EPOXIES
INNOVATIVE BONDING SOLUTIONS ETC.

TECHNICAL BULLETIN

10-3001
THIXOTROPIC NON-SAG EPOXY ADHESIVE

DESCRIPTION:

10-3001 is a new high bond strength epoxy adhesive formulated for ease in handling and convenience for the end user. This system has a non-critical mix ratio and adjustable flexibility. 10-3001 is also very safe to use due to the absence of harmful solvents and toxic chemicals in the formulation. This is a non-sag, thixotropic paste formulation that will not run and can be used on vertical surfaces.

10-3001 yields high peel strength, excellent tensile strength, along with outstanding thermal shock, impact and vibration resistance. This high performance epoxide adhesive also exhibits outstanding physical, thermal, and electrical insulation properties.

10-3001 is available in medium viscosity (10-3003) and low viscosity (10-3004).

FEATURES:

Non-critical mix ratio
Ability to adjust flexibility of bond line
Outstanding thermal shock resistance
Excellent chemical resistance
Very good operating temperature range
Non-sag paste

TYPICAL SPECIFICATIONS:

PHYSICAL

Viscosity	Paste
Color	Tan
Pot Life, 100 gram mass @ 25^{o}C	30-45 minutes
Specific Gravity, 25^{o}C/25^{o}C	1.24
Tensile Strength, psi	3.0×10^{4}
Flexural Strength, psi	5.1×10^{4}
Expansion Coefficient, 1^{o}C	4.7×10^{-5}
Izod Impact, Ft-Lb/In	4.0
Viscosity at 25^{o}C:	Paste

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THERMAL

Thermal Conductivity, BTU/hr/ft2/oF/in.	3.0
Thermal Shock, MIL I 16923	PASSES

ELECTRICAL

Dielectric Strength V/Mil	550
Volume Resistivity, OHM-CM	1.1×10^{15}
Dielectric Constant 10^3 cycles	3.11
Dissipation Factor 10^3 cycles	0.02

BOND STRENGTH

Steel to Steel	3,000 psi
Aluminum to Aluminum	3,300 psi
Copper to Copper	1,500 psi
Glass to Glass	**
Nylon to Nylon	1,200 psi
PVC to PVC	750 psi
Natural Rubber to Natural Rubber	**
Brass to Brass	2,600 psi
Natural Rubber to Aluminum	**
Teflon* to Aluminum	1,850 psi

**Substrate fails before bond failure
*Teflon-Registered Trademark of E.I. Dupont

MIX RATIO:

10-3001 adhesive offers adjustable mix ratios in order to obtain a rigid, semi-rigid, or flexible bond line.

RESIN/HARDENER:

1. Rigid formulation	100/50
2. Semi-rigid formulation	100/100
3. Flexible formulation	100/150

For the majority of bonding applications, formulation #2 is used.

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CURE SCHEDULE:

1. 24 hours at room temperature
2. 1/2 - 1 hour at 150-160^{o}F
3. 15-30 minutes at 200-220^{o}F

PREPARATION OF SURFACES:

Surfaces must be clean and grease free. Adhesion can be substantially increased by abrading the surfaces to be bonded with emery cloth, sand paper, carbide grinding tools, sand blasting, etc... A roughened, porous surface will produce the best results. Any oxidized metal films should be removed just prior to application of the epoxy adhesive mixture.

For clean up and messy spills, use one of our safety solvents, such as #5450.

IMPORTANT:

The information in this brochure is based on data obtained by our own research and is considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data, the results to be obtained from the use thereof, or that any such use will not infringe any patent. This information is furnished upon the condition that the person receiving it shall make his own tests to determine the suitability thereof for his particular purpose.

06/03

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