EPOXIES
INNOVATIVE BONDING SOLUTIONS ETC.

TECHNICAL BULLETIN

# 20-2125
# ELASTOMERIC POTTING & ENCAPSULATING COMPOUND

## DESCRIPTION:

20-2125 is formulated for electronic potting, encapsulating and casting applications. The 20-2125 is a two-component, low viscosity, room temperature curing system. This is an easy-to-use product that does not contain TDI, MbOCA or Mercury. 20-2125 will cushion and protect sensitive electronic components. It will impart very little stress on components during cure or thermal cycling.

A unique feature of this product is the ability to modify the hardness by simply changing the mix ratio of Polyol and Isocyanate. **A hardness range of Shore A 20 to 80 is possible with the 20-2125.**

The base Natural Oil Polyol (NOP) used in 20-2125 is obtained directly from a plant source without chemical modifications. Due to the raw materials selected, this product is low in toxicity and considered a ***GREEN*** potting compound. Using renewable resources such as NOPs will reduce the demand on non-renewable fossil fuels and reduce the overall production of carbon dioxide.

| FEATURES: | BENEFITS: |
|---|---|
| • Low Toxicity | Reduce employee exposure to dangerous chemicals |
| • Adjustable Hardness | Durometer can be modified for different applications |
| • ***Green*** | Reduce demand on non-renewable fossil fuels |
| • Low Viscosity | Quick self-leveling around components |
| • Low Durometer | Low stress on components & vibration resistant |
| • Moisture Resistant | Can be used in wet environments |
| • Low Shrinkage & Exotherm | Will not damage components during cure |

## TYPICAL PROPERTIES:

| | |
|---|---|
| Viscosity, 25°C, cps | |
| Polyol | 800 |
| Isocyanate | 3,000 |
| Color | Clear/Amber or Black |
| Specific gravity, 25°C | |
| Polyol | 0.96 |
| Isocyanate | 1.15 |
| Operating Temperature Range, °C | -30 to +125 |
| Thermal conductivity, W/m-K | 0.3 |

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| **Mix Ratio by weight (Polyol:Iso)**<br>**Mix Ratio by volume (Polyol:Iso)** | **240:100**<br>**285:100** | **220:100**<br>**260:100** | **185:100**<br>**220:100** | **150:100**<br>**180:100** |
|---|---|---|---|---|
| Hardness, Shore A | 25 | 35 | 55 | 80 |
| Pot life, Minutes | | | | |
| 25°C | 35 | 30 | 25 | 20 |
| 60°C | 8 | 8 | 8 | 8 |
| Elongation, % | 295 | 230 | 225 | 250 |
| Tensile strength, psi | 155 | 170 | 530 | 1750 |
| Tear strength, ASTM 624 C pli | 15.0 | 18.0 | 38.0 | 89.0 |
| Split tear, ASTM 1938 pli | 5.0 | 6.0 | 12.0 | 34.0 |
| Linear shrinkage, in./in. | 0.012 | 0.013 | 0.014 | 0.014 |
| Dielectric strength, V/mil | 493 | 512 | 506 | 500 |
| Volume resistivity, ohm-cm | $9.5 \times 10^{10}$ | $1.4 \times 10^{11}$ | $2.8 \times 10^{11}$ | $4.1 \times 10^{11}$ |
| Surface resistivity, 25°C, ohm | $2.8 \times 10^{12}$ | $5.9 \times 10^{12}$ | $5.6 \times 10^{12}$ | $2.4 \times 10^{13}$ |
| Dielectric constant, 1 kHz | 5.8 | 5.8 | 5.8 | 5.5 |
| Dissipation factor, 1 kHz | 0.055 | 0.072 | 0.098 | 0.072 |

## INSTRUCTIONS FOR USE:

1. By weight, thoroughly mix according to one of the mix ratio schedules provided in the above table. Two components should be carefully weighed in metal, plastic or glass containers. Avoid using paper cups and wooden stirrers.
2. Mixed material can be degassed at 29 in Hg to ensure bubble free castings. Containers should be large enough to allow frothing.
3. Cure according to one of the following cure schedules:
   a) 25°C 24 Hours
   b) 45°C 2.5 Hours
   c) 65°C 1.5 Hours
   d) 85°C 40 Minutes

Final cured hardness will take 5-7 days at room temperature.

## STORAGE & HANDLING & SAFETY:

Store both components at 75-85°F in original containers. If the containers are opened and the contents partially used, the material left in the container should be blanketed with dry nitrogen before sealing.

Please read the Safety Data Sheet before using this or any other chemical.

## AVAILABILITY:

These products are available in quarts, gallons, 5-gallon pails and 55-gallon drums.

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## IMPORTANT:

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