EPOXIES
INNOVATIVE BONDING SOLUTIONS ETC.

TECHNICAL BULLETIN

10-3004NC EPOXY ADHESIVE

DESCRIPTION:

10-3004NC is a 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. 10-3004NC is also very safe to use due to the absence of harmful solvents and toxic chemicals in the formulation. 10-3004NC is a lower viscosity version of 10-3003.

10-3004NC yields high peel strength and excellent tensile strength. It also has outstanding thermal shock, impact and vibration resistance and forms excellent bonds to most substrates. This high-performance epoxy adhesive exhibits outstanding physical, thermal, and electrical insulation properties.

TYPICAL PROPERTIES: (1:1 Ratio)

Viscosity, cps, 25 °C	
10-3004RNC Resin	1,000
10-3004CTR Catalyst	15,000
10-3004NC Mixed	5,400
Color	Clear
Operating Temperature Range, °C	-50 to +125
Pot Life, 100-gram mass, 25 °C	30-45 minutes
Specific Gravity, 25°C	
Resin	1.16
Catalyst	0.97
Flexural Strength, psi	51,000
Izod Impact, ft-lb/in	4.0
Tensile Strength, psi	30,000
Coefficient of Thermal Expansion, ppm/°C	47
Thermal Conductivity, W/m·°K	0.43
Thermal Shock, MIL I 16923	Passes
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

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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 RESIN/HARDENER:

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

For most bonding applications, formulation #2 is used.

INSTRUCTIONS FOR USE:

1. By weight mix according to one of the ratios above for desired rigidity.
2. Degas, pour, and cure according to one of the following cure schedules:
   - a) 25 °C 24 hours
   - b) 65 °C 60 minutes
   - c) 105 °C 20 minutes

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, sandpaper, carbide grinding tools, and sand blasting. 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.

STORAGE & HANDLING:

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

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

AVAILABILITY:

These products are available in the convenient TriggerBond® dual barrel cartridges (50ml, 200ml & 400ml) and in quarts and gallons.

IMPORTANT:

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