

2.5 W/mK Thermally Conductive Urethane Adhesive for Aerospace Applications

The cured material's ability to not crack or harm bonded rigid components during thermal cycling is a major plus. A blue, one-component material, Appli-Thane® 7300 is also used in manufacturing and automated dispensing applications due to its 4-hour pot life. The material is self-leveling and injectable, making it suitable for electronic bonding and potting, as well as bonding leaded components and heat sinks. Appli-Thane® 7300 cures to a semi-flexible material with relatively low modulus and a very low Glass Transition Temperature (Tg). The material is a precision mixed, degassed and frozen compound that provides best-in-class thermal conductivity for applications requiring aggressive heat dissipation of components.

UNCURED	
Work Life	4 hours @ 25°C
Viscosity	Paste @ 25°C
Shelf Life	6 months @ -40°C 9 months @ -60°C
CURE OPTIONS	2 hours @ 96°C 4 hours @ 72°C 2 weeks @ 25°C
CURED PROPERTIES	Based on cure of 2 hours @ 96°C
Color	Blue
Shore A Hardness	95
Shore D Hardness	45
Glass Transition Temp (°C)	-40
Density (g/cc)	2.8
Lap Shear 2024T3 Clad (psi)	500
Tensile Strength (psi)	450
Tensile Modulus (psi)	9,500
Compressive Strength (psi)	1,400
Compressive Modulus (psi)	14,500
Elongation (%)	5
Poisson's Ratio	0.38
ELECTRICAL PROPERTIES	Based on cure of 2 hours @ 96°C
Dielectric Constant	16 @ 10 kHz 14 @ 100 kHz 11 @ 1 MHz
Dissipation Factor	0.00 @ 10 kHz 0.07 @ 100 kHz 0.18 @ 1 MHz
Dielectric Strength (volts/mil)	650
Volume Resistivity (ohm-cm)	1.0E 13 @ 400 VDA
THERMAL PROPERTIES	Based on cure of 2 hours @ 96°C
CTE below Tg (ppm/°C)	25
CTE above Tg (ppm/°C)	75
Glass Transition Temp (°C)	-40
Operating Temp. Range (°C)	-100 to 160
Thermal Conductivity (W/mK)	2.5
OUTGASSING PROPERTIES	Based on cure of 2 hours @ 96°C
TML (%)	0.19
CVCM (%)	0.03
WVR (%)	0.04
OUTGASSING PROPERTIES	Based on cure of 2 weeks @ 25°C
TML (%)	0.12
CVCM (%)	0.01

KEY FEATURES

High Thermal Conductivity

Meets NASA Outgassing Requirements

Electrically Insulative

Semi-flexible

Superior Thermal Cycling

Hydrolytic Stability

Ideal for Electrical Potting

Injectable

Long Pot Life

Low Glass Transition Temperature

Low Modulus

Self Leveling

Solvent Resistant

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WVR (%)	0.03
ACOUSTIC PROPERTIES	
Velocity (m/s)	2,145
Impedance (MRayles)	6.28
Loss (dB/cm-MHz)	-16.5
Density (g/cc)	2.8