

EMCAST 4252 is a one component Heat Cure Potting Epoxy suitable for all electronic applications.

Key Features Include:

- ◆ Flowable viscosity
- ◆ Adhesion to a variety of substrates
- ◆ Excellent High Temperature Stability
- ◆ Good Strength Retention above Tg

Uncured Properties:

Viscosity:	100, 000 cps and paste versions
Color:	Off White
Specific Gravity:	1.19
Storage Conditions:	0°C or less upon receipt
Pot Life:	2 months at 20-25°C
Shelf Life:	1 year at 0°C or less
Use Temperature:	20-25°C

Cured Properties:

Color:	Light Tan
Hardness:	Rex 86D
Tg:	135°C
Adhesion Strength: Stainless to Stainless	25°C-- 6300 psi 100°C-- 4400 psi 120°C-- 3500 psi
Al to Al	25°C-- 4300 psi
CTE:	60 ppm

Cure Profile:

EMCAST 4252 can be cured with heat alone.

- ◆ Minimum heat cure temperature is 120°C. Maximum heat cure temperature recommended is 150°C. Heat cure times start from 1 hour to 20 minutes. Heat cure times depend upon the thermal conductivity of the substrate.
- ◆ Always wear proper eye and skin protection when working with heat cure chemicals.
- ◆ **CAUTION:** NEVER cure this material in large mass. Hazardous polymerization may occur when curing more than 25g.

Handling and Storage:

EMCAST 4252 can be shipped at ambient temperatures, but should be stored frozen to prolong shelf life.

- ◆ Pot Life at 20-25°C is 2 months.
- ◆ Shelf Life at 0°C or less is 1 year.

Shipping and Unpacking Procedure

This material is packed and shipped in dry ice at -75°C to protect it and maintain a frozen state during shipment. The engineered system of an insulated container, packing material, and dry ice has been designed to protect the material for up to 6 days in transit (international) and up to 48 hours in transit (domestic).

- ◆ 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 $20\text{-}25^{\circ}\text{C}$) 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

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

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.