APPLI-TEC
ADVANCED THERMOSET SOLUTIONS

Appli-Thane® 7810

Key Features

Free Flowing
Electrically Insulative
Flexible
Hydrolytic Stability
Long Pot Life
Low Glass Transition Temperature
Low Modulus
Meets NASA Outgassing Requirements
Solvent Resistant
Fungus Resistant

Uncured

Work Life @ 25°C: 1.5 hours
Viscosity @ 25°C: 6,400 cPs
Thixotropic Index: 1.0
Shelf Life @ -40°C: 6 Months
Shelf Life @ -60°C: 9 Months

Cure Options

2.5 hours @ 66°C
72 hours @ 25°C

Cured Properties

(Based on cure of 2.5 hours @ 66°C)

Color	Clear
Shore A Hardness	65
Glass Transition Temp (°C)	-74
Density (g/cc)	0.96
Lap Shear 2024T3 Clad (psi)	400
Tensile Modulus (psi)	735
Elongation (%)	50
Tensile Strength at Break (psi)	240
Fungus Resistance	Non-nutrient

Electrical Properties

(Based on cure of 2.5 hours @ 66°C)

Dielectric Constant	2.85 @ 1 MHz
Dissipation Factor	0.05 @ 1 MHz
Dielectric Strength (volts/mil)	1,120
Volume Resistivity (ohm-cm)	2.0E 13 @ 500 VDC
Arc Resistance (seconds)	123

Product Description:

Appli-Thane® 7810 is a 100% solids, translucent, free flowing, precision mixed, degassed, and frozen polyurethane adhesive compound for advanced electronic assembly. Appli-Thane® 7810 was designed to have 3-4 times longer pot life, half the cure time and 4 times longer shelf life than standard aerospace urethanes. This compound is suitable for electronic bonding and coating. Appli-Thane® 7810 cures to a 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® 7810 passes NASA outgassing requirements and provides strain relief for many applications where thermal conductivity is not needed.

Thermal Properties

(Based on cure of 2.5 hours @ 66°C)

CTE below Tg (ppm/°C)	80
CTE above Tg (ppm/°C)	200
Glass Transition Temp (°C)	-74
Operating Temp. Range (°C)	-100 to 125
Thermal Conductivity (W/mK)	0.25

Outgassing Properties

(Based on cure of 2.5 hours @ 66°C)

TML (%)	0.38
CVCM (%)	0.01
WVR (%)	0.20

Acoustic Properties

Velocity (m/s)	1,600
Impedance (MRayles)	1.53
Loss (dB/cm-MHz)	-4.8
Density (g/cc)	0.96

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