EPOXIES
INNOVATIVE BONDING SOLUTIONS ETC.

TECHNICAL BULLETIN

20-3652
POTTING AND ENCAPSULATING EPOXY

DESCRIPTION:

20-3652 is a filled epoxy casting, potting, and encapsulating resin system. This system exhibits excellent physical, thermal, and electrical insulation properties. 20-3652 is easily machined and exhibits outstanding adhesion to metals, ceramics and plastics. When cured with Catalyst 190, it meets NASA's outgassing requirements.

TYPICAL PROPERTIES:

Viscosity, 25 °C cps, Resin	220,000
Mixed with Cat. 190	35,000
Mixed with Cat. 150	1,800
Mixed with Cat. 30	22,00
Color	Black or White
Hardness, Shore D	88
Operating Temp. Range, °C	-65 to +160
Specific Gravity, 25°C	1.55
Compressive Strength, psi	16,000
Cure Shrinkage, in/in	0.0015
Flexural Strength, psi	15,000
Tensile Strength, psi	9,000
Dielectric Strength, V/mil	450
Dielectric Constant, 60 Hz	4.8
Dissipation Factor, 60 Hz	0.02
Volume Resistivity, ohm-cm	5×10^{16}
Thermal Conductivity, W/m·°K	0.66
Coefficient of Thermal Expansion, ppm/°C	40
Water Absorption, 24 hrs, %	0.10
Outgassing (with Cat.190)	
%TML	0.46
% CVCM	0
% WVR	0.11

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INSTRUCTIONS FOR USE:

A. Catalyst 190 passes NASA outgassing and has a 1-hour pot life:
   1. By weight, thoroughly mix 6-7 parts Catalyst 190 to 100 parts 20-3652 resin.
   2. Degas, pour, and cure according to one of the following recommended cure schedules:
      a) 25 °C 16-24 hours
      b) 45 °C 4-6 hours
      c) 65 °C 1-2 hours

B. Catalyst 150 is low in viscosity and has a long pot life. It is excellent for thermal shock, impact resistance and low temperature properties.
   1. By weight, thoroughly mix 20 parts Catalyst 150 to 100 parts 20-3652 resin.
   2. Pour and cure at room temperature overnight or for 2 hours at 66 °C.

C. Catalyst 30 is recommended for higher operating temperature and physical property applications. It is designed for applications requiring the optimum electrical insulation, physical, and thermal properties up to 165 °C.
   1. By weight, thoroughly mix 13 parts Catalyst 30 to 100 parts 20-3652 resin.
   2. Pour and cure according to one of the following recommended cure schedules:
      a) 85°C 3-4 hours
      b) 100°C 2-3 hours

   For optimum performance, an additional 2 hours at 185 °C is recommended.

STORAGE, HANDLING AND SAFETY:

Store both components at 25 °C. 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 and gallons.

IMPORTANT:

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