

PC-3180 Rigid Urethane Adhesive

Excellent High-Temperature & Chemical Resistance

Technical Bulletin

PC-3180 is a two component, room temperature cured, rigid urethane adhesive/molding compound that is formulated to replace plastisol in filters exposed to dry cleaning fluids (mineral spirits, perchloroethylene, Dowanol DPNB and DF-2000) and various other chemicals, solvents, fuels, and oils. The combination of medium viscosity and quick gelling characteristics of the material yields fast turnover time for filter manufacturing. PC-3180 has been tested and found to be suitable for applications subject to FDA 21CFR175.300 requirements.

Key Features

- Medium Mixed Viscosity with Ample Working Time
- Fast Gel Time Combined with a Low-Stress Cure
- Very Good Hydrolytic Stability
- Very Good Thermal Stability up to 375°F
- Excellent Chemical, Solvent, Fuel, and Oil Resistance
- Excellent Adhesion to Various Metal and Plastic Substrates

Typical Uncured Properties

Color	
PC-3180 Resin (Polyol Component)	Off-White
PC-3180 Hardener (Isocyanate Component)	Brown
PC-3180 Mixed	Tan
Viscosity (Brookfield) @ 25°C ± 1°C (77°F ± 2°F); cPs	
PC-3180 Resin	18,000
PC-3180 Hardener	200
PC-3180 Initial Mixed	6,000
Density @ 25°C ± 1°C (77°F ± 2°F); Lbs./Gal. (g/cm ³)	
PC-3180 Resin	12.89 (1.54)
PC-3180 Hardener	10.30 (1.23)
PC-3180 Mixed	12.09 (1.45)

Mixing Specifications & Characteristics

Mix Ratio	
Parts by Weight	100 parts Resin : 44 parts Hardener
Parts by Volume	1.8 parts Resin : 1.0 part Hardener
Processing Time @ 25°C ± 1°C (77°F ± 2°F); min:sec	
Gel Time (144 gram mass; 250 mL beaker)	2:30
Full Cure	7 Days

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Typical Cured Properties

Color	Tan
Hardness; Shore D	90
Tensile Strength; psi	6,600
Elongation; %	1.5
Compressive Strength (7 days @ room temp.); psi	16,700
Glass Transition Temperature (T _g); °C	101

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-3180 Resin and PC-3180 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-3180 Resin and PC-3180 Hardener. If skin contact occurs, wash with soap and water. If PC-3180 Resin or PC-3180 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.