



APTEK LABORATORIES, INC.

ISO 9001 / AS9100 Certified

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TECHNICAL DATA & INFORMATION

APTEK® 2216-A/B

- Low modulus hybrid urethane
- Low outgassing
- Cartridge/dispenser kits

PRODUCT DESCRIPTION

APTEK 2216-A/B is a two component, opaque, low modulus, thixotropic, hybrid urethane adhesive displaying flexibility and good physical strength properties.

APTEK 2216-A/B has been designed to fully cure at room temperature and can be accelerated with a brief low temperature cure. This 100% solids system has been manufactured with highly pure resins to minimize the occurrence of ionic contamination without outgassing during cure or service.

KEY FEATURES AND BENEFITS

- Packaged in convenient 4/1 PBV cartridge dispenser kits for easy handling; sold in 50ml and 200ml cartridges
- Very flexible/low modulus over wide temperature range to absorb stress build-up during thermal cycling
- Very good adhesion to various substrates -superior to silicones
- Smooth thixotropic paste with no sag up to 1/4" diameter beads on vertical surfaces

HANDLING INFORMATION

Mix ratio, parts by weight or parts by volume 4 (2216-A)/1 (2216-B)

Work Life, @ 25°C:

- | | |
|--|-----|
| 1. Extrudability from unattended cartridge, mins | 15* |
| 2. Trowability of extruded 5 gram mass, mins | 30 |

*Note: Work life of material can be greatly extended by periodically extruding fresh material from cartridge tip. In order to maintain extrudability from cartridge, at least 4 inches of material must be expunged every 15 minutes, otherwise the material at the end of the mix tip will gel and the mix tip will need to be replaced with a new one.

Handling Notes:

1. Urethane resins are moisture sensitive, therefore, blanket unused cartridges with argon or dry nitrogen prior to resealing.
2. Prior to application of adhesive, clean part(s) to be bonded with a lint free cloth and MEK or other suitable degreaser. Then wipe with isopropyl alcohol and allow to dry.

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MIXING

Dual cartridge/dispenser kits

- Hold cartridge firmly and upright.
- Unscrew protective cap counterclockwise and pull off protective seal exposing the adhesive ports. Insert base of mixing tube over the exposed adhesive ports by screwing firmly on.
- Hold ratchet gun with the plunger facing you. While pushing the red button with thumb, pull back black plunger fully, until it stops. Insert the cartridge into slot on top of gun. Pull trigger slowly until plunger seats into cartridge. Continue to apply pressure to trigger to dispense adhesive through the tube. Allow one inch of adhesive to extrude before applying to bonding surface. Cut back tip of tube to adjust bead size. To remove plunger from spent cartridge push red button and pull back black plunger fully; then cartridge can be removed from gun.

CURE SCHEDULE

5-7 days @ RT
or
RT gel + 2 hours @ 65°C*

* Between 4-16 hours @ 25°C, ≤ 45%RH is preferred for best results

TYPICAL PROPERTIES

(values not to be used for specification purposes)

<u>CHARACTERISTICS</u>	<u>2216-A</u>	<u>2216-B</u>	<u>TEST METHOD</u>
Color	Gray	Tan	Visual
Specific Gravity	1.24	1.26	ASTM D-1475
Viscosity @ 25°C,	thixotropic paste	thixotropic paste	Visual
Flash point, °C	>150°C	>150°C	ASTM D-92
Shelf Life @ 25°C in factory sealed containers, months	4	4	
<u>CURED PHYSICAL PROPERTIES</u> (16 hrs @ RT cure + 2 hrs @ 65°C)		<u>2216-A/B</u>	<u>TEST METHOD</u>
Hardness, Durometer A		65	ASTM-D-2240
Lap Shear Strength, 5 mil bondline thickness on aluminum panels, psi (scuffed/sanded with 60 grit, IPA wiped)		450	ASTM-D-1002
Cured Color – may become darker tan with age		gray/tan	Visual
<u>CURED ELECTRICAL PROPERTIES</u>		<u>2216-A/B</u>	<u>TEST METHOD</u>
Volume resistivity @25°C, ohm-cm		5 x 10 ¹⁵	ASTM D-257

SAFETY AND FIRST AID

APTEK 2216-A is an unfilled polyol resin that is safe to handle when used properly. It is judged to be low in toxicity and to be rated as a slight skin irritant. 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 15 minutes; for skin contact, wash thoroughly with soap and water. If swallowed, drink at least one pint of water and call physician. Refer to Material Safety Data Sheet for more details.

APTEK 2216-B is an organic isocyanate/urethane pre-polymer blend which may cause severe eye and skin irritation with direct contact. Inhalation of vapors may result in breathlessness, severe coughing, chest discomfort, and irritation of mucous membranes. Avoid skin and eye contact and use in well ventilated, hooded area. In case of eye contact, wash thoroughly with soap and water. If inhaled, move subject to fresh air and provide fresh water to drink. If swallowed, dilute with at least one pint of water and contact physician immediately. Refer to Material Safety Data Sheet for more details.

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