

# UNFILLED LOW DUROMETER URETHANE ELASTOMERS

|                |                   |
|----------------|-------------------|
| <b>20-2330</b> | <b>Shore A 30</b> |
| <b>20-2345</b> | <b>Shore A 45</b> |
| <b>20-2370</b> | <b>Shore A 70</b> |
| <b>20-2390</b> | <b>Shore A 90</b> |

## DESCRIPTION:

This two component urethane series are low durometer (30-90 Shore A), potting, casting, and encapsulating compounds. They are unfilled materials engineered to provide excellent hydrolytic stability and low moisture permeability. They have outstanding thermal cycling properties, low glass transition temperatures and low embedment stress to sensitive electronic components.

These unique urethane formulations maintain their integrity over a wide operating temperature range. The low glass transition temperature of approximately -70°C makes these urethanes ideal for low temperature potting applications. These systems exhibit very little hardness increase when cooled to -72°C.

## FEATURES

- Maintains flexibility at low temperatures
- Thermal cycling stability
- Excellent electrical insulation
- Chemical resistance
- Low stress on sensitive components
- Hydrolytic stability

## TYPICAL SPECIFICATIONS:

|  | <b>20-2330</b>        | <b>20-2345</b>        | <b>20-2370</b>        | <b>20-2390</b>        |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| Standard color(Available Clear)          | Black                 | Black                 | Black                 | Black                 |
| Specific gravity @ 25°C Polyol           | .91                   | .90                   | .90                   | .90                   |
| Specific gravity @ 25°C Iso              | 1.13                  | 1.17                  | 1.2                   | 1.2                   |
| Mix Ratio, by weight (P:I)               | 100:15                | 100:15                | 100:25                | 100:40                |
| Hardness, Shore A                        | 30                    | 45                    | 70                    | 90                    |
| Mixed viscosity, 25°C, cps               | 3,000                 | 5,000                 | 4,300                 | 3,200                 |
| Coefficient of thermal expansion, per °C | 2.28x10 <sup>-4</sup> | 2.28x10 <sup>-4</sup> | 2.28x10 <sup>-4</sup> | 2.28x10 <sup>-4</sup> |
| Tensile strength, psi                    | 113                   | 151                   | 825                   | 1,090                 |
| Elongation, %                            | 105                   | 120                   | 250                   | 262                   |
| Glass transition temperature, °C         | -70                   | -70                   | -70                   | -70                   |
| Pot life, 100 gram mass, 25°C            | 2.5 hrs.              | 2.5 hrs.              | 1 hr.                 | 40 min.               |
| Dielectric constant, 25°C, 1Khz          | 4.5                   | 4.5                   | 4.5                   | 4.5                   |
| Surface resistivity, 25°C, ohm           | 1x10 <sup>16</sup>    | 1x10 <sup>16</sup>    | 1x10 <sup>16</sup>    | 1x10 <sup>16</sup>    |
| Volume resistivity, ohm-cm               | 6x10 <sup>16</sup>    | 6x10 <sup>16</sup>    | 6x10 <sup>16</sup>    | 6x10 <sup>16</sup>    |
| Operating temperature range, °C          | -40 to 125            | -40 to 125            | -40 to 125            | -40 to 125            |

### **INSTRUCTIONS FOR USE:**

By weight, thoroughly mix according to mix ratio provided in above specifications. Two components should be carefully weighed in metal, plastic or glass containers. Avoid using paper cups and wooden stirrers.

Mixed material can be degassed at 1 to 5 mm Hg to ensure bubble free castings. Containers should be large enough to allow frothing.

Cure according to one of the following cure schedules:

|      |             |
|------|-------------|
| 25°C | 24-48 Hours |
| 45°C | 2.5 Hours   |
| 65°C | 1.5 Hours   |
| 85°C | 40 Minutes  |

### **STORAGE, HANDLING AND SAFETY:**

Store both components at 75-85°F in original containers. The shelf life when stored under these conditions is 12 months. If the containers are opened and the contents partially used, the material left in the container should be blanketed with dry nitrogen before sealing. Avoid exposing these products to moisture. They are moisture sensitive. Carefully read Material Safety Data Sheets before using.

### **IMPORTANT:**

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