

ARATHANE® 7760-1 Thermal Transfer Adhesive

Product Description

ARATHANE® 7760-1 Adhesive is a mercury-free, solvent-free, single-component material specifically formulated as a thermal transfer adhesive (TTA). It features excellent thermal shock resistance and is highly thixotropic with non-slump characteristics. This combination of physical properties improves process control capabilities. ARATHANE® 7760-1 Adhesive is easy to handle and is well suited for automatic dispensing used in high-output applications. 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.

Features

- One-component, 100% solids, solvent-free
- High purity and very low outgassing (meet NASA requirements)
- Easily reworked
- Good hydrolytic stability
- Excellent thermal shock resistance provides improved reliability
- Good thermal conductivity
- Available in various packaging configurations

Typical Properties

Property	Value	Test Method
Appearance	Off-white Paste	Visual
Density g/cm ³	1.90 - 2.40	ASTM D-792
Viscosity at 25°C, cP	240,000 - 740,000	ASTM D-2393
Flash point, °C (°F)	>93 (200)	ASTM D93
Percent Solids	100	ASTM D2369
Operating Temperature, °C (°F): Continuous Intermittent	115 (239) 220 (428)	ASTM D-2393

Note: Unless otherwise stated, the data were determined with typical production batches using standard test methods. They are typical values only, and do not constitute a product specification.

Processing

ARATHANE® 7760-1 Adhesive 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.

Remove syringe(s) from freezer storage and allow to thaw at room temperature (30°C/86°F maximum) only. Do not attempt to quick thaw by heating, as this will greatly reduce working life. Typical thawing time for syringes is 15 minutes at 25°C (77°F).

Property	Value
Working Life at 25°C (77°F), hours	≥ 2
Typical Cure Cycle	1 hour at 100°C (212°F)

Typical Physical Properties

Unless otherwise stated, the data were determined with typical production batches using standard test methods. They are typical values only, and do not constitute a product specification.

Property	Value	Test Method
Hardness	65 - 90	Shore A
Glass transition temperature, °C (°F)	-63 (-81)	ISO 11359
Thermal conductivity, (W/m-k)	0.8	ISO 8894/90
Coefficient of thermal expansion, ppm/K		ISO 11359
Alpha 1	29 x 10 ⁻⁶	
Alpha 2	88 x 10 ⁻⁶	
Lap Shear Strength at 25°C (77°F), psi		ASTM D1002
Etched Aluminum	200	
Etched Aluminum at 93°C (200°F) Ajax	130	
Scrubbed Nickel Plate	200	
Freon Degreased Nickel Plate	130	
Freon Degreased Solder Plate	220	
Freon Degreased Polyimide	230	
Solvent Resistance, at 25°C (77°F)		ASTM D543
Immersion in IPA	Excellent/No Effect	
Freon Vapor Test	Excellent/No Effect	
Outgassing at 10 ⁻⁶ Torr		ASTM E595
Total Mass Loss, %	0.30	
Collectible Volatile Condensable Materials, %	0.00	

Typical Electrical Properties

Property	Value	Test Method
Dielectric Strength, V/mil	630	IEC 60243
Volume Resistivity, ohms-cm	2.9×10^{14}	IEC 60093
Dielectric constant		IEC 60250
at 1 kHz	5.1	
at 10 kHz	5.0	
at 100 kHz	4.8	
at 1 MHz	4.6	
Dissipation factor		IEC 60250
at 10 kHz	0.0176	
at 100 kHz	0.0196	
at 1 MHz	0.0202	

Storage

ARATHANE® 7760-1 Adhesive 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 48 to 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.

ARATHANE® 7760-1 Adhesive should be stored in a dry place, in the sealed original container, at temperatures below -40°C (-40°F). Under these storage conditions, the standard shelf life is **3 months** (from date of shipment). The product should not be exposed to direct sunlight.

Precautionary Statement

Huntsman Advanced Materials Americas LLC maintains up-to-date Safety Data Sheets (SDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material.

First Aid!

Refer to SDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN

FOR PROFESSIONAL AND INDUSTRIAL USE ONLY

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