EJ-500 OPTICAL CEMENT

EJ-500 is a clear and colorless epoxy cement with refractive index at 1.57. It is ideal for optically bonding plastic scintillators and acrylic (PMMA) light guides. It is equally effective with PVT (polyvinyltoluene) or polystyrene based scintillators and may also be confidently used for making butt joints of optical fibers with polystyrene cores. EJ-500 has a degree of flexibility making it useful for optically bonding glasses or the above plastics to glass windows. The optical transmission plot applies to a 0.13mm (0.005") thick layer in comparison to air.

EJ-500 is fully cured at room temperature (20^{o}C) with a working life of 60 minutes. The mixed cement takes 3-4 hours to set and 24 hours harden, although it takes several days to achieve complete cure. It may also be used to cement metal or ceramic parts to plastic scintillators or PMMA light guides.

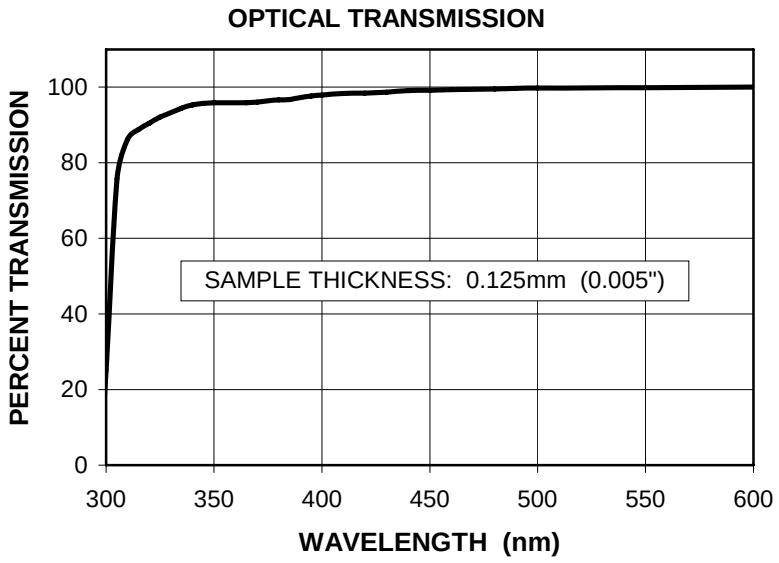
Application

Thoroughly mix 4 parts by weight resin to one part by weight of hardener (3 parts to 1 part by volume). Allow air bubbles to rise before applying by setting aside for 15-20 minutes. Apply to both surfaces to be joined. The adjacent surfaces may be protected with tape. Best results are achieved with a thin epoxy joint typically 0.005" (0.125 mm) thick or less. For bonding plastic scintillators and/or light guides, the surfaces to be joined should by lightly sanded with a 400 grit silicon carbide paper, cleaned with methanol or isopropanol, and dried.

Typical Properties

Mixed viscosity	800 cps	Specific Gravity, cured	1.17
Bond Strength	1800 psi	Service Temperature	-65 to +105^{o}C
Dielectric Strength	420 volts/mil	Volume Resistivity, 25^{o}C	10^{14} ohm-cm

Coefficient of Thermal Expansion:	7.2 x 10^{-5}/^{o}C
NASA Outgassing Properties:	1.69% mass loss
	0.04% condensed volatiles



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