

## PC-3183 Impregnating Resin

*Thixotropic Urethane System; Shore D 55*

## Technical Bulletin

Rev. Date: 6/06/2014

PC-3183 is a novel, medium viscosity, medium hardness, two-component, thixotropic, room temperature cured, tough elastomeric urethane system formulated for reverse osmosis filtration membranes. A significant feature of this system is that it can reduce processing time by over 60%. 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 very little hardness loss in water at elevated temperatures (85°C).

PC-3183 is formulated to be tough, thereby improving yields through cutting operations. PC-3183 has been tested and found to be suitable for applications subject to FDA 21CFR175.300 requirements. PC-3183 is not based on hydroxyl-terminated polybutadiene chemistry and has no associated government export controls.

### Typical Uncured Properties

Color	
Part A (Isocyanate Prepolymer)	Light Amber
Part B (Polyol Resin)	Opaque Amber
Mixed	Opaque Amber
Viscosity @ 25°C (± 1°C); cPs	
Part A; Brookfield #3 @ 10 rpm	3,000
Part B; Brookfield #7 @ 10 rpm	58,000
Initial Mixed; Brookfield #5 @ 20 rpm	10,000
Density @ 25°C (± 1°C); Lbs./Gal. (g/cm <sup>3</sup> )	
Part A (Isocyanate Prepolymer)	9.36 (1.12)
Part B (Polyol Resin)	8.28 (0.99)
Mixed	8.84 (1.06)

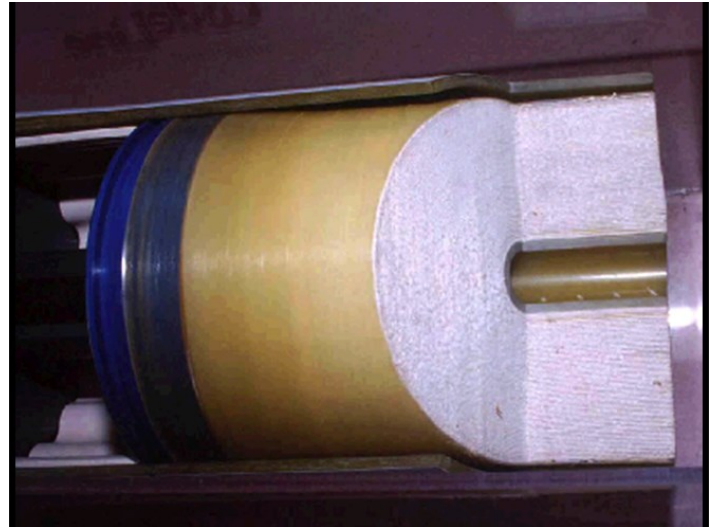
### Mixing Specifications & Characteristics

Mix Ratio	
Parts by Weight	1.00 part A : 0.90 part B
Parts by Volume	1.00 part A : 1.00 part B
Gel Time @ 25°C (± 1°C); min:sec	
190 gram Mass	13:00–15:00
1/8" (3.2 mm) Thickness	25:00–30:00
Full Cure Cycle	7 days

### Typical Cured Properties

Color	Opaque Amber
Hardness; Shore D	50-60
Tensile Strength; psi	3000
Elongation; %	200
Tear Strength (Die C); Lbs./in.	200
72-Hour Immersion in 3% NaOH @ 75°C	No Effect

**Limited Warranty:** Polyset Company Inc. makes no warranty, expressed or implied, including any warranty of merchantability of fitness for a particular purpose. The sole remedy of Purchaser for any claim concerning this product, including, but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is the replacement of product or refund of the purchase price, at the discretion of Polyset Company Inc. Any claims concerning this product shall be submitted in writing within one year of the delivery date of this product to Purchaser and any claims not presented within that period are waived by Purchaser. IN NO EVENT SHALL POLYSET COMPANY INC. BE LIABLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDES LOSS OF PROFITS)



### 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.