

PC-3144 Thixotropic Urethane

HEPA Filter Adhesive with Ultra-Low Outgassing

Technical Bulletin

PC-3144 is a semi-flexible, filled, HEPA adhesive with ultra-low outgassing. When initially mixed it is a low viscosity, self leveling liquid that, within 30 seconds, becomes a smooth, self-healing, non-sag paste that allows the operator a longer working time for assembly of more labor intensive filters. The system develops suitable hardness within 30 minutes to allow final testing.

Key Features

- Consistency of non-sag paste allows excellent wetting and self-healing to minimize air leakage failures
- Within 30 minutes, the product becomes a tough, semi-flexible sealant that cannot be compromised during additional handling and inspection activities
- Upon full cure, the product develops a semi-rigid hardness with excellent thermal shock resistance, even at sub-ambient conditions
- The resultant cured product possesses ultra-low outgassing properties due to the use of high-purity raw materials and flame retardants that are free of halogenated compounds
- Formulated with cost effective raw materials with low probabilities of supply shortages



Typical Properties Upon Mixing

Processing Times @ 25°C ± 1°C (77°F ± 2°F); min:sec

Thixotropic Time	0:30
Working Time	2:30
Gel Time (100 gram mass; 250 mL beaker)	5:30
Gel Time (35 grams; 4 mm thickness)	9:00
Initial Cure, Hours	24
Full Cure Cycle, Days	7
Hardness after 30 Minutes; Shore A	50
Hardness upon Full Cure; Shore D	55

Typical Uncured Properties

Color	
PC-3144 Resin (Polyol Component)	Off-White
PC-3144 Hardener (Isocyanate Component)	Amber
PC-3144 Mixed	Tan
Viscosity (Brookfield) @ 25°C ± 1°C (77°F ± 2°F); cPs	
PC-3144 Resin	3,000
PC-3144 Hardener	200
Density @ 25°C ± 1°C (77°F ± 2°F); Lbs./Gal. (g/cm ³)	
PC-3144 Resin	9.80 (1.17)
PC-3144 Hardener	10.30 (1.23)
PC-3144 Mixed	9.93 (1.19)

Mixing Specifications

Mix Ratio	
Parts by Weight	100 parts Resin : 35 parts Hardener
Parts by Volume	3.0 parts Resin : 1.0 part Hardener

Processing Instructions

For good results, automatic mixing and dispensing equipment should be used. Please consult with Polyset technical staff before making final processing decisions.

Storage Information

Keep away from flames. Material should be used once container is opened. Long term storage of opened material should be under nitrogen. Shelf life of both PC-3144 Resin and PC-3144 Hardener is 6 months @ 25°C (77°F) in unopened containers.

Safety Information

Avoid direct contact. Use safety goggles or safety glasses with side shields and impervious gloves when handling PC-3144 Resin and PC-3144 Hardener. If skin contact occurs, wash with soap and water. If PC-3144 Resin or PC-3144 Hardener enters the eyes, flush with cool water for at least 15 minutes and call a physician immediately. Refer to product Safety Data Sheets for further information.

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