

# 70-3814

## FAST CURING ALUMINUM FILLED EPOXY ADHESIVE

### DESCRIPTION:

70-3814 is a two component fast curing aluminum filled thermally conductive epoxy adhesive. This product was specifically formulated for use in the convenient TriggerBond® dual barrel cartridge system.

70-3814 has a simple 1:1 mix ratio and develops a Lap Shear Strength of over 1,000 psi in four hours at room temperature. After just twenty four hours the strength is 2,900 psi.

70-3814 offers fast heat dissipation for a wide range of assembly applications. The quick heat dissipation makes this a popular choice for many heat sink bonding applications.

### FEATURES:

- Fast room temperature cure
- Thermally conductive
- Packaged in TriggerBond® system
- Forms strong bonds to a variety of substrates
- Aluminum filled
- Vibration and impact resistant

### TYPICAL PROPERTIES:

Color	
Resin	Gray
Hardener	Gray
Viscosity, @25°C, cps	
Resin	97,000
Hardener	88,000
Specific Gravity, @25°C	
Resin	1.62
Hardener	1.61
Gel Time, 25°C, 15 grams	15 minutes
Durometer, Shore D	
@25°C	83
@70°C	51
Lapshear Strength (Al to Al acid etched), psi	
After 4 hours	1,057
After 24 hours	2,918



Thermal Conductivity, W/m- °K	1.80
Coefficient of Thermal Expansion, ppm/°C	
Below Tg	45
Above Tg	175
Operating Temperature, °C	-40 to +120

**NOTES:**

- 1) At room temperature, 70-3814 will reach handle cure within 1-2 hours. The lap shear strength is 1,057 psi after 4 hours.
- 2) This product is an adhesive and is not designed for potting and encapsulating applications. 70-3814 is a fast reacting epoxy system and it will create a high exothermic temperature in large mass sizes (avoid mass sizes greater than 25 grams).

**INSTRUCTIONS FOR USE:**

- 1) Surfaces must be clean and grease free. Use an oil free solvent such as acetone to wipe surfaces. 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.
- 2) Dispense material from TriggerBond® cartridge. See TriggerBond® instruction sheet for specific guidance.
- 3) Apply mixed product to substrate to be bonded.
- 4) Join substrates within 3-5 minutes.
- 5) Cure according to one of the following schedules:  
    25°C 2-4 hours  
    65°C < 10 minutes

**STORAGE, HANDLING AND AVAILABILITY:**

70-3814 is available in the 1:1 TriggerBond® systems: 50mL, 200mL, and 400mL dual barrel cartridges. Expected shelf life is 12 months. Store in a cool, dry place in original containers.

Please read and understand the Safety Data Sheet (SDS) before using this product.

**IMPORTANT:**

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