An ISO 9001 Registered Company

Technical Datasheet
OPTOCAST 3410

OPTOCAST 3410 is an ultraviolet light and/or heat curable epoxy suitable for opto-electronic assembly. It cures rapidly when exposed to U.V. light in the 320-380nm range to a tough material with excellent adhesion to glass and metals.

Key Features Include:

♦ ULTRA-Low Shrinkage	♦ Low CTE
♦ Halogen Free	♦ Low Outgassing

See below for other viscosity variations of 3410 and versions suitable for use with LED and visible wavelengths.

Properties Uncured

Color:	White or Grey
Viscosity:	90,000-140,000 cps (RVT #7/2.5)
Filler:	76% Silica
Shelf Life when stored at 0°C or less:	6 months
Pot Life @ 20-25°C:	24 hours total in use @20-25°C
Specific Gravity:	1.85

*Pot Life times are mass dependent. EMIUV makes no guarantee of accuracy. Your results may vary.

Properties Cured

Color:	White or Amber	**Hardness:**	Rex 92D minimum
CTE:	14 ppm/°C	**Tensile Strength:**	6800 psi
Tg:	150°C	**Young's Modulus:**	470,000 psi
Linear Shrinkage:	<0.07%	**Elongation:**	1.2%
Thermal Conductivity:	0.7 W/mK	**Lap Shear (Al to Al):**	1500 psi
Dielectric Strength:	450 V/mil	**Volume Resistivity:**	10^{15} Ωcm
Moisture Absorption:	Less than 1.4% (2500 hrs 85/85)		

Cure Profile

OPTOCAST 3410 is cured by UV, UV and heat, or heat alone. Cure wavelengths from 320-380 nm.

♦Minimum UV intensities are 1500 mW/cm2 using a spot cure or 40 mW/cm2 using a flood lamp.
♦Minimum exposure times can be from 5 to 60 seconds or more.
♦Minimum heat cure temperature is 110°C; maximum heat cure temperature is 150°C.
♦Minimum heat cure times can be from 10 minutes to 1 hour.
♦Always wear proper eye protection when working with UV light.
♦ Contact EMIUV for more detailed curing information.

Handling and Storage

OPTOCAST 3410 is shipped and stored frozen for maximum shelf life.

♦Shelf life is 6 months at 0°C or less.
♦ Place the material in the freezer as soon as it is received.
♦Once thawed, the material should not be used for more than 24 hours total at 20-25°C.
♦ Do not thaw and refreeze more than 5 times.
♦Avoid prolonged exposure to elevated temperatures before curing.
♦Store in a cool dark area and avoid prolonged exposure to light during long term storage.

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Other viscosities and versions available:

OPTOCAST 3410-40K	40,000 cps
OPTOCAST 3410-150K	110,000-150,000 cps (RVT #7/10)
OPTOCAST 3410-200K	200,000 cps
OPTOCAST 3410-300K	300,000 cps
OPTOCAST 3410-XTP, 3410-XTP-200K, 3410-XTP-300K	Suggested for use with a 365 nm LED
OPTOCAST 3410-VM	Suggested for use with visible light cure systems.

Shipping and Unpacking Procedure

This material is shipped on Dry Ice and MUST BE PLACED IN THE FREEZER UPON RECEIPT. The material must be kept frozen until use.

♦ It is critical that the shipping container is not opened in transit and is expedited to its final destination.
♦ DO NOT ALLOW THE SHIPMENT TO BE LEFT ON LOADING DOCKS, IN CUSTOMS WAREHOUSES, OR ON FREIGHT TRUCKS FOR EXTENDED TIME PERIODS.
♦ Maintaining temperature at 0°C or less upon receipt is critical to maintain the functionality and performance of the material.
♦ Failure to maintain these temperatures will void any warranties and will adversely affect the materials performance.
♦ Upon receipt, the syringes should be transferred from the shipping container to a freezer at 0°C or less.
♦ Care must be taken during this step as a sudden increase in temperature can cause irreversible air voids due to the thermal expansion of the syringe barrels.

Storage and Thawing

Prior to application, the material must be allowed to thaw naturally to room temperature (ideally 20-25°C) by placing the syringes in a vertical position with dispense tip facing downward. This is a critical step for obtaining optimum dispensing performance.

Thaw times at 20-25°C for all frozen product:

3cc	15-20 min
5cc	20-30 min
10cc	20-30 min
30cc	30-40 min

♦ Under no circumstance should artificial heat sources be used to increase thaw speed.
♦ Do not place the syringes in, or near, any heat source including ovens, hot plates, hot air guns, etc. to speed thawing.
♦ Do not attempt to dispense the material before it reaches ambient temperature.
♦ Wipe all excess moisture or condensation from the syringes prior to use.
♦ A small amount of air in the tip area is normal. Carefully remove the tip cap and manually extrude a small amount of material. This will displace any air that may be in the tip area.
♦ A small amount of air may accumulate at the rear of the syringe near the piston. This is also normal and this air can easily be removed by manually placing a light amount of pressure on the piston near the location of the visible air with the tip cap in place. This will force the air to by-pass the piston and exit the rear of the syringe. Mount the syringe onto the dispense equipment and purge material through the system until an unbroken flow of material is extruded.

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