



APTEK LABORATORIES, INC.

ISO 9001/AS9100 Certified

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TECHNICAL DATA & INFORMATION

APTEK® 6521-A/B

Space Grade, High Strength Epoxy ESD Coating/Adhesive

PRODUCT DESCRIPTION

APTEK 6521-A/B is a carbon-filled, thixotropic, two component, electrically conductive, high strength epoxy coating/adhesive designed to dissipate an electrostatic charge. This low-outgassing system provides high strength over a wide temperature range.

KEY FEATURES AND BENEFITS

- Capable of full cure at RT for application where heat cure is not desired or possible
- Exceeds NASA outgassing requirements for space applications
- Excellent strength properties from -55°C to 175°C
- Excellent reversion resistance for good physical stability under high heat and humidity environments
- Excellent substrate adhesion; superior to silicones
- Available in pre-measured kits to minimize handling
- For bond line control, uniform spacer beads can be incorporated into the adhesive, upon request. Various spacer bead sizes available – 0.0017" to 0.010".

HANDLING INFORMATION

Mix ratio, parts by weight: 100 (6521-A) / 28 (6521-B)

Work life, 100 gm mass, @ 25°C, 50% RH, mins: >60

Note:

1. Work life will be affected by temperature.
2. IMPORTANT! Heat buildup during or after mixing is normal. DO NOT mix quantities greater than 250 grams as dangerous heat buildup can occur causing the release of toxic fumes.

MIXING

Weigh 100 parts of APTEK 6521 Part A into a clean dry glass, metal, or plastic container and then add 28 parts of APTEK 6521 Part B. Machine mix on slow speed or hand stir with glass or metal stirrer until complete and thorough blending is achieved. Care should be taken to avoid any source of moisture contamination or air entrapment during mix.

Note: For best results and a bubble-free coating, vacuum mixture at less than 10 mm Hg for 2-3 minutes after "break".

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CURE SCHEDULE

5 days at 25°C
or
1 hour @ 85°C

TYPICAL PROPERTIES

(values not to be used for specification purposes)

<u>CHARACTERISTICS</u>	<u>6521-A</u>	<u>6521-B</u>	<u>TEST METHOD</u>
Color	Black	Amber	Visual
Specific gravity	1.18	0.98	ASTM D-1475
Viscosity @ 20°C, cps	thixotropic paste	90	ASTM D-1824
Shelf life, @ 25°C or below months in factory sealed containers	12	12	

Notes: Shelf life may be reduced if stored at temperatures above 25°C.

<u>CURED PHYSICAL PROPERTIES</u>	<u>6521-A/B</u>	<u>TEST METHOD</u>
Hardness, Shore D	85	ASTM D-2240
Lap Shear, primed Al to primed Al, psi	>4000	ASTM D-1002
*Outgassing @ 10 ⁻⁶ Torr		
TML, %	0.993	ASTM-E595
CVCM, %	0.004	ASTM-E595
WVR, %	0.405	

*NOTE: The outgassing test specimen was prepared in a bondline format between 2 pieces of Kapton film and cured for 7-10 days @ 25°C. This format was used to simulate its actual use as a structural adhesive where air is not a factor.

<u>CURED ELECTRICAL PROPERTIES</u>	<u>6521-A/B</u>	<u>TEST METHOD</u>
Electrical Resistance @ 25°C, Across bonded lap shear panels with 5 mil bondline at 10V bias, ohms	1.0 x 10 ⁴	QCP-013

SAFETY AND FIRST AID

APTEK 6521-A is Safe to handle when used properly. Avoid contact with skin and eyes and use in a well-ventilated area and avoid breathing vapors. In case of eye contact, flush with fresh clean water for at least 20 minutes. For skin contact, wash thoroughly with soap and water. If swallowed, do not induce vomiting, drink at least one pint of water and call a physician. Refer to Material Safety Data Sheet for more details.

APTEK 6521-B is an organic resin and is considered a slight irritant. However, may cause eye and skin irritation on prolonged and repeated exposure. Inhalation of vapors may be harmful in large amounts. Avoid skin and eye contact and use in a well-ventilated area. In case of eye contact or skin contact, flush profusely with water. If swallowed, do not induce vomiting, dilute with at least one pint of water and contact physician. Refer to Material Safety Data Sheet for more details.

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