APPLI-TEC
ADVANCED THERMOSET SOLUTIONS

Appli-Thane® 7308

Key Features

High Thermal Conductivity
Mass-reflow Curable
Electrically Insulative
Semi-flexible
Superior Thermal Cycling
Hydrolytic Stability
Ideal for Electrical Potting
Very Long Pot Life
Perfect for Automated Dispensing
Low Glass Transition Temperature
Low Modulus
Meets NASA Outgassing Requirements
Self Leveling
Solvent Resistant
Re-workable at Ambient Temperature

Uncured

Work Life @ 25°C: 8 hours
Viscosity @ 25°C: Paste
Shelf Life @ -40°C: 12 Months

Cure Options

4 hours @ 71° C
2 hours @ 100° C
60 seconds @ 200° C

Cured Properties

(Based on cure of 4 hours @ 71° C)

Color	Red
Shore A Hardness	86
Glass Transition Temp (C)	-34
Density (g/cc)	2.3
Lap Shear 2024T3 Clad (psi)	300
Tensile Strength (psi)	400
Peel Strength (lb/in.)	4
Cleavage Strength (lb/in width)	165
Tensile Modulus (psi)	1,200
Compressive Modulus (psi)	3,250
Elongation (%)	40

Electrical Properties

(Based on cure of 4 hours @ 71° C)

Dielectric Constant (@ 10 kHz)	7.3
Dielectric Constant (@ 100 kHz)	6.3
Dielectric Constant (@ 1 MHz)	5.07
Dissipation Factor (@ 10 kHz)	0.121
Dissipation Factor (@ 100 kHz)	0.07
Dissipation Factor (@ 1 MHz)	0.042
Dielectric Strength (volts/mil)	650
Volume Resistivity (ohm-cm)	1.0E 14@ 500 VDC

Product Description:

Appli-Thane® 7308 is a one-component, red, thermally conductive, precision mixed, degassed, and frozen polyurethane adhesive paste for advanced electronic assembly. It is a self-leveling, injectable compound suitable for electronic bonding and potting, and may also be used for bonding leaded components.

Appli-Thane® 7308 has a very long pot life and maintains its dispensability for over 8 hours, making it the perfect choice for automated dispensing. Appli-Thane® 7308 has a thermal conductivity of 1.11 W/mK, and cures to a semi-flexible material with low modulus and a very low Glass Transition Temperature (Tg). The cured material's ability to not crack or harm bonded rigid components during thermal cycling is a major plus. Appli-Thane® 7308 has a highly specialized curing mechanism allowing it to be applied in conjunction with high throughput processing techniques. Appli-Thane® 7308 can be cured during mass-reflow (eliminating the need for a separate cure cycle) without disturbing the placement of components, thus eliminating several costly "component level" processing steps, including;

- Individual hand-bonding
- Hand placement
- Tack soldering to prevent shift during adhesive cure
- Additional soldering after adhesive cure

Appli-Thane® 7308 can also be cured in a traditional manner for re-work, staking, spot-bonding and tacking.

Thermal Properties

(Based on cure of 4 hours @ 71° C)

CTE below Tg (ppm/°C)	50
CTE above Tg (ppm/°C)	120
Glass Transition Temp (°C)	-34
Operating Temp. Range (°C)	-100 to 125
Thermal Conductivity (W/mK)	1.11

Outgassing Properties

(Based on cure of 4 hours @ 71° C)

TML (%)	0.21
CVCM (%)	0.01
WVR (%)	0.1

Acoustic Properties

Velocity (m/s)	1,771
Impedance (MRayles)	4.062
Loss (dB/cm-MHz)	-14.85
Density (g/cc)	2.30

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