

Technical Data Sheet

ALCHEMIX® PU 3438

*Two Part, Hydrophobic Polyurethane System
65 – 70 Shore A Hardness*

ALCHEMIX PU 3438 is a tough, elastomeric polyurethane system specifically formulated for use as a shock absorber in off shore applications. ALCHEMIX PU 3438 is exceptionally hydrophobic and will cure in damp conditions or when completely submerged in water. ALCHEMIX PU 3438 has a renewable raw material content of 47%. The product is available in high visibility orange or unpigmented (ALCHEMIX PU 3438 Natural).

Special Features

- Long pot life
- Exceptionally hydrophobic
- Cures under water
- Excellent resistance to oil
- Tough and durable
- High renewable content (47%)

Mix Ratio

PU 3438A : PU 3438B
By Weight 100 : 23

Product Data

Property	Units	PU 3438A	PU 3438B	Mix
Material	-	Formulated Polyol	Isocyanate	Polyurethane
Appearance	-	Orange or Beige Liquid	Brown Liquid	Orange or Beige Liquid
Viscosity (25 °C)	mPa.s	1700 – 2200	180 – 240	1400 – 1700
Density (25 °C)	g/cm ³	1.04 – 1.09	1.20 – 1.25	1.12 – 1.17
Pot life (200g, 25 °C)	Minutes	-	-	60 – 70
Cure Time (200g, 25 °C)	Hours	-	-	24
Full Cure Time (200g, 25 °C)	Days	-	-	7

Technical Data Sheet

Cured Properties

Properties	Standard	Units	Result (Full Cure)
Hardness	BS EN ISO 868	Shore A	65 – 70
Tensile Strength	BS EN ISO 37	MPa	1.6 – 2.0
Elongation at Break	BS EN ISO 37	%	65 – 70
Tear Strength	BS EN ISO 34	N/mm	6.5 – 7.0
Renewable Content	-	%	47%

Surface Preparation

ALCHEMIX PU 3438 will cure in a variety of demanding conditions, such as on wet, damp, rusted or oily substrates and will cure under water. For optimum adhesion, any surfaces should be cleaned prior to casting. All dust, oil, grease and other contaminants should be removed. Abrading the surface will aid adhesion and ensure that no contamination is present. Ideally, ambient and substrate temperatures should be 18 – 25°C

Mixing Instructions

ALCHEMIX PU 3438A should be homogenised before use. Ensure that both components are at least 20°C before mixing. For best results, we recommend that ALCHEMIX PU 3438 be machine dispensed. To hand mix ALCHEMIX PU 3438, add the correct amount of ALCHEMIX PU 3438B to the ALCHEMIX PU 3438A and mix thoroughly, making sure that the material at the sides of walls and at the bottom is well stirred in to the middle. Pour carefully and in one place into the cavity in order to avoid air inclusion.

Curing

We recommend that ALCHEMIX PU 3438 be cured at ambient temperature. Full cure can take between 2 – 7 days depending on ambient conditions and casting size. Lower ambient temperature will result in a slower cure. Thicker castings will cure more quickly than thinner castings.

Technical Data Sheet

Storage

ALCHEMIX PU 3438A and PU 3438B should be stored in original, unopened containers between 20 and 25 °C. ALCHEMIX PU 3438B may crystallise partially or completely if not stored at above 20 °C. Like all polyurethanes, both components are moisture sensitive. Moisture absorption will cause excessive aeration in cast parts. KEEP THE PACKING TIGHTLY SEALED WHEN NOT IN USE.

If stored under the above conditions, ALCHEMIX PU 3438A and PU 3438B will have a shelf life of 6 months, from the date of production.

Packaging

PU 3438A is supplied in 250kg drums.

PU 3438B is supplied in 250kg drums.

(Please contact Alchemie Ltd for smaller pack sizes.)

Further Information

This data is not to be used for specifications. Values listed are for typical properties and should not be considered minimum or maximum.

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.

Before using any of our products, users should familiarise themselves with the relevant Technical and MSDS provided by Alchemie Ltd.

Technical Data Sheet

Alchemie Limited

Alchemie Ltd develop, formulate and distribute Epoxy Resins, Polyurethane Resins, Silicones, Model Boards and Sheet Wax for use in the following applications:

- Electrical encapsulation
- Rapid Prototyping
- Prototypes
- Casting
- Gel Coating
- Laminating
- Model Making
- Master Models
- Flexible and rigid mould making

We offer fast service, technical support, development expertise, innovative products, diverse knowledge and experience.

We are a well-established company, with a high level of investment and experience. We implement BS EN ISO 9001.

Alchemie® and Alchemix® are registered Trademarks of Alchemie Ltd, Warwick Road, Kineton, Warwick, England, CV35 0HU, England, United Kingdom. Ph: +44 (0)1926 641600; FAX: +44 (0)1926 641698