EPOXIES
INNOVATIVE BONDING SOLUTIONS ETC.

TECHNICAL BULLETIN

20-3035
LOW DENSITY EPOXY POTTING COMPOUND

DESCRIPTION:

20-3035 is a low density, two component epoxy potting and encapsulating system.
The 20-3035 is less than half the weight of most commercially available potting compounds.

20-3035 exhibits very low shrinkage during the cure cycle and has a low coefficient of thermal expansion. This unique epoxy system is an ideal material for the potting of electronic assemblies where a low dielectric constant and low weight are required.

This epoxy syntactic foam system utilizes an advanced micro balloon technology filler. The 20-3035 provides high strength and stiffness, thermal and environmental stability, creep resistance, and water resistance.

In addition to the standard bulk packaging, 20-3035 can be supplied in the ready-to-use FreezeBond® premixed and frozen syringes for elimination of waste and consistent quality.

FEATURES:

- Low Dielectric Constant
- Low Coefficient of Thermal Expansion
- Low Shrinkage
- Low Density
- Excellent Moisture Resistance

TYPICAL SPECIFICATIONS:

Viscosity, 25°C, cps	
Resin	45,000
Mixed Cat.190	25,000
Mixed Cat.30	15,000
Mixed Cat.140	5,000
Mix Ratio, by weight, (Resin:Catalyst)	
Cat.190	100:11
Cat.30	100:21
Cat.140	100:23
Color	Black
Hardness, Shore D	
Cat.190	80
Cat. 30	82
Cat.140	78
Operating Temperature Range, °C	
Cat.190	-40 to +130
Cat. 30	-55 to +155
Cat.140	-65 to +105
Pot Life, 100 Gram, 25°C	
Cat.190	45 minutes
Cat.30	4 hours
Cat.140	30 minutes

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Specific Gravity, 25°C	
Cat.190	0.82
Cat.30	0.83
Cat.140	0.84
Flexural Strength, psi	
Cat.190	7,000
Cat.30	6,800
Cat.140	5,000
Compressive Strength, psi	
Cat.190	12,000
Cat.30	12,000
Cat.140	10,000
Tensile Strength, psi	
Cat.190	3,000
Cat.30	4,800
Cat.140	4,300
Linear Shrinkage, in/in	0.001
Water Absorption, % (24hr.)	
Cat.190	0.13
Cat.30	0.05
Cat.140	0.40
Coefficient of Thermal Expansion, °C	
Cat.190	$43x10^{-6}$
Cat.30	$40x10^{-6}$
Cat.140	$43x10^{-6}$
Thermal Conductivity, W/m-K	0.19
Dielectric strength, V/mil	375
Dissipation Factor, 1 MHz	0.05
Volume Resistivity, ohm-cm, 25°C	$>10^{13}$
Dielectric constant, 1 MHz	
Cat.190	2.70
Cat.30	2.73
Cat.140	2.9

INSTRUCTIONS FOR USE:

Since some separation of fillers is common during shipping and storage, we recommend that 20-3035 be mixed prior to use.

ROOM TEMPERATURE CURING CATALYST 190:

1) By weight thoroughly mix 11 parts Catalyst 190 to 100 parts 20-3035 Resin.
2) Slight warming (40°C) of the resin prior to mixing will improve pourability and air release.
3) Pour and cure according to one of the following cure schedules:

a) 25°C	16-24 Hours
b) 45°C	4-6 Hours
c) 65°C	1-2 Hours

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ROOM TEMPERATURE CURING CATALYST 140:

1) By weight thoroughly mix 23 parts Catalyst 140 to 100 parts 20-3035 Resin.
2) Slight warming (40°C) of the resin prior to mixing will improve pourability and air release.
3) Pour and cure according to one of the following cure schedules:

a)	25°C	16-24 Hours
b)	45°C	4-6 Hours
c)	65°C	1-2 Hours

HEAT CURING CATALYST 30:

(Recommended for higher operating temperature and physical property applications):

1) By weight thoroughly mix 21 parts Catalyst 30 to 100 parts 20-3035 Resin.
2) Slight warming (40°C) of the resin prior to mixing will improve pourability and air release.
3) 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 @ 365°F (185°C) is recommended.

STORAGE, HANDLING & SAFETY:

Store both components at 25 °C in original containers. The expected shelf life is 12 months in original containers.

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

AVAILABILITY:

20-3035 is available in quarts, gallon and 5-gallon containers.

IMPORTANT:

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