

Technical Data Sheet

ALCHEMIX[®] VC 3364

*Two Part Polyurethane Vacuum Casting System
Brilliant White*

ALCHEMIX VC 3364 is a two component polyurethane vacuum casting resin designed to simulate thermoplastics such as shock resistant PMMA and ABS. The system is specifically designed for use in gravity vacuum casting machines. This product does not contain toxic aliphatic isocyanates or mercury catalysts and cures to brilliant white colour.

Special Features

- Non toxic
- Low viscosity
- Preheating of resin or hardener not required
- Rapid demould
- Brilliant White

Mix Ratio

By Weight **VC 3364A : VC 3364B**
100 : 100

Product Data

Property	Units	VC 3364A	VC 3364B	Mix
Material	-	Polyol	Isocyanate	Polyurethane
Appearance	-	White liquid	Clear liquid	White liquid
Viscosity (25°C)	mPa.s	400 – 700	200 – 300	300 – 600
Density (25°C)	g/cm ³	1.07 – 1.12	1.18 – 1.23	1.13 – 1.18
Pot life (200g, 25°C)	Minutes	-	-	6 – 8
Demould Time (70°C)	Minutes	-	-	30 – 40 (depending on thickness)
Maximum Casting Thickness	mm	-	-	15

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Cured Properties

Properties	Standard	Units	Result (Full Cure)
Hardness	BS EN ISO 868	Shore D	82 – 87
Linear Shrinkage	500 x 50 x 10mm	%	0.20 – 0.40
Tensile Strength	BS EN ISO 527	MPa	70 – 80
Elongation at Break	BS EN ISO 527	%	8.0 – 10.0
Flexural Strength	BS EN ISO 178	MPa	90 – 105
Flexural Modulus	BS EN ISO 178	MPa	2300 – 2750
Heat Distortion Temperature	TMA	°C	65 – 70

Mould Preparation

Carefully clean the mould, then spray silicone release agent onto the surface. Ensure that the surface is dry before coupling the mould parts. Heat the mould in an oven to 60 – 70°C; this may take several hours if the mould is very large. Splitting the tool will speed up the warming process. We do not recommend the use of condensation cured silicone rubber with this product. For best results, use ALCHEMIX RTV 250 silicone rubber.

Resin Preparation

Open both A and B containers and examine for any signs of crystallization, place in the oven at 45 – 60°C if any crystals are observed, cool to room temperature before use. Both components should be heated to **20 – 25°C** before use.

Mixing/casting

Weigh ALCHEMIX VC 3364A into cup A and ALCHEMIX VC 3364B into cup B. When making the first mix allow an additional amount of A to account for the cup loss. Degas for 5 – 7 minutes, whilst slowly mixing cup B. After degassing, pour cup A into cup B while mixing. Mix the A and B components for 45 seconds, this will ensure thorough mixing of the components. When mixing is complete pour the mixed material into the mould. When material can be seen exiting from the risers break the vacuum.

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Curing

Place the mould in an oven at 70°C for 30 – 40 minutes immediately after casting. Curing time, especially in thin sections, will depend on mould temperature. The warmer the mould, the quicker the cure. We do not recommend this resin to be cast to more than 15 mm depth.

Storage

ALCHEMIX VC 3364A and B should be stored in original, unopened containers between 20 and 25°C. ALCHEMIX VC 3364B may crystallize 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 VC 3364A and B will have a shelf life of 6 months, from the date of production.

Packaging

VC 3364A is supplied in 1kg containers.
VC 3364B is supplied in 1kg containers.

Further Information

All data listed relates to typical values. This data should not be considered a product specification.

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 this product users should familiarize themselves with the relevant MSDS provided by Alchemie Ltd.

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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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