

PC-3143 Class 1 Filter Adhesive

HEPA Filter Adhesive with Ultra-Low Outgassing

Technical Bulletin

PC-3143 is a two-component, halogen-free urethane adhesive designed for applications in the HEPA Clean Room Market (Ultra-Low Outgassing). PC-3143 is formulated to possess the following advantages:

Key Features

- Excellent adhesion to metal and plastic substrates
- Low initial mixed viscosity
- 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
- Convenient mix ratio of 3:1 by volume
- Uses an identical hardener as Polyset's PC-3143 thixotropic urethane filter adhesive, allowing for multi-stage filter assembly operations while using a common hardener



Typical Properties Upon Mixing

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

Gel Time (100 gram mass; 250 mL beaker)	3:00
Gel Time (35 grams; 4 mm thickness)	3:30
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-3143 Resin (Polyol Component)	Off-White
PC-3143 Hardener (Isocyanate Component)	Amber
PC-3143 Mixed	Tan
Viscosity (Brookfield) @ 25°C ± 1°C (77°F ± 2°F); cPs	
PC-3143 Resin	3,000
PC-3143 Hardener	200
Density @ 25°C ± 1°C (77°F ± 2°F); Lbs./Gal. (g/cm ³)	
PC-3143 Resin	9.80 (1.17)
PC-3143 Hardener	10.30 (1.23)
PC-3143 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-3143 Resin and PC-3143 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-3143 Resin and PC-3143 Hardener. If skin contact occurs, wash with soap and water. If PC-3143 Resin or PC-3143 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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