



Noelle Industries, Inc.
Adhesives • Coatings • Conductives • Encapsulants



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TECHNICAL DATA SHEET

NOELLE 807-10

A One Component Epoxy Adhesive / Coating

Description:

Noelle 807-10 is a clear one component, heat cured, solvent based, thermosetting epoxy adhesive and coating material. Specific use includes metal-to-metal bonding, coating of electric circuit boards, sub assemblies, motor and stator components.

Advantages:

Noelle 807-10 cures to a clear, extremely durable film that features premium electrical properties. This material offers exceptionally high shear and peel strength properties. Thermal stability is sufficient to withstand short-term immersion in liquid solder. It features excellent resistance to dilute acids, bases, salt spray, detergents and cleaning solutions. This material is also heat and moisture, resistant. This epoxy adhesive exhibits some flexibility and also exhibits class F (155°C) continuous operating service. Noelle 807-10 is a one part formation that does not requires premixing.

Applications:

Noelle 807-10 can be used as a conformal coating for circuit boards and other components that require a high degree of corrosion protection in a clear coating. Recommended for other applications where a general-purpose coating will not satisfy the corrosion requirements. Noelle 807-10 can be brushed on, dip coated, roll coated, knife coated or spray coated.

Physical Properties:

Color:	Clear
Pounds per Gallon	7.40
Specific Gravity	0.84
Viscosity	45 - 85 cps
Solvent	Methyl Ethyl Ketone (MEK) Tetrahydrofuran (THF)

(Solvents can be used to reduce viscosity or to adjust drying rate.). For a faster drying rate dilute with Methyl Ethyl Ketone (MEK). For a slower drying rate dilute with Tetrahydrofuran (THF). Blending of fast (MEK) and slow (THF) solvents will yield intermediate drying rates.

Shelf Life: (Sealed container)

Six Months @ 20°C

Cure Schedules

Forced hot air or radiant heat is necessary to accomplish cure. Minimum cure temperature is ~ 165°C for cure to be initiated. A cure temperature of **177°C for 30 – 60 minutes** under a pressure of 75 psi is suggested for optimum results. Experimentation with lower pressure and/or higher temperatures for shorter times can optimize cures.

B Stage Schedules:

Noelle 807-10 will dry to touch (25°C) in ~ 10 – 15 minutes. However for optimum performance room temperature drying should be followed by any of the B Stage schedules below.

Cure Temp:	95°C	120°C	150°C
Cure Time:	45 min.	30 min.	10min.

Cured Properties:

Shore Hardness, measured @ 25°C:	>80D
Volume Resistivity, Ohm/cm @ 25°C:	1.4×10^{14}
Ohm/cm @ 130°C:	4.0×10^{10}
Voltage Breakdown VPM @ 25°C:	550
Lap Shear, Tensile Strength Al/Al ASTM D-1002:	>2736 psi.
Coefficient of Linear Thermal Expansion (in/in°C) @ 25°C::	260×10^{-16}
Dielectric Constant Hz @ 25°C:	3.2
Dielectric Strength VPM @ 25°C:	2400
Dissipation Factor Hertz @ 25°C:	0.025×10^3
Glass Transition Temperature (t_g):	>100°C

Parameters: (A 0.002 mil coating that was applied to chromate-cleaned aluminum panels that was cured for 15 minutes at 160° C)

The panels exhibited no gloss reduction along with no blistering or loss of adhesion and no noticeable change in pencil hardness after subjection to the following conditions.

High humidity aging:	500 hours @ 100% RH @ 38° C	= pass
Fadometer:	1000 hours	= pass
Salt Spray:	100 hours	= pass
Detergent Immersion:	8 hours 5% soap solution	= pass

Handling Recommendations:

Use in well ventilated area's and where ventilation is efficient to remove solvent vapors. Avoid prolonged contact with skin. Rubber gloves are advised.

If swallowed do not induce vomiting. Call a physician immediately. In the case of eye contact flush eye with clear cold water for 15 minutes then consult a physician.

Performance Properties:

All values reported above are typical values, and are reported as a means of reference. Individual testing should be done to determine actual results, tested at specific conditions.