

TECHNICAL DATA SHEET

PU 363 A/B

Fast-cast polyurethane system
Unfilled, 100:100 mixing ratio

PU 363 is an odourless two component polyurethane system which is designed for rapid demould times and can be used filled or unfilled. PU 363 is used unfilled in prototyping and model-making areas, or filled with mineral or metallic fillers in pattern-making.

Main Features

Very rapid demould times

Odourless – contains no hazardous solvents

Good thermal resistance

Very low viscosity

Mixing Ratio by weight

PU 363A : PU 363B
100 : 100

Product Data

	PU 363A	PU 363B	MIXTURE
Material	polyol	Isocyanate	
Appearance	White liquid	Brown liquid	beige liquid
Density @ 25°C	0.99 g/ml	1.12 g/ml	1.06 g/ml
Viscosity @ 25°C	175-180 mPa.s	25-35 mPa.s	80 mPa.s
Pot life (200 g) @ 20°C			140-160 seconds
Demould time 20 g, 2mm @ 25°C			25-30 minutes
Demould time 100 g, 20mm @ 25°C (filled with 150% A91 filler)			15 minutes

Mould Preparation

Ensure that the mould is clean and dry and if the mould is made from metal, wood or resin, use a release agent such as **R7**. For flexible moulds, use **RTV silicone rubber**. If the mould is wooden, ensure the wood is well sealed with varnish and/or wax based release agents such as **R7**.

Resin Preparation

Shake the Part A can thoroughly in order to homogenise the resin. For best results, make sure the two components are at least 20°C before mixing.

Mixing instructions

When using unfilled, add the correct amount of Part B to the Part A and stir for 15-30 seconds. Pour carefully in one place into the mould in order to avoid air inclusion. If using filled, we recommend the use of a 150% mixing ratio, i.e. for 100 g of A and 100 g of B, 300 g of filler. Use Alchemix **A91** mineral filler for general bulking out and shrinkage reduction, or Alchemix **A83** (Aluminium powder) for higher temperature applications. Large quantities of material, filled or unfilled, will always produce more exotherm and will gel quicker than smaller amounts.

Curing

The casting can generally be demoulded in 15-30 minutes at room temperature. The precise demould time will vary with casting thickness, as thin section units will cure slower than thicker section units. When casting thin wall sections, ensure that the mould and resins are at least 20-25°C to facilitate a good cure and reduce the risk of brittleness.

Cured Properties

Property	Cured 48 hrs @ 25°C
Shore hardness (D)	70-75
Linear Shrinkage (500 x 50 x 10 mm)	0.05% (150% A91)
Tensile Strength ISO 527-2:1993	20-25 MPa
Elongation @ break ISO 527-2:1993	10-15%
Flexural Strength ISO 178:1993	30-35 MPa
Flexural Modulus ISO 178:1993	1000-1350 MPa
Glass Transition (Tg) (DSC)	110°C

Storage

Store both components A and B at 20-25°C. The Part B may crystallise partially or completely if not stored at above 20°C. The two components are moisture sensitive (like all PU's) KEEP THE PACKING TIGHTLY SEALED WHEN NOT IN USE. Moisture absorption will cause excessive aeration in cast parts. Shelf life is 6 months unopened.

Packaging

PU 363A	1 kg	5 kg	20 kg
PU 363B	1 kg	5 kg	20 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.

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Other Alchemix hand casting polyurethanes

- PU 364** Ultra-low viscosity resin designed to be used unfilled for model-making and prototyping. Simulates polypropylene and has a rapid cure even in thin sections.
- 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.
- PU 368** Unfilled resin used for prototyping or any other application that requires good impact resistance and strength in thin sections. Use filled for ultra-low shrinkage.
- PU 369** Unfilled resin that has a 15-20 minute pot life and so is ideal for any application where the material must be degassed in the mould eg. Master figurines.
- PU 375** Prefilled polyurethane. Easily mixed and has a very quick cure time with negligible shrinkage. Very easy to machine.
- RTV 847, 863** Condensation cured silicone rubbers. Excellent tear strengths with hardness ranging from 15-28 Shore A.
- RTV 260** Addition cured silicone rubbers of 40 Shore A hardness. Extremely high tear strengths and elongations and superb dimensional accuracy.