

# BC-482A and BC-484 Wavelength Shifter Bars

Wavelength shifter bars are made of solid organic materials (polymers) which absorb light of one wavelength and emit light of a different wavelength. This characteristic makes them useful as light collecting elements (similar in function to light pipes) in calorimeter detectors. Their use reduces the overall size and complexity of the detector.

In the calorimeter, thin, plastic scintillators are stacked in layers to form the detector. The scintillator ends are coupled to a wavelength shifter bar. Light from the scintillators is absorbed and re-emitted by the wavelength shifter material. This has the effect of bending the scintillator light 90° and allows one PMT to view the stack of scintillators.

## Scintillation Properties –

	<b>BC-482A Green</b>	<b>BC-484 Blue</b>
Decay Time, ns	12	3
Light Attenuation Length, cm	400	350
Absorption Peak, nm	420	375
Wavelength of Max. Emission, nm	494	430
Use with	BC-408 & 412	BC-414

## General Technical Data –

Base .....	Polyvinyltoluene
Density .....	1.03 g/cc
Refractive Index .....	1.59
Coefficient of Linear Expansion .....	7.8x10 <sup>-5</sup> 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



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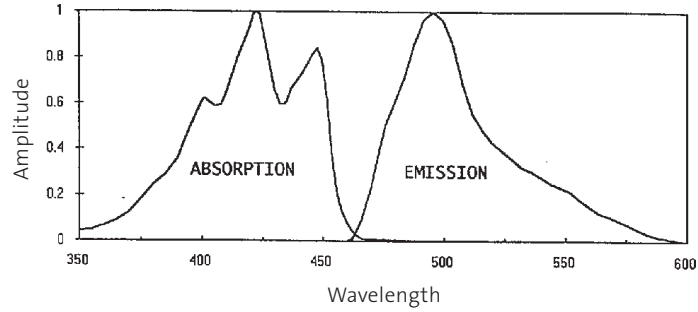
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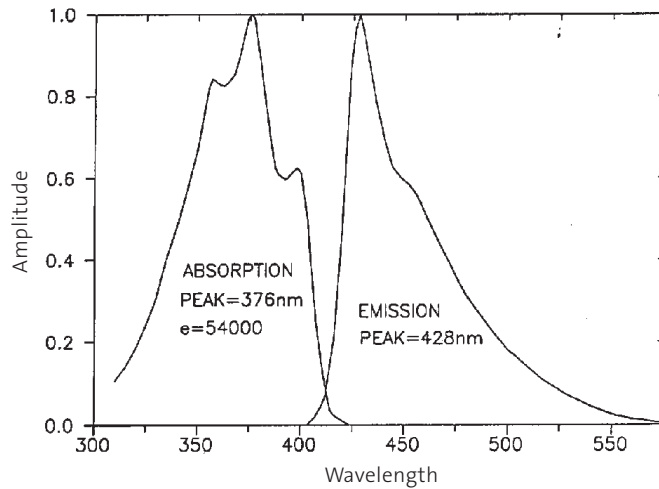
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### Emission Spectra –



BC-482A Optical Spectra



BC-484 Optical Spectra