EPOXIES
INNOVATIVE BONDING SOLUTIONS ETC.

TECHNICAL BULLETIN

# 20-2523
# POLYURETHANE
# POTTING & ENCAPSULATING COMPOUND

## DESCRIPTION:

20-2523 is a high performance two component urethane system. This easy-to-use polyurethane is very low in viscosity and ideal for potting or encapsulating delicate electronic components. 20-2523 exhibits very low shrinkage, stress, and exotherm throughout the cure cycle. This system is also well known for its outstanding thermal shock and excellent dielectric properties.

20-2523 is ideal for potting applications where a wide operating temperature (-55 to +130°C) is required. It is also a good choice when exposure to salt water, mild acids and bases, and aliphatic hydrocarbons is expected.

## FEATURES:

- Does not contain MOCA or TDI
- Excellent dielectric properties
- Easy to handle
- Very good thermal shock and vibration resistance
- Low stress on components
- Low viscosity
- Low shrinkage
- Hydrolytic stability

## TYPICAL SPECIFICATIONS:

| | |
|---|---|
| Viscosity, 25 °C, cps | |
| Polyol | 6,000 |
| Isocyanate | 200 |
| Mixed | 2,950 |
| Color | Black |
| Hardness, Shore D | 50 |
| Mix Ratio | |
| By Weight (Polyol:Isocyanate) | 100:20 |
| By Volume (Polyol:Isocyanate) | 100:23 |
| Operating Temp. Range, °C | -55 to +130 |
| Pot Life, 1 lb, 25 °C | 75 Minutes |
| Specific Gravity, 25°C | |
| Polyol | 1.46 |
| Isocyanate | 1.23 |
| Mix | 1.44 |
| Tensile Strength, psi | 1,600 |
| Elongation, % | 50 |
| Linear Shrinkage, % | 0.59 |

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| | |
|---|---|
| Thermal Shock 10 cycles<br>$^{-}$65°C to $^{+}$130°C | Pass |
| Coefficient of Thermal Expansion, /°C | 160 |
| | |
| Water absorption, % | |
| 24 hours | 0.15 |
| 7 days | 0.44 |
| Dielectric Strength, V/mil | 630 |
| Dielectric Constant, 100 Hz | 4.7 |
| Dissipation Factor, 100 Hz | 0.09 |
| Volume Resistivity, ohm-cm | $3.4 \times 10^{13}$ |
| Surface Resistivity, ohms | $1.5 \times 10^{13}$ |

Note: When cured at room temperature full hardness and final properties are achieved in 7-10 days.

## INSTRUCTIONS FOR USE:

1. By weight, thoroughly mix 20 parts Isocyanate to 100 parts Polyol. Two components should be carefully weighed in metal, plastic or glass containers. Avoid using paper cups and wooden stirrers.
2. Degas, pour, and cure according to one of the following recommended cure schedules:
   a) 25°C 24 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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