PC-3157 Urethane Casting System

Tan Urethane for Water Filtration Applications

Technical Bulletin
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PC-3157 is a two component, unfilled, tough elastomeric urethane system designed for casting end caps for water filtration. The combination of low viscosity and unique gelling characteristics of the material make it ideal for filter manufacturing. The chemical composition has a high degree of hydrolysis resistance and has very little hardness loss in water at elevated temperatures (85˚C). In addition, raw material composition will pass NSF requirements.

Key Features

- Low viscosity
- Tough
- Very good thermal stability
- Excellent water resistance
- Can be used for NSF Applications

Typical Uncured Properties

Color	
Resin	Off-White
Hardener	Dark Amber
Mixed	Tan
Viscosity (Brookfield) @ 25°C ± 1°C (77°F ± 2°F); cPs	
Resin	1,350
Hardener	200
Density @ 25°C ± 1°C (77°F ± 2°F); Lbs./Gal. (g/cm^3)	
Resin	9.93 (1.19)
Hardener	10.30 (1.23)
Mixed	10.05 (1.20)

Mixing Specifications & Characteristics

Mix Ratio:	
Parts by Weight	100 parts Resin to 52 parts Hardener
Parts by Volume	2.0 parts Resin to 1.0 part Hardener
Processing Times @ 25°C ± 1°C (77°F ± 2°F); min:sec	
Gel Time (152 grams; 250 mL Beaker)	30:00
Full Cure Cycle	7 Days
Recommended 2-Step Cure Process; min:sec	
Step 1.) Room Temperature Cure @ 25°C (77°F)	90:00
Step 2.) Post-Cure @ 100°C (212°F)	150:00

Typical Cured Properties

Color	Tan to Yellowish-brown
Hardness; Shore D	75—85
Glass Transition Temperature (T_g); °C (°F)	92.5 (198.5)

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

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 Resin and Hardener is 6 months @ 25ºC (77ºF) in unopened containers. Storage temperatures for the Hardener (isocyanate) should be maintained from 18—35ºC. Under these storage conditions the Hardener will remain clear for periods of up to six months.

If solidification of PC-3157 Hardener should occur because of exposure to temperatures below 18ºC, the product can be reheated up to 60ºC in a well ventilated oven for the minimum amount of time necessary to render it clear. Excessive heating causes dimerization, loss of isocyanate content, and increase in viscosity. In the event of crystallization, please contact Polyset for recommendations.

Safety Information

Avoid direct contact. Use gloves when handling PC-3157 Resin and Hardener, if skin contact occurs, wash with soap and water. If PC-3157 Resin or 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 details.