

Adelphi A-977

Potting Compound

Adelphi A977 is a UL94 V-0 compliant, flame retardant, self-levelling, high strength, 100% reactive, room temperature curing formulated epoxy adhesive for:

- Encapsulating/potting electronic/electrical devices; bonding rigid expanded plastic foams to themselves or to metal, plywood, or other rigid materials.
- Bonding a wide variety of skins to cores (expanded polystyrene foam, foamed glass, honeycomb, etc.) in the fabrication of sandwich panels.
- Bonding all metals and other rigid materials (such as glass, ceramics, most plastics, plastic foams, and structural laminates) to themselves and to each other.

	Viscosity (cps) @ 77F	Color	Base	Wgt/Gal	Solids	Diluent	Shelf Life
Part A	50,000	Black	Modified epoxy	11 lbs.	100%	Do not dilute	1 year
Part B	50,000	Amber		11 lbs.	100%		

Fully cured bonds attain lap shear strengths in the neighborhood of 3,000 psi when tested at room temperature using ASTM D1002 procedure.

Fully cured bonds exhibit minimal shrinkage, are electrical insulators and provide excellent resistance to weather, galvanic action and most chemical, acids and alkalis.

When mixed, Adelphi A977 is a high viscous self-leveling liquid, making it extremely easy to spread smoothly and evenly. Once it is applied it has about 20-30 minutes open time to mate parts. It is good for bonding dissimilar substrates and void-filling applications.

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	Mixing Ratio (by weight)	Properties	Pot Life @ 77 F	Average Lap Shear Strength	Temperature vs Tensile Shear	
					Temperature, F	Tensile Shear, psi
Part A Part B	100 Parts 100 Parts	Flame Retardant, HighTensile, Self Leveling	45minutes (60 grams)	2200 psi	-67 F	2000
					77 F	2200
					120F	1200
					180F	400
					200F	200

Hardness	Shore D 85 ± .02
Dielectric Constant @ 10⁵ cps	2.98 ± .1
Volume Resistivity @ 25C +/- 3C	Min. 100 x 10 ¹⁴ ohm-cm
Shrinkage Linear, percent	0.7 % Max.

Surface Preparation

All bonding surfaces must be thoroughly cleaned, degreased and dried. For plastic surfaces, remove mold release if any.

Preparation of Adhesive

Always stir each part thoroughly first. Proportion accurately and mix slowly to avoid entrapping air.

Adelphi A977 Part A is colored black; Part B has a natural amber color. Mix equal amounts (by weight or volume) and stir until the color of the mixture is uniform black.

Note: Pot life can be lengthened substantially if shallow mixing vessels are used or smaller batches are mixed. Cover mixed material to prevent water absorption.

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Mixed adhesive may be applied with paint roller, brush, etc. Apply enough mixed adhesive to leave about 4-6 mils in the final glue line. This may be accomplished by coating 4-6 mils on one surface only or by coating 2-3 mils on each surface.

If one surface is porous, more adhesive must be applied to fill the voids and yet produce a final glue line thickness of 4-6 mils.

Cure Time

Room Temperature

At room temperature, assemblies can be handled in approximately 2-4 hours. Adelphi A977 develops 85% of its maximum strength in 24 hours.

Forced Cure:

Elevated Temperatures

Temperature	Cure Time
150° F	120 minutes
200° F	45 minutes
250° F	30 minutes
300° F	10 minutes

Bonds will continue to improve in strength at room temperature until optimum is reached, usually within 3-4 days.

Technical Questions? Call us. We are happy to help! +631-537-8390

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