

Arathane[®] 7769

One-component Thermal Transfer Adhesive

General

Arathane 7769 is a single-component, polyurethane adhesive specifically formulated as a thermal transfer adhesive (TTA).

Arathane 7769 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 7769 is a variant of Arathane 7760 and Arathane 7762, designed to give a controlled bondline thickness (7 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.

Advantages

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 (7 mil)
Automatically dispensable, offering reduced handling and improved production output

Typical Properties***Arathane 7769**

Viscosity at 25°C, cPs	300,000 – 600,000
Percent solids	100
Specific gravity, g/cm ³	2.5
Flash point, °C	> 94
As supplied form	Blue paste
Operating temperature, °C	
(Continuous)	115
(Intermittant)	220
Shelf life, months	3

* Typical properties are based on Huntsman's test methods. Copies are available upon request.

Packaging & Storage

Arathane 7769 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. Contact Customer Service for packaging information.

Processing

Arathane 7769 is frozen and packed in dry ice at the factory to minimize the possibility of exposure to high temperatures during shipment. Avoid handling dry ice or frozen syringes with bare hands. Temperature is below -75°C and serious skin burns and permanent damage can occur.

Always store syringes below 0°C for best shelf life.

Remove syringe(s) from freezer storage and allow it to equilibrate at room temperature (30°C maximum) only. Do not attempt to quick thaw by heating, as this will greatly reduce working life. Typical thawing time for 10cc syringe is 15 minutes at 25°C.

Work life, hours	at 25°C	3
Gel time, min	at 100°C	5
Recommended cure, min	at 100°C	30

Physical Properties (typical values)	Tensile lap shear at 25°C, psi	
	Aluminum substrate	200
	Lap shear, at 25°C, psi	
	Ajax Scrubbed Nickel Plate	200
	Freon Degreased Nickel Plate	130
	Freon Degreased Solder Plate	220
	Freon Degreased Polyimide	230
	Hardness Shore A	65 – 90
	Thermal conductivity, Colora, Cal/sec.cm.°C	16.5 x 10 ⁻⁴
	Glass transition temperature, Tg, °C	- 63
	Coefficient of thermal expansion, in/in/°C	
	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, %	0.30	
Collectible volatile condensable materials, %	0.00	

Electrical Properties (typical values)	Volume Resistivity, Ω·cm	2.9 x 10 ¹⁴
	Dielectric Strength, V/mil	600 – 660
	Dielectric Constant	
	@ 1 KHz	5.1
	@ 10 KHz	5.0
	@ 100 kHz	4.8
	@ 1000 KHz	4.6
	Dissipation Factor	
	@ 10 kHz	0.0176
	@ 100 kHz	0.0196
@ 1000 KHz	0.0202	

**Handling/Safety
Precautions**

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

Arathane 7769

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 launder before reuse. Discard contaminated shoes and other articles made of leather.

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 person 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 an injury

Important

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Note

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