

## ALCHEMIX<sup>®</sup> VC 3341

*Water Clear, UV Stable Polyurethane Vacuum Casting System  
85 – 90 Shore D Hardness*

ALCHEMIX VC 3341 is a UV stable, water clear polyurethane vacuum casting resin designed to simulate thermoplastics such polycarbonate, shock resistant PMMA and ABS. ALCHEMIX VC 3341 has excellent mechanical properties and extremely high heat distortion temperature. The system is specifically designed for use in gravity vacuum casting machines.

### Special Features

- High heat distortion temperature
- Optically clear
- UV stable
- Extremely rigid
- Low viscosity

### Mix Ratio

**VC 3341A : VC 3341B**  
By Weight 100 : 150

### Product Data

Property	Units	VC 3341A	VC 3341B	Mix
Material	-	Polyol blend	Isocyanate	Polyurethane
Appearance	-	Clear liquid	Clear liquid	Clear liquid
Viscosity (25°C)	mPa.s	700 – 1000	20 – 40	100 – 200
Density (25°C)	g/cm <sup>3</sup>	1.04 – 1.09	1.04 – 1.09	1.04 – 1.09
Pot life (200g, 25°C)	Minutes	-	-	7 – 8
Demould Time (70°C)	Minutes	-	-	60 – 90
Maximum Casting Thickness	mm	-	-	40

## Cured Properties

Properties	Standard	Units	Result (Full Post Cure)
Hardness (25°C)	BS 2782: Part 3: Method 365B	Shore D	85 – 90
Linear Shrinkage	500 x 50 x10 mm	%	0.20 – 0.40
Tensile Strength	BS 2782: Part 3: Method 320B	MPa	30 – 40
Elongation at Break	BS 2782: Part 3: Method 320B	%	4 – 5
Flexural Strength	BS 2782: Part 3: Method 335A	MPa	70 – 80
Flexural Modulus	BS 2782: Part 3: Method 335A	MPa	1900 – 2100
Softening Point	Alchemie STM	°C	95 – 100
Resistance to Diesel	Full immersion 7 days	-	Excellent

## 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. Part A should be heated to 40°C and part B to 25°C before use. If using pigments, add the pigment to the part A. We suggest using 1 – 3% pigment.

## **Mixing/casting**

Weigh ALCHEMIX VC 3341A into cup A and ALCHEMIX VC 3341B into cup B. When making the first mix allow an additional amount of A to account for the cup loss. Degas for 8 minutes, whilst slowly mixing cup B. After degassing, pour cup A into cup B while mixing. Mix the A and B components for 60 – 90 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.

## **Curing**

Place the mould in an oven at 70°C for 30 – 45 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 3341A and B should be stored in original, unopened containers between 20 and 25°C. ALCHEMIX VC 3341B 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 3341A and B will have a shelf life of 3 months, from the date of production.

## **Packaging**

VC 3341A is supplied in 670g containers.

VC 3341B 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.

## **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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