

Detector Assembly Materials

Saint-Gobain Crystals can provide you with various detector assembly materials. For more detailed specifications on BC-600, BC-620 and BC-622A, individual data sheets are available.

BC-600 Optical Cement –

BC-600 optical cement is a clear epoxy, which sets at room temperature and has a refractive index close to that of SGC plastic scintillators. It is therefore ideal for optically cementing plastic scintillators to light pipes or optical windows. It is not recommended for coupling scintillators to photomultiplier tubes. For that application, we recommend BC-634A or BC-630.

BC-620 Reflector Paint for Plastic Scintillators –

BC-620 is a highly efficient reflector employing a special grade of titanium dioxide in a water soluble binder. It is applied directly onto plastic scintillators, acrylic light guides, glass and metals. It is not intended for direct contact with liquid scintillators. It is a diffuse reflector and, therefore, should not be applied to sheets of scintillator or light guide material where the length is much longer than the thickness.

BC-620 can be removed with warm water.

BC-620 Consists of	%
Anatase Titanium Dioxide	40
Acrylic Emulsion Resin	24
Water	32
Glycol Coalescent	2.8
Surfactants & Thickeners	1.2

BC-622A Reflector Paint for Liquid Scintillator Tanks –

BC-622A reflector paint is intended for use with liquid scintillators. It is particularly useful in large steel or aluminum tanks, which require application of the paint at the research site. It is a diffuse reflector and, therefore, should not be used on the major surfaces of long, narrow tanks (total internal reflector and employed in these).

Can be removed from metal by submersing in Methol alcohol.

BC-630 Silicone Optical Grease –

BC-630 is a clear, colorless, silicone, optical coupling compound that features excellent light transmission and low evaporation and bleed at 25°C. It has a specific gravity of 1.06, an Index of Refraction of 1.465 and has a very flat transmission of approximately 95% for wavelengths between 280nm and 700nm. There is a sharp fall off below 280nm. Transmission at 270 and below is about zero. We supply this single component formulation in 60ml and 500ml jars.

Assembly Materials Available –

- Optical Cement
- Reflector Paint for Plastic Scintillators
- Reflector Paint for Liquid Scintillator Tanks
- Silicone Optical Grease
- Optical Interface Pads
- Black Wrapping Tape
- Plastic Masking Paper
- PTFE Reflector Tape



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BC-634A Optical Interface Pad –

BC-634A is a self-wetting, flexible pad just hard enough to resist tearing while handling.

It is formulated for use within the temperature range of -10 to +60°C, has an index of refraction of 1.42 and an internal transmission >98% around 400nm.

If you cannot maintain sufficient interface pressure, apply a thin film of coupling grease to both sides of the interface pad.

BC-637 High Temperature Optical Interface Pad –

BC-637 interface pads are placed between the plastic and photomultiplier tube. BC-637 is rated at 200°C.

BC-638 Black Wrapping Tape –

BC-638 is a black adhesive tape 2" (50.8mm) wide by .008" (0.15mm) thick. Wrapping a plastic scintillator in one layer will give you a light-tight seal. We provide BC-638 in 36 yard (32.9m) rolls.

BC-640 Plastic Masking Paper –

This material is an adhesive-backed masking paper routinely used for protecting the surfaces of plastic scintillator during handling or storage. We supply BC-640 in rolls 12" (30.5cm) wide by 300' (91.4m) long.

BC-642 PTFE Reflector Tape –

BC-642 is a .003" (0.08 mm) thick (normal) Teflon tape and is frequently used as a reflecting material for non-hygroscopic scintillators. Three layers give you optimum reflectivity. It comes in rolls 2" (50.8mm) wide by 540" (13.7m) long.

Manufacturer reserves the right to alter specifications.

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