

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.

	BC-482A	BC-484
Scintillation Properties	Green	Blue
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

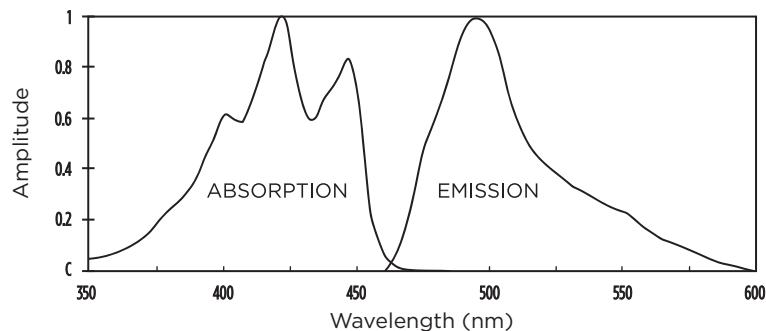
General Technical Data -

Base	Polyvinyltoluene
Density [g/cc]	1.03
Expansion Coefficient (per°C,<67°C)	$\sim 7.8 \times 10^{-5}$
Refractive index	1.59
Softening Point	70°C
Vapor Pressure	May be used in vacuum
Solubility	Soluble in aromatic solvents, chlorinated solvents, acetone, etc. Unaffected by water, dilute acids, lower alcohols, alkalis and pure silicone fluids or grease.

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Emission Spectra

BC-482A Optical Spectra



BC-484 Optical Spectra

