



APTEK LABORATORIES, INC.

ISO 9001 / AS9100 Certified

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TECHNICAL DATA & INFORMATION

APTEK®2118-A/B

- High abrasion resistance
- High Tear Strength
- Durometer 90A

PRODUCT DESCRIPTION

APTEK 2118-A/B is a two component, unfilled urethane system designed for potting, casting and tooling applications. This is a 100% solids, solvent free system that will not form voids during cure or service life.

APTEK 2118-A/B cured castings are extremely tough displaying high abrasion and tear resistance.

KEY FEATURES AND BENEFITS

- Wide operating temperature range (-65°C to 120°C) for versatility.
- Capable of curing at room temperature
- When cured, forms a tough, high abrasion and tear resistant polymer
- Contains no free TDI or MDI for safety

HANDLING INFORMATION

Mix ratio, parts by weight 100 (2118-A) / 15 (2118-B)

Work life, @ 25°C, 100 gm. mass, minutes 20

Handling notes:

- Use entire kit for each application if possible. Unused portion must be blanketed with dry nitrogen or argon and resealed to avoid moisture contamination. (Both parts A and B.)
- If part A is crystallized, place in air circulating oven at 50°C until completely melted.
- Store at 25-30°C

MIXING

Weigh 100 parts of APTEK 2118 Part A into clean dry glass, metal, or plastic container and then add 15 parts of APTEK 2118 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 void free bond line, vacuum mixture at less than 10 mm Hg for 5-10 mins.

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CURE SCHEDULE

5-7 days @ R.T.
or
4 hours @ 65°C
or
2 hours @ 85°C

Note: As typical with urethane systems, a relaxation/stabilization period of 2-4 days at room temperature after heat cure is recommended before testing or service.

TYPICAL PROPERTIES

(values not to be used for specification purposes)

<u>CHARACTERISTICS</u>	<u>2118-A</u>	<u>2118-B</u>	<u>TEST METHOD</u>
Color	clear	amber yellow	Visual
Specific gravity	1.07	1.21	ASTM D-1475
Viscosity @ 25°C,cps	13000	500	ASTM D-1824
Flash point, °C	>175	>175	ASTM D-92
Shelf Life @ 25°C, mos factory sealed containers	6	6	

<u>CURED PHYSICAL PROPERTIES *</u>	<u>APTEK 2118-A/B</u>	<u>TEST METHOD</u>
Hardness, Shore A	90	ASTM D-2240
Glass transition temp, °C	-66	ASTM E-831
Tensile strength, psi	5000	ASTM D-412
Elongation, %	425	ASTM D-412
Tear Resistance (Die C)	550	ASTM D-624
Lap shear, Al to Al, 25°C, 5 mil bondline, psi, abraided w/60 grit, IPA wiped	1300**	ASTM D-1002
Water absorbsion 2 hr boil***	0.9%	

*Room Temperature Cure

**Adhesive may be significantly improved with additional surface preparation including etching and/or priming.

***Cured 2 hrs @ 85°C. Boiled 2 hrs in tap water. All water released 16 hrs @ RT post cure.

SAFETY AND FIRST AID

APTEK 2118-A is an organic isocyanate prepolymer which is safe to handle when used properly. However, it 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, 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.

APTEK 2118-B is a modified amine that is safe to handle when used properly. It may cause slight to moderate eye and skin irritation. 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 a physician. Refer to Material Safety Data Sheet for more details.

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