EPOXIES
INNOVATIVE BONDING SOLUTIONS ETC.

TECHNICAL BULLETIN

UNFILLED LOW DUROMETER URETHANE ELASTOMERS

20-2330 Shore A 30
20-2345 Shore A 45
20-2370 Shore A 70
20-2390 Shore A 90

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.

20-2390 passes the Biocompatibility ISO 10993-5 Cytotoxicity Test. The independent lab test report is available upon request.

FEATURES

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

TYPICAL PROPERTIES:

	20-2330	20-2345	20-2370	20-2390
Mixed Viscosity, 25°C, cps	3,000	5,000	4,300	3,200
Color	Black	Black	Black	Black
Hardness, Shore A	30	45	70	90
Operating Temp. Range, °C	-72 to 125	-72 to 125	-72 to 125	-72 to 125
Pot life, 100 gram mass, 25°C	2.5 hrs.	2.5 hrs.	1 hr.	40 min.
Specific Gravity, 25°C				
Polyol	0.91	0.90	0.90	0.90
Iso	1.13	1.17	1.2	1.2
Tensile Strength, psi	113	151	825	1,090
Elongation, %	105	120	250	262

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	20-2330	20-2345	20-2370	20-2390
Dielectric Constant, 25°C, 1Khz	4.5	4.5	4.5	4.5
Surface Resistivity, 25°C, ohm	$1x10^{16}$	$1x10^{16}$	$1x10^{16}$	$1x10^{16}$
Volume Resistivity, ohm-cm	$6x10^{16}$	$6x10^{16}$	$6x10^{16}$	$6x10^{16}$
Coefficient of Thermal Expansion, /°C	$2.28x10^{-4}$	$2.28x10^{-4}$	$2.28x10^{-4}$	$2.28x10^{-4}$
Glass Transition Temperature, °C	-70	-70	-70	-70
Mix Ratio, by Weight (P:I)	100:15	100:15	100:25	100:40

INSTRUCTIONS FOR USE:

1. By weight, thoroughly mix Polyol:Iso according to mix ratio provided above. 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 1 to 5 mm 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 24-48 Hours
   b) 45 °C 2.5 Hours
   c) 65 °C 1.5 Hours
   d) 85 °C 40 Minutes

STORAGE, HANDLING AND SAFETY:

Store both components at 25 °C 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.

The expected shelf life is 12 months in original unopened containers.

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

AVAILABILITY:

This product is available in quarts, gallons, and 5-gallon pails.

IMPORTANT:

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