BC-444
Long Timing Constant Plastic Scintillator

BC-444 is a plastic scintillator developed to have long timing properties. Applications include heavy ion research, particle identification, low background counting, active shielding and dosimetry. BC-444 can be used either by itself or in conjunction with a fast scintillator such as BC-400.

BC-444 is available in a variety of shapes and sizes. The material has the same kind of mechanical handling properties as Saint-Gobain Crystals other premium plastic scintillators.

Scintillation Properties

Light Output, %Anthracene	41
Rise Time	19.5 ns
Decay Time	285 ns
Pulse Width, FWHM, ns	171.9
Wavelength of Maximum Emission, nm	428
Bulk Light Attenuation Length, cm	180

Atomic Composition

No. of H Atoms per cc	5.25×10^{22}
No. of C Atoms per cc	4.73×10^{22}
Ratio H:C Atoms	1.109
No. of Electrons per cc	3.37×10^{22}

General Technical Data

Base	Polyvinyltoluene
Density	1.032 g/cc
Refractive Index	1.58 (n_D), 1.607 at wavelength of maximum emission
Coefficient of Linear Expansion	~7.8×10^{-5} below 65°C
Vapor Pressure	May be used in a vacuum
Solubility	Soluble in aromatic solvents, chlorinated solvents, acetone, etc. It is unaffected by water, dilute acids, lower alcohols, alkalis, and pure silicone fluids or grease.
Softening Point	70°C

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Scintillation Products

SAINT-GOBAIN CRYSTALS

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Emission Spectrum –