

50-3141FR FAST CURING FLAME RETARDANT THERMALLY CONDUCTIVE EPOXY ADHESIVE

DESCRIPTION:

50-3141FR is a toughened, two-component, fast curing thermally conductive epoxy adhesive that meets UL94 V-0 flame retardant requirements. This product was specifically formulated for use in the convenient TriggerBond® dual barrel cartridge system.

50-3141FR has a 2:1 mix ratio and develops a 2,000 psi Lap Shear strength (aluminum to aluminum) in four hours at room temperature.

50-3141FR provides a unique combination of high lap shear strength, high peel resistance and impact endurance. Once fully cured, the epoxy adhesive is also resistant to a wide range of chemicals and solvents. The adhesive also offers higher heat performance than most fast setting epoxies.

50-3141FR offers fast heat dissipation for a wide range of electronic applications. The black resin and off-white hardener provide an excellent visual indication of a complete mix.

FEATURES:

- Fast room temperature cure
- Low Odor
- Thermally conductive
- Flame retardant
- Packaged in TriggerBond® system
- Forms strong bonds to a variety of substrates
- Electrically insulating
- Vibration and impact resistant

TYPICAL PROPERTIES:

| | | |
|-------------------------|--|---------------|
| Color | | |
| Resin | | Black |
| Hardener | | Off-White |
| Mixed | | Black |
| Viscosity, @25°C, cps | | |
| Resin | | 250,000 |
| Hardener | | 150,000 |
| Mixed | | Paste |
| Specific Gravity, @25°C | | |
| Resin | | 1.55 |
| Hardener | | 1.50 |
| Gel Time, 25°C, 5 grams | | 15-18 minutes |

| | |
|-----------------------------------|------------------------|
| Set Time, 25°C, 5 grams | 22-25 minutes |
| Durometer, Shore D | |
| @25°C | 80 |
| @70°C | 60 |
| Lapshear Strength (Al to Al), psi | |
| After 24 hours | 2,300 |
| Thermal Conductivity, W/m- °K | 1.1 |
| Dielectric Strength, V/mil | 440 |
| Dielectric Constant, 25°C, 100Hz | 4.9 |
| Volume Resistivity, ohm-cm, 25°C | 3.1 x 10 ¹³ |
| Operating Temperature, °C | -50 to +135 |

NOTES:

- 1) At room temperature, 50-3141FR will reach a tack free cure within 45 minutes.
- 2) 50-3141FR 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:

50-3141FR is available in the 2:1 TriggerBond® systems: 50mL, 200mL, and 400mL dual barrel cartridges. Expected shelf life is 12 months at room temperature. Store in a cool, dry place in original containers.

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

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