Technical Data Sheet

ALCHEMIX® VC 3362

Two Part, High Temperature Polyurethane Vacuum Casting System
87 – 92 Shore D Hardness

ALCHEMIX VC 3362 is a high temperature, polyurethane vacuum casting resin designed to simulate thermoplastics such ABS. The system is specifically designed for use in gravity vacuum casting machines.

Special Features

- High heat resistance
- Extremely rigid
- Very strong on demould

Mix Ratio

	VC 3362A :	**VC 3362B**
By Weight	100 :	100

Product Data

Property	**Units**	**VC 3362A**	**VC 3362B**	**Mix**
Material	-	Polyol blend	Isocyanate	Polyurethane
Appearance	-	Straw coloured liquid	Brown Liquid	Brown liquid
Viscosity (25°C)	mPa.s	1000 – 1500	50 – 90	280 – 380
Density (25°C)	g/cm^3	1.05 – 1.10	1.20 – 1.25	1.12 – 1.17
Pot life (200g, 25°C)	Minutes & Seconds	-	-	3 min 30 – 4 min 30
Pot life (200g, 40°C)	Minutes & Seconds	-	-	2 – 3 min
Demould Time (70°C)	Minutes	-	-	45 – 60 (depending on thickness)
Maximum Casting Thickness	mm	-	-	10

Cured Properties

Properties	Standard	Units	Result (Full Post Cure)
Hardness **25°C** **120°C** **125°C** **130°C**	BS 2782: Part 3: Method 365B	Shore D	 90 65 57 50
Linear Shrinkage	500 x 50 x10 mm	%	0.20 – 0.40
Tensile Strength	BS 2782: Part 3: Method 320B	MPa	70 – 75
Elongation at break	BS 2782: Part 3: Method 320B	%	10 – 12
Flexural Modulus	BS 2782: Part 3: Method 335A	MPa	2500 – 2800
Heat Distortion Temperature (HDT)	TMA	°C	95 – 100

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. Both components should be heated to 40°C before use. If using pigments, add the pigment to the part A. We suggest using 1 – 3% pigment.

Mixing/casting

Weigh ALCHEMIX VC 3362A into cup A and ALCHEMIX VC 3362B into cup B. When making the first mix allow an additional amount of A to account for the cup loss. Degas for at least 10 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.

Curing

Place the mould in an oven at 70°C for 45 – 60 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 10 mm depth.

Post Cure

To achieve full high temperature properties, a step wise post cure treatment is recommended. Heat to 70°C for 1 hour, followed by 80°C for 2 hours, followed by 110°C for 2 hours. Then allow the product to slowly return to room temperature. The product can be used without post cure or with partial post cure, but will not achieve full high temperature properties.

Storage

ALCHEMIX VC 3362A and B should be stored in original, unopened containers between 20 and 25°C. ALCHEMIX VC 3362B 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 3362A and B will have a shelf life of 6 months, from the date of production.

Packaging

VC 3362A is supplied in 1kg containers.
VC 3362B 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.