

TECHNICAL DATA SHEET

ALCHEMIX® PU 375S A/B (SLOW)

Bulk casting polyurethane system

Prefilled polyol 100:15 mixing ratio by weight

PU 375S is a two component low odour polyurethane system to which specific dry fillers have already been added. The system has an extended pot life to allow for larger castings up to 50 Kg.

Main Features

Exceptionally low shrinkage **Excellent heat resistance** **No sediment**

Very large castings possible **Low exotherm**

Mixing Ratio by weight

PU 375SA : PU 375SB
100 : 15

Product Data

	PU 375SA	PU 375SB	MIXTURE
Material	filled polyol	Isocyanate	
Appearance	cream liquid	straw liquid	cream liquid
Density @ 25°C	1.78 g/ml	1.21 g/ml	1.65 g/ml
Viscosity @ 25°C	6000-7500 mPa.s	39 mPa.s	1500 mPa.s
Pot life (200 g) @ 20°C			16 - 20 minutes
Demould time (1 kg) 50 mm @ 22°C			6-8 hrs
Demould time (5 kg) 50 mm @ 22°C			4-6 hrs

Mixing Instructions

Mix the resin component (Part A) thoroughly in order to homogenise the light sediment. Mix carefully, avoiding air entrapment. Add the hardener (Part B) to the filled resin, mix thoroughly. The mould should be clean and dry, and have been treated with release agent **R7** or **R5** before casting. Polish if necessary, to obtain the desired surface finish.

Casting

Pour the mix slowly in one place into the mould, allowing the material to find its own level. Complete within the stated pot life of the material.

Curing

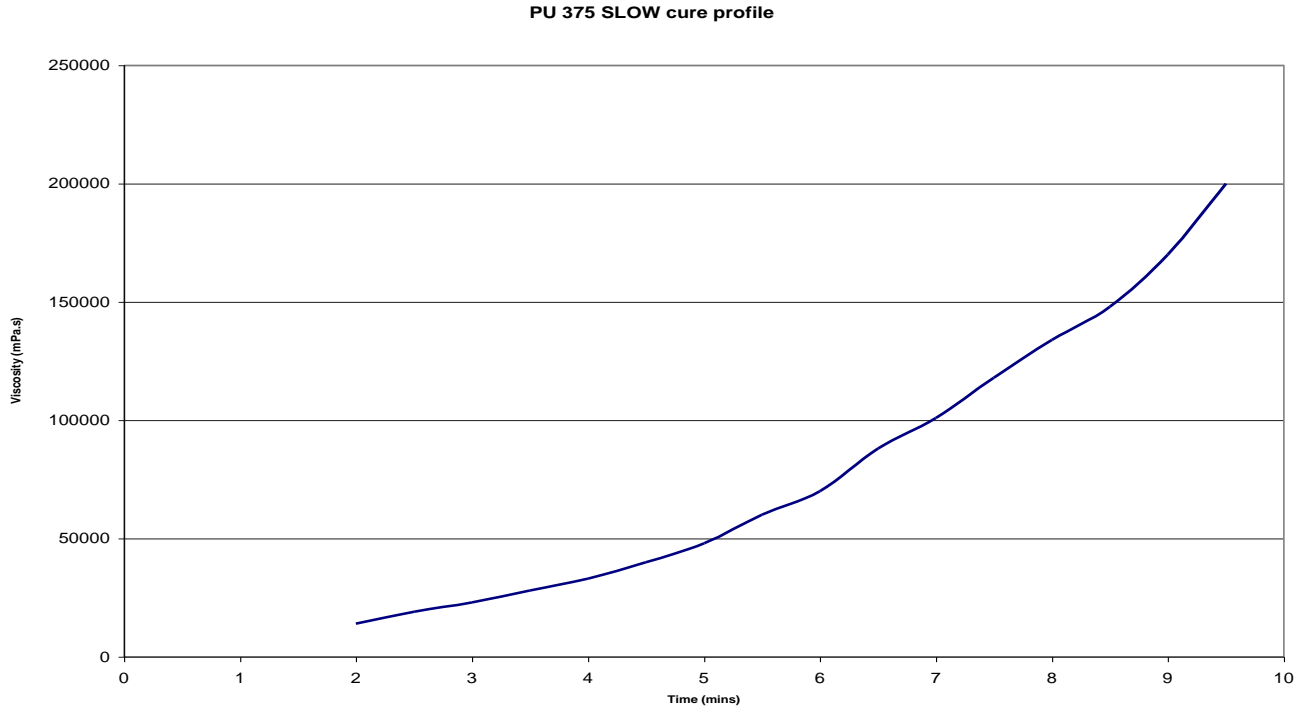
Allow to cure at room temperature for at least 4-6 hours before demoulding. Demould times will vary with the thickness of casting, for example, thin sections may take up to 12 hours before they can be demoulded.

The full thermal resistance will not be reached until 3-4 days after casting. In order to speed this up, a post-cure procedure of 2 hrs at 60°C + 2 hrs at 80°C + 2 hrs at 100°C will give the full thermal resistance straight away.

Typical cured properties

Property	Cured 7 days at room temperature
Shore hardness (D)	75-80
Machinability	Excellent
Linear shrinkage 500 x 50 x 10 mm	0.1 %
Glass Transition Tg (DSC)	90-100°C

Cure Profile



Storage

Polyurethane system PU 375S can be stored for three months in the original well sealed packaging, in a cool, dry place. The Part B may crystallise if not stored above 10-15°C. Long storage may cause settlement of the mineral fillers. The two components are moisture sensitive (like all PU's) **KEEP THE PACKAGING TIGHTLY SEALED WHEN NOT IN USE.** Moisture absorption may cause expansion during application.

Packaging

PU 375SA	4 X 9 Kg	25 Kg
PU 375SB	1 X 5.4 Kg	3.75 Kg

Our technical advice, whether verbal, or in writing is given in good faith, but without warranty – this also applies where proprietary rights of third parties are involved. It does not release you from the obligation to test the products supplied by us as to their suitability for the intended process and use.

Other Alchemix fast cast polyurethanes

PU 375 Prefilled polyurethane. Easily mixed and has a very quick cure time with negligible shrinkage. Very easy to machine.

PU 376 Prefilled with aluminum powder for a quick demould. Will withstand temperatures up to 120°C without post curing.

PU 376S As above, but with an extended pot life so that very large castings may be performed.

PU 377 Prefilled with abrasive powders to facilitate a very abrasion resistant casting resin.

PU 363 Unfilled. Can be used with mineral fillers (sold separately) in variable ratios, or without fillers to produce thermoplastic-like parts.

PU 365 Unfilled. Low cost resin can be used filled or unfilled in various application areas.

PU 366 Water clear casting resin, U.V. stable with a very low viscosity and is suitable for encapsulating, model-making or prototyping.
