

PC-3181 Impregnating Resin

Thixotropic Urethane System; Shore D 65

Technical Bulletin
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PC-3181 is a novel two component, thixotropic, room temperature cured, tough elastomeric urethane system formulated for reverse osmosis filter membranes. A significant feature of this system is that it can reduce processing time by over 60%. A typical air cure time for additional processing is 6 hours, versus 24 hours for current systems. The cured system has a high degree of hydrolysis resistance and has very little hardness loss in water at elevated temperatures (85°C). PC-3181 is tougher to improve yields through the cutting operation. In addition, raw material composition will pass NSF requirements.

PC-3181 is not based on hydroxyl-terminated polybutadiene chemistry and has no associated government export restrictions.

Typical Uncured Properties

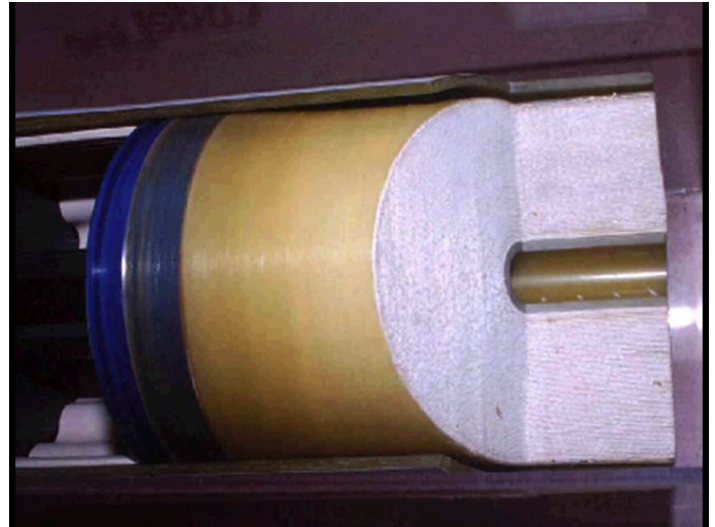
Color	
Part A (Isocyanate Prepolymer)	Straw
Part B (Polyol Resin)	Yellowish; Translucent White
Mixed	Translucent White
Viscosity @ 25°C (± 1°C); cPs	
Part A; Brookfield #2 @ 20 rpm	1,000
Part B; Brookfield #7 @ 20 rpm	35,000
Initial Mixed; Brookfield #5 @ 20 rpm	10,000
Density @ 25°C (± 1°C); Lbs./Gal. (g/cm ³)	
Part A (Isocyanate Prepolymer)	9.79 (1.16)
Part B (Polyol Resin)	8.50 (1.02)
Mixed	9.20 (1.10)

Mixing Specifications & Characteristics

Mix Ratio	
Parts by Weight	1.00 part A : 0.83 part B
Parts by Volume	1.00 part A : 1.00 part B
Gel Time @ 25°C (± 1°C); min:sec	
170 gram Mass	15:00–16:30
1/8" (3.2 mm) Thickness	25:00–30:00
Full Cure Cycle	7 days

Typical Cured Properties

Color	Translucent White
Hardness; Shore D	60-70
Tensile Strength; psi	3,600
Elongation; %	30
Tear Strength (Die C); Lbs./in.	450



Key Features

- Can be used for NSF applications
- Broad pH resistance with high thermal stability

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 containers are opened. Long term storage of opened material should be under nitrogen. Shelf life of both Parts A & B is 6 months @ 25°C (77°F) in unopened containers. Storage temperatures for both Part A (Isocyanate) and Part B (Polyol) should be maintained between 18–35°C (64–95°F) at all times, as exposure to temperatures below 18°C (64°F) may result in product crystallization. If Part A (Isocyanate) remains crystallized for an extended period of time, product degradation can occur. If solidification of either Part A or Part B should occur because of exposure to temperatures below 18°C, the product can be reheated up to 60°C in a well ventilated oven for the minimum amount of time necessary to render it clear. Excessive heating of the Part A (Isocyanate) may cause dimerization, loss of reactivity, and increase in viscosity. In the event of crystallization, please contact Polyset for recommendations.

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