



Technical Data Sheet

POLYMARK P274-3

TWO-COMPONENT POLYURETHANE POTTING SYSTEM

Product Description:

Polymark P274-3 is a two component, room temperature curing polyurethane potting system. It is designed for the encapsulation of electronic devices. Polymark P274-3 provides excellent environmental protection while having good adhesion to various metals, plastics and other common assembly materials.

Polymark P274-3 provides low stress to fragile electronic components and solder joints. It has very good thermal conductivity for cooling heat-generating electronic devices. The cured material is elastic and tack free.

Beneficial Features:

- Low Cost
- Thermally Conductive
- Elastic and Low Stress
- Easy to pump and mix
- DOT Non Hazardous

Typical Product Handling Properties:

<u>CHARACTERISTIC</u>	<u>VALUE</u>
Resin:	
Color	Gray
Specific Gravity	1.98 g/cc
Viscosity, 25°C	32,000 cps.
Hardener:	
Color	Amber
Specific Gravity	1.23 g/cc
Viscosity, 25°C	75 cps.
Mixed:	
Mix Ratio (Resin to Hardener)	
by weight	100 to 4.4
by volume	100 to 7
Gel Time (25°C, 100 grams)	6-12 minutes
Time to Full Cure, 25°C	2-3 days

Typical Cured Physical Properties

<u>CHARACTERISTIC</u>	<u>VALUE</u>
Cured Density	1.91 g/cc
Cured Hardness (Shore A)	A60-70
Color Cured	Gray
Dielectric Constant	4.0
Continuous Use Temperature	125°C
Thermal Conductivity	>1.0 W/m ² K

As an aid to flow and to accelerate the curing of the mixed material, automated users may consider mildly warming the *resin* component with a heated hose just prior to mixing with the hardener.

P274-3 is non-abrasive to dispensing equipment and well-suited to automated operations. P274-3 will cure at room temperature or can be accelerated with moderate heat. Polymark P274-3 can be mixed by weight or volume. These ratios are stoichiometrically calculated and should be closely followed.

The P274-3 resin and hardener shelf lives are 6 months at room temperature. The resin contains fillers that may slowly settle over time. Should settling occur, a slow mechanical agitation will re-suspend these fillers.

P274-3 hardener is moisture sensitive and must be kept away from atmospheric moisture during storage and use. Polymark recommends the use of desiccant cartridges in the replacement air inlet as the material is consumed from the container.

Handling Safeguards

Closely follow instructions on the labels of Polymark materials which contain information on the hazards associated with each particular product. Most polyurethane resin systems are skin and eye irritants and can cause respiratory sensitization. Other problems, such as skin sensitization and more serious health hazards, may exist. Consult the Material Safety Data Sheet for further information.

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Important Notice to Users: Typical properties are shown in this technical bulletin and should not be used or taken as specifications. Contact Polymark prior to establishing specifications. The information given for product description, handling properties and cured physical properties are offered solely to assist the purchaser's own testing. Polymark, its sales agents and distributors make NO WARRANTY OF MERCHANTABILITY OF THE PRODUCT OR THE FITNESS OF THE PRODUCT FOR ANY PARTICULAR PURPOSE. This product and all information supplied in connection with it is used at the purchaser's own risk, conditions of use being beyond Polymark's knowledge or control. The purchaser assumes all risk of use or handling of the product, whether in accordance with directions or not.