

BC-480

Blue Wavelength Shifter

BC-480 consists of polyvinyltoluene plastic containing waveshifting fluorescent dopants. The material provides significant improvement over standard UVT acrylic as a Cerenkov radiating medium for the following reasons:

1) The more intense Cerenkov light produced at shorter wavelengths is absorbed and re-emitted in the 425nm spectral region. This corresponds to the sensitive region of most standard glass photomultiplier tubes. In addition, the light transmission is greatly improved as plastics absorb the shorter wavelength light much more strongly.

2) The Cerenkov light emitting by BC-480 is isotropic rather than directional. This permits more efficient light collection with the use of internal reflection and the light piping techniques used for plastic scintillators.

Scintillation Properties –

Decay Time, ns 5
Pulse Width, FWHM, ns 5
Wavelength of Maximum Emission, nm 425
Minimum Detectable Cerenkov Wavelength, nm 260

Atomic Composition –

Ratio H:C Atoms 1.1
No. of Electrons per cc 3.37×10^{23}

General Technical Data –

Base Polyvinyltoluene
Density 1.03 g/cc
Refractive Index 1.58
Coefficient of Linear Expansion
..... 7.8×10^{-5} below 67°C
Vapor Pressure May be used in a vacuum
Solubility Soluble in aromatic solvents, chlorine, acetone, etc. Insoluble in water, dilute acids, lower alcohols, silicone fluid, grease and alkalis.
Softening Point 70°C

Scintillation Products
Organic Scintillators



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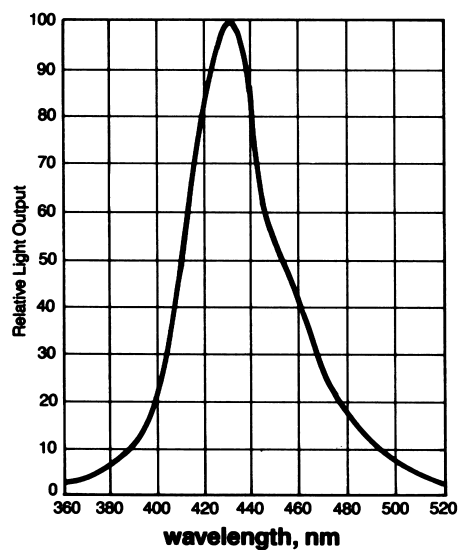
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Emission Spectrum—



Manufacturer reserves the right to alter specifications.

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(07-08)