

The EMCAST UV-4200 is a new type of material designed specifically for use in sealed disk drive assemblies as a coil bond-tacking adhesive. It contains no diphenylsulfide (DPS), organotin, or siloxane contaminants. It is a single component, room temperature stable epoxy that cures in 10-30 seconds when exposed to UV light wavelengths from 320-390 nm. UV-4200 is compatible with and designed to be used in conjunction with the other EMCAST 4200 Series thermal cure materials in coil bonding applications. Using UV-4200, a coil can be tacked into position quickly with UV energy, released from the fixturing and the bond line completed with either EMCAST 4201, 4202, or 4203 thermal cure epoxy. This process results in minimal fixture time and the completed bond line exhibits high modulus, high strength, and excellent thermal management properties.

### **Properties Uncured**

Color: Translucent  
Viscosity: 55,000 cps  
Pot Life @ 20-25°C: 3 weeks  
Shelf Life 5°C or less: 1 year  
Maximum Particle Size: 70 µm

### **Properties Cured**

Color: Translucent  
Tg: 140°C  
Hardness: 88 Rex D  
CTE: 69 ppm/°C

Other viscosities are available upon request.

### **Cure Profile**

EMCAST UV-4200 is cured by UV only.

- ◆ Minimum UV intensities are 1500 mW/cm<sup>2</sup> when using a spot cure system, 50 mW/cm<sup>2</sup> using a flood cure system.
- ◆ Heat, 65-150°C, after UV will help accelerate development of full properties.
- ◆ Always wear proper UV eye protection when using UV light.
- ◆ Always wear gloves and proper protective equipment when using epoxy adhesives.

### **Handling and Storage**

EMCAST UV-4200 is shipped at room temperature, but must be stored at 5°C or less to prolong shelf life.

- ◆ Shelf life at 5°C or less is 1 year.
- ◆ Pot life at 20-25°C is 3 weeks.

## **Shipping and Unpacking Procedure**

This material is packed and shipped at ambient temperatures. It is a stable material but should be refrigerated at 5°C or less upon receipt.

- ◆ 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 5°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 5°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.

- ◆ 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.
- ◆ Thaw time varies by package style, size, and ambient temperature, but is typically 30 to 120 minutes.
- ◆ 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.

### **IMPORTANT NOTICE**

Good housekeeping rules are always important. Provide ample ventilation in all areas of handling, and use. Avoid prolonged breathing of possible fumes. Minimize skin contact. Use of goggles, rubber gloves, and protective creams is recommended. Always wash exposed areas immediately using warm water and soap followed by rinsing with clear water. If material comes in contact with eyes, flush with clear water for fifteen minutes and consult a physician immediately.

All data in this bulletin are based on our own research and the research of others. They are believed to be accurate. However, no guarantee of accuracy is made. Product description is sold without warranty except conformity to specification and on condition that the purchasers shall determine suitability for their particular purpose.