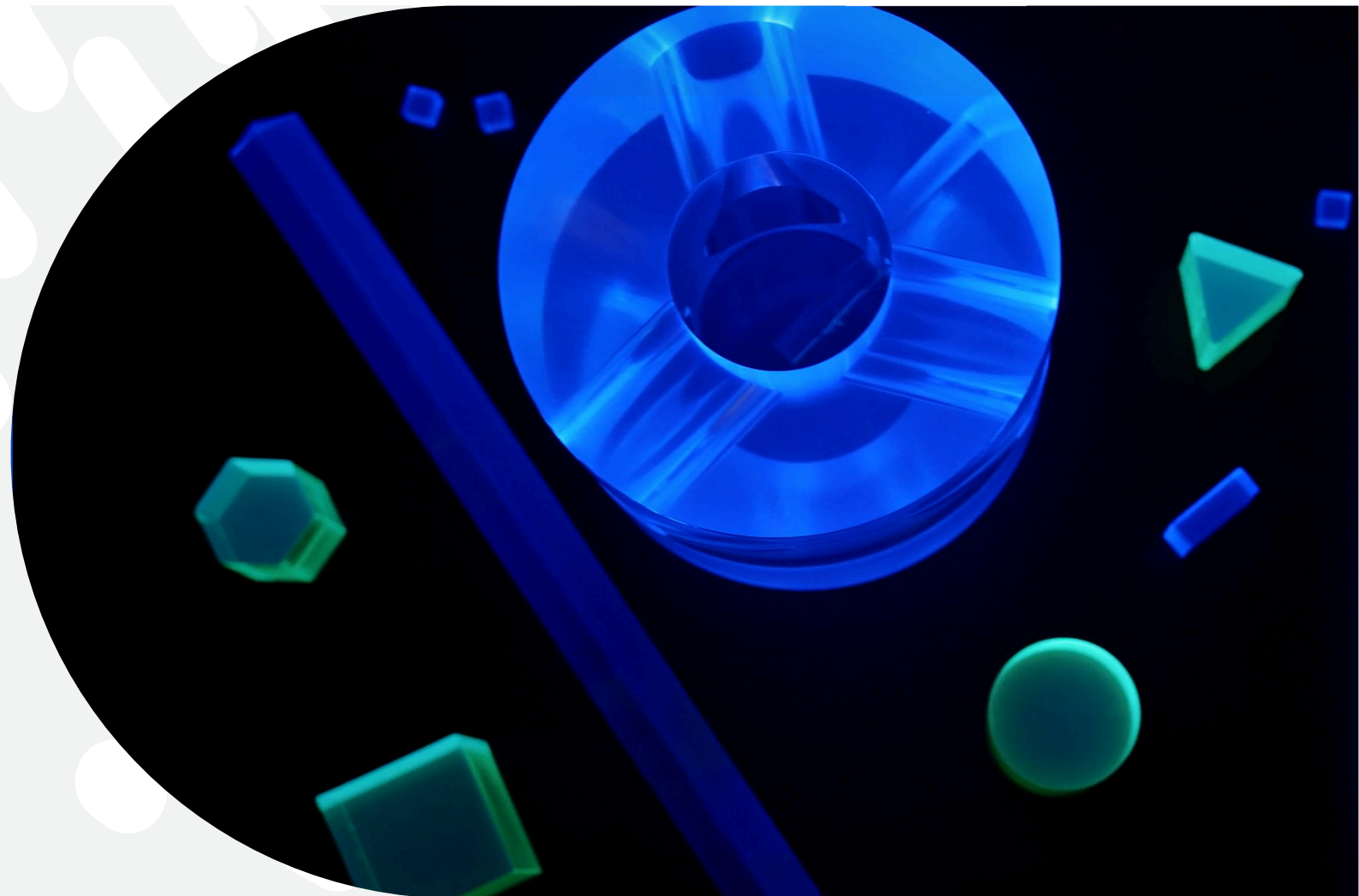


NuDET PLASTIC

Plastic Scintillation
Detectors for Research
and Development Purpose



NuDET PLASTIC is a range of plastic scintillation detectors. Plastic scintillators are solid solutions of luminophores in polymer characterised by a short decay time and high versatility. They are widely used in detection systems for their efficiency, high reliability and variety of shapes and sizes.

Benefits

- Numerous possibilities of application
- Variety of geometric shapes and sizes, customisation possible
- Cost effective scintillation material
- Production of raw materials in-house
- Processing and detector assembling also available

Key figures

56 %

Light output (relative to anthracene)

2.5 ns

Decay constant

1.03 g/cm³

Density

Product description

Plastic scintillators have an extremely wide field of application.

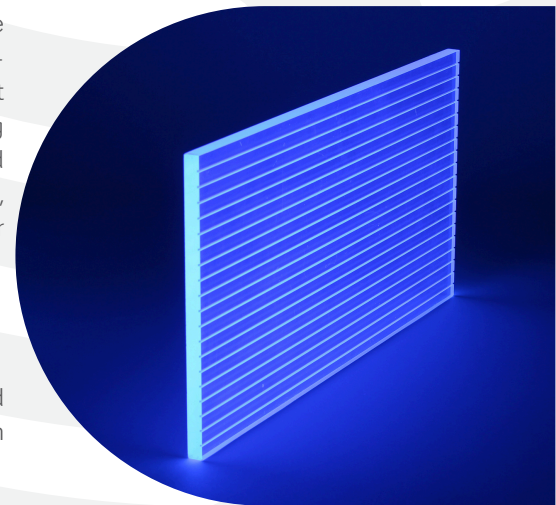
Used in thin layers, they detect protons, electrons and beta particles with a low background. Standard thickness of the foil is 0.3 mm and 0.5 mm.

Large volume plastic scintillators are suitable for measuring gamma radiation.

The standard material is blue-emitting one and green-emitting material is also available.

Green-emitting plastic scintillators are plastic scintillators with a longer emission wavelength and similar light output and properties to standard blue-emitting scintillators. They are designed to be used with photosensors such as photodiodes, the sensitivity of which is higher at longer wavelengths.

Block, cylinder and foil scintillators of various sizes may be produced on request without housing, with or without a polished surface, with reflective coating, fixed to the light-guide or as plastic detection assemblies coupled with a photomultiplier.



Product applications

- Detection of beta, gamma radiation
- Detection of ionising radiation in high energy physics
- Cosmic ray detection
- Veto and calorimeter systems

Specifications

	Standard Blue-Emitting Scintillators (SP32)	Green-Emitting Scintillators (SP33)
Polymer base	polystyrene	polystyrene
Density	1.03 g/cm ³	1.03 g/cm ³
Refractive index	1.57	1.57
Softening point	70 - 75 °C	70 - 75 °C
Light output (relative to anthracene)	56 %	55 %
Decay time	2.5 ns	4.4 ns
Wavelength of maximum emission	425 nm	503 nm

