



Creative Materials, Inc.  
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122-39(SD)

SYRINGE DISPENSABLE THERMALLY CONDUCTIVE EPOXY DIE ATTACH ADHESIVE

**DESCRIPTION:** 122-39(SD) is a syringe dispensable, thermally conductive, electrically insulating, one component, 100% solids epoxy adhesive. This system features excellent thermal stability, outstanding chemical resistance and excellent high temperature properties. Applications include adhesion to gold plated substrates and tin/lead solder terminated components, die attach and thermal management operations, printed circuit board fabrication, advanced material composites, sealing and high performance coatings. 122-39(SD) is a thermally conductive version of 122-38(SD).

**PROPERTIES:**

Viscosity (cps)	40,000
Thixotropic Index	> 2.5
Filler	Aluminum Nitride
Percent Filler	60
Volume Resistivity, max. (Ω-cm)	1 X 10 <sup>16</sup>
Thermal Conductivity (W/mK)	3.5
Dielectric Constant (1KHz)	4.1
Dielectric Constant (1MHz)	3.9
Dissipation Factor (1KHz)	0.027
Dissipation Factor (1MHz)	0.038
Useful Temperature Range (°C)	-55 to +250
Thermal Stability (°C)	Good to +300
Die Shear Strength (psi)	> 2,200 (0.09" x 0.16" die)
Lap Shear Strength (psi)	> 2,200
Glass Transition Temperature, Tg (°C)	91
Coef. Of Therm. Exp. Below Tg (ppm/°C)	75
Coef. Of Therm. Exp. Above Tg (ppm/°C)	233

**IONIC CONTENT**

Chloride	<10 ppm.
Sodium	<10 ppm.
Potassium	<10 ppm.

(Typical properties are not intended to be used as specification limits.)

**SUGGESTED HANDLING AND CURING:** Material is ready to use as received. Store frozen to maintain consistent flow properties. Allow material to warm up to room temperature before opening container. Prior to using, mix container well to re-suspend filler if packaged in containers. Cure for 60 minutes at 150°C, or for 30 minutes at 175°C.

**STORAGE:** Shelf Life: < 4 days at 25°C; or 6 months at -10°C; or 12 months at -40°C.

**SAFETY AND HANDLING:** Use with adequate ventilation. Keep away from sparks and open flames. Avoid prolonged contact with skin and breathing of vapors. Wash with soap and water to remove from skin.

All technical information is based on data obtained by CMI personnel and is believed to be reliable. No warranty is either expressed or implied with respect to results or possible infringements on patents.

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ISO 9001 CERTIFIED

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## Guidelines for Handling of Syringes

### **STORAGE:**

- Upon receipt of shipment, syringes should be unpacked immediately and stored in freezer at -10° C. Do not store syringes in deep freeze (-40°C).
- Do not handle syringes from the body of the packaging. Handle from the ends of the packaging.
- Store syringes vertically (upright) with tip side down. Do not store syringes horizontally (sideways). Syringes should be stored in this manner until needed for production. Shelf life of syringes will be indicated on the products technical data sheet.
- Syringes are labeled with product number, lot number, and manufacturing date. It is important that the syringes are used according to earliest manufacturing date, "FIFO" (first in, first out).

### **PREPARING SYRINGES FOR USE:**

- To thaw syringes, remove them from the freezer taking care not to handle the body of the syringe (handle from the top and/or the tip) and allow them to acclimate to ambient temperature with the tip down.
- Do not use hands to warm syringe.
- The thawing time for each syringe will vary based on mass and composition but a minimum of 45 minutes for 3cc, 5cc, and 10cc and a minimum of 90 minutes for 30cc syringes should be observed.
- Using a heat source to thaw syringes is not advised.
- Proximity to a heat source during thawing should be greater than 3 feet.
- Although most materials can be refrozen minimizing freeze-thaw cycles is recommended.
- Once material is fully thawed remove protective wrapping.

### **SYRINGE INFORMATION:**

- Creative Materials syringes have luer-lock fittings and are compatible with most types of dispensing equipment.
- Creative Materials syringe are provided packaged with smooth flow piston technology design for use on automated or manual dispense equipment but are not hand plunger equipped.
- Creative Materials routinely provides syringes in volumes of 3cc, 5cc, 10cc, and 30cc. Other sizes may be available upon request.
- Other information regarding syringes can be obtained by sending an email to [info@creativematerials.com](mailto:info@creativematerials.com).

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