

PC-3178 Urethane Casting System

Yellow elastomer manufactured for dialysis units

Technical Bulletin

Rev. Date: 06/06/2014

PC-3178 is a two component, room temperature cured, tough elastomeric urethane system. The combination of low viscosity and unique gelling characteristics of the material make it ideal for filter manufacturing. The chemical composition of PC-3178 makes it suitable for the manufacture of dialysis units.

Typical Uncured Properties

Color

Resin	Yellowish
Hardener	Light Yellow
Mixed	Yellowish

Viscosity, cps @ 77°F ± 3°F

Resin (Brookfield Spindle #2)	
@ 10 RPM	900
Hardener	600–700

Density, Lbs/Gal (SP.GR) @ 77°F +/- 3°F

Resin	7.8–8.3 (0.94–1.0)
Hardener	9.91–10.41 (1.19–1.25)
Mixed	8.64–9.16 (1.04–1.10)

Mixing Specifications & Characteristics

Mix Ratio:

By Weight	100 parts resin to 66.7 parts hardener
By Volume	2.0 parts resin to 1.0 parts hardener

Pot life, min:sec @ 77° +/- 3°F

100 Gram Mass	6:30
Cure Cycle (Full Cycle)	7 Days

Typical Cured Properties

Color	Yellowish
Hardness (Shore D)	75–85

Key Features

- Low viscosity
- Tough
- Very good thermal stability
- Excellent water resistance

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 @ 25°C (77°F) in unopened containers. Storage temperatures for the hardener (isocyanate) should be maintained from 18–35°C. Under these storage conditions the hardener will remain clear for periods of up to six months.

If solidification 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 causes dimerization, loss of NCO, and increase in viscosity. In the event of crystallization, please contact Polyset for recommendations.

Safety Information

Avoid direct contact. Use gloves when handling resin and hardener, if skin contact occurs, wash with soap and water. If resin or hardener enters the eyes, flush with cool water for at least 15 minutes and call a physician immediately. Refer to SDS on PC-3178 for further details.

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