

One-component thermal transfer adhesive

Arathane® 7762 (Formerly known as Uralane® 7762)

Arathane® 7762 is a single-component, polyurethane adhesive specifically formulated as a thermal transfer adhesive (TTA).

Arathane® 7762 is formulated to have high purity and very low outgassing characteristics. It possesses extremely good thermal shock resistance combined with excellent hydrolytic stability and resistance to solder processing temperatures, and most common pwb cleaning chemicals.

Applications

Arathane® 7762 is a variant of Arathane® 7760, designed to give a controlled bondline thickness (5 mil). It is ideally suited for the bonding of “flat packs”, PLCC’s, and other devices where control of bondline thickness is critical or desired. It can be used for bonding, filleting, and protection of components on printed wiring boards or in other applications where high thermal expansion mismatches are problematic.

Properties

One-component, 100% solids, solvent free
Excellent thermal shock resistance giving improved reliability
High purity and very low outgassing (meets NASA requirements)
Easily reworked
Excellent hydrolytic stability
Good thermal conductivity
High thixotropy/non-slump capability offering excellent process control
Controlled bondline thickness (5 mil)
Automatically dispensable, offering reduced handling and improved production output

Arathane® 7762

Viscosity, cP	ASTM D-2393	190,000
Spindle #14	(Model RVT)	
Percent solids	ASTM D-1644	100
Density, g/cm ³	ASTM D-792	2.0/124
Flash point, COC, °C	ASTM D-92	> 93
As-supplied form		pink, thick liquid
Operating temperature, °C		115/220
continuous/intermittent		
Shelf life, months	FTM 204	3
Disposal		Regular procedures approved by national and /or local authorities

Storage

Arathane® 7762 is considered non-hazardous for shipping purposes. However, this product is packaged in special styrofoam cartons containing enough dry ice for a limited storage life of approximately 96 hours during shipment. Upon receipt, frozen syringes must be transferred to freezer storage below -40°C to ensure product shelf life reliability. Special care should be taken when handling dry ice in order to avoid severe skin damage or potential of asphyxiation in unventilated areas.

Packaging

Arathane® 7762 is supplied as a one-component material prepackaged in syringes and suitable for subsequent automatic dispensing.

For packaging and availability please contact Specialty Polymers & Services, Inc. (SP&S) at:
Phone (661) 294-1790
Fax (661) 294-0640

Arathane® 7762 is premixed, frozen, and packed in dry ice at the factory for your convenience. Avoid handling dry ice or frozen syringes from factory container with bare hands. Temperature is below -75°C, and serious skin burns and permanent damage could occur. Always store frozen syringes below -40°C for best shelf life.

To thaw, remove syringe(s) from freezer storage and allow to equilibrate at room temperature only (30°C maximum). Do not attempt to quick thaw by heating, as this will greatly reduce work life. Typical thawing time for a 3cc syringe is approximately 15 minutes at 25°C.

Processing data

(average values)	Work life, 3cc syringe, hours	ASTM D-1338	at 25°C	3
	Gel time, minutes	ASTM D-2471	at 100°C	5
	Recommended cure, minutes		at 100°C	30

Properties

not for specification purposes

		Typical physical properties
Tensile lap shear, psi	ASTM D-1002 aluminum substrate	200
	25°C	130
	93°C	
Lap shear, at 25°C, psi	ASTM D-1002	
Ajax Scrubbed Nickel Plate		200
Freon Degreased Nickel Plate		130
Freon Degreased Solder Plate		220
Freon Degreased Polyimide		230
Durometer Hardness Shore A, 25°C	ASTM D-2240	70
Thermal conductivity, Colora, cal-cm/sec-cm ² -°C	ASTM D-2214	16.5 x 10 ⁻⁴
Glass transition temperature, Tg, °C	OC-AL-001	-63
Coefficient of thermal expansion, in/in/°C	OC-AL-001 Alpha 1	29 x 10 ⁻⁶
	Alpha 2	88 x 10 ⁻⁶
Solvent resistance		
Immersion in IPA at 25°C		(Excellent) No effect
Freon Vapor Test		(Excellent) No effect
Outgassing at 10⁻⁶ Torr		
Total mass loss, %	ASTM E-595	0.30
Collectible volatile condensable materials, %	ASTM E-595	0.00

**Typical
electrical properties**

Volume resistivity, Ω -cm (run at 500 volts)	ASTM D-257	at 25°C	2.9×10^{14}
Dielectric strength, V/mil	ASTM D-149		600–660
Dielectric constant	ASTM D-150	at 25°C	
1 KHz			5.1
10 KHz			5.0
100 KHz			4.8
1000 KHz			4.6
Dissipation factor	ASTM D-150	at 25°C	
10 KHz			0.0176
100 KHz			0.0196
1000 KHz			0.0202

Handling precautions

Do not handle or use until the Material Safety Data Sheets for resin and hardener have been read and understood.

Personal hygiene

Arathane® 7762

Warning! Contains organic isocyanate. Causes eye and skin irritation, and possible eye burns. May cause allergic respiratory and skin reaction. Harmful if inhaled. Harmful if swallowed. Avoid contact with eyes, skin, or clothing. Wear chemical splash goggles and impervious gloves when handling. Wash thoroughly after handling. Avoid breathing vapor or mist. Keep container closed when not in use. Use only with adequate ventilation. Do not take internally.

First aid

In case of contact:

- Skin:** Immediately wash with soap and water. Remove contaminated clothing and laundry before reuse. Destroy contaminated shoes.
- Eyes:** Immediately flush with water for at least 15 minutes. Call a physician.
- Ingestion:** If conscious, give plenty of water to drink. Do not induce vomiting. Call a physician.
- Inhalation:** Remove to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.
- Other:** Referral to physician is recommended if there is any question about the seriousness of any injury.

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Polymer Specialties Division

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For product information and customer service please contact
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Phone (661) 294-1790
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