

ALCHEMIX® PU 3435

*Two Part, Flexible Polyurethane System
80 – 90 Shore A Hardness*

ALCHEMIX PU 3435 is a tough flexible polyurethane system of 80 – 90 Shore A, designed specifically for offshore applications requiring good tensile strength and chemical resistance. The system has a fast cure and exhibits a rapid development of properties. A faster curing version, ALCHEMIX PU 3435F, is also available.

Special Features

- Excellent physical properties
- Good chemical resistance
- Good resistance to sea water
- Low viscosity
- Long pot life

Mix Ratio

By Weight **PU 3435 : PU 3435**
100 : 25

Product Data

Property	Units	PU 3435A	PU 3435B	Mix
Material	-	Formulated Polyol	Isocyanate	Polyurethane
Appearance	-	Orange or Beige Liquid	Brown Liquid	Orange or Beige Liquid
Viscosity (25 °C)	mPa.s	3,000 – 4,000	80 – 110	1,400 – 2,000
Density (25 °C)	g/cm ³	1.35 – 1.40	1.20 – 1.25	1.32 – 1.37
Pot life (200g, 25 °C)	Minutes	-	-	30 – 40
Demould Time (200g, 25 °C)	Hours	-	-	24
Full Cure (200g, 25 °C)	Days	-	-	7

Cured Properties

Properties	Standard	Units	Result (Full Cure)
Hardness	BS 2782: Part 3: Method 365B	Shore A	80 – 90
Linear Shrinkage	500 x 50 x10 mm	%	TBC
Tensile Strength	BS 2782: Part 3: Method 320B	MPa	5.0 – 6.0
Elongation at break	BS 2782: Part 3: Method 320B	%	90 – 100
Tear Strength	BS 903: Part A3	kN/m	30.0 – 35.0

Mould Preparation

Ensure that the mould or cavity to be filled is clean and dry. If demould is required, use a release agent such as RELEASE AGENT R7 or use silicone moulds, we recommend ALCHEMIX RTV Silicone Rubber, please contact our technical department for more advice.

Mixing Instructions

Stir the ALCHEMIX PU 3435A container thoroughly in order to homogenize the resin. Ensure that both components are at least 20°C before mixing.

ALCHEMIX PU 3435 can be machine mixed or mixed by hand. ALCHEMIX PU 3435A should be mixed with ALCHEMIX PU 3435B according to the indicated mixing ratio. If mixing by hand, care should be taken to avoid air entrapment and make certain that material at bottom and sides of container is thoroughly stirred into centre. After thorough mixing, the material should be poured into the mould. To avoid air entrapment, pour the material slowly, and into one place in the mould. Vacuuming the mixed product can reduce the amount of trapped air in the product, but is not always necessary. Mixing, pouring and degassing must be completed within the stated pot life.

Curing

At room temperature, full cure is generally achieved after 7 days. The product can usually be demoulded after 24 hours. The precise demould time and cure time will vary with the casting thickness and cure temperature. Thin sections will cure slower than thicker sections. Increased temperature (resin temperature, mould temperature or ambient temperature) will speed up the cure.

Shrinkage

The shrinkage value above is quoted as a guide only. Shrinkage will vary with each casting, as factors such as mould size and geometry can affect the degree of shrinkage. Generally speaking, large, thick castings will have a greater degree of shrinkage than small, thin castings. Other factors, such as mould temperature and resin temperature can also have an effect. Post curing the part can also lead to a greater degree of shrinkage. Please contact Alchemie Ltd for more information.

Storage

ALCHEMIX PU 3435A and B should be stored in original, unopened containers between 20 and 25°C. ALCHEMIX PU 3435B 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 3435A and B will have a shelf life of 6 months, from the date of production.

Packaging

ALCHEMIX PU 3435A is supplied in 1kg, 5kg and 25kg containers.
ALCHEMIX PU 3435B is supplied in 250g, 1.25kg and 6.25kg containers.

(Please contact Alchemie Ltd regarding bulk supply)

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.

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.

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