

TECHNICAL DATA SHEET

ALCHEMIX[®] VC 3360 A/B

*Vacuum Casting polyurethane system
High Modulus system, high heat resistance*

VC 3360 is a vacuum casting polyurethane which is designed to be used in gravity vacuum casting machines. The cured material has excellent mechanical properties that simulate thermoplastics such as Nylon and glass filled Nylon. The material also has a high degree of heat resistance and demould times can be as quick as **20 minutes**.

Main Features

Very rigid (3000 MPa Flex.Modulus)

Rapid & Easy demould

Easily pigmentable

Excellent thermal resistance

Mixing Ratio by weight

**VC 3360A : VC 3360B
100 : 120**

Product Data

| | VC 3360A | VC 3360B | MIXTURE |
|----------------------------------|-----------------|-----------------|----------------|
| Material | polyol | Isocyanate | |
| Appearance | Opaque liquid | Clear liquid | Opaque liquid |
| Density @ 25°C | 1.03 g/ml | 1.15 g/ml | 1.08 g/ml |
| Viscosity @ 45°C | 350 mPa.s | 80-90 mPa.s | 180 mPa.s |
| Pot life (110 g) @ 40°C | | | 3 minutes |
| Demould time @ 65°C | | | 20-40 minutes |
| Maximum casting thickness | | | 15 mm |

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 crystallisation, place in the oven at 45-60°C if any crystals are formed. The pot life and mix time of the material depends on the resin temperature. Below is a guide:

| Resin temperature: | Pot life (110 g) | Mix time |
|--------------------|------------------|----------|
| 40°C | 3 mins | 45 secs |
| 50°C | 2 mins | 30 secs |

Measuring

Weigh A into cup A and B into cup B. When making the first mix allow an additional amount of A to account for the cup loss.

Mixing

If using pigments, add the pigment to the part A (do not use more than 5% pigment). Mix the A and B for **45-60 seconds**, depending on the resin temperature (see **Resin Preparation**). This will ensure thorough mixing of the components.

Curing

Place mould in an oven at 60-70°C for 20-40 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 casting to more than 15 mm depth.

IMPORTANT

We do not recommend the use of VC 3360 without the material being mixed and poured into the mould under vacuum, as this often results in a mottled surface and bubbles in the castings.

Cured Properties

| Property | Cured 45 mins @ 70°C + 16 hrs @ 70°C |
|---------------------------------------|--|
| Shore hardness (D) | 80-85 |
| Linear Shrinkage (500 x 20 x 5 mm) | 0.29% |
| Tensile Strength ISO 527-2:1993 | 80-85 MPa |
| Elongation @ break ISO 527-2:1993 | 10-11% |
| Flexural Strength ISO 178:1993 | 120-125 MPa |
| Flexural Modulus ISO 178:1993 | 2900-3100 MPa |
| Glass Transition (Tg) (DSC) | 100°C |

Storage

Store both components A and B at 25-30°C. The Part B may crystallise partially or completely if not stored at above 20°C. The two components are moisture sensitive (like all PU's) KEEP THE PACKING TIGHTLY SEALED WHEN NOT IN USE. Moisture absorption will cause excessive aeration in cast parts.

Packaging

VC 3360A 0.835 kg

VC 3360B 1 kg

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.

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Other Alchemix vacuum casting polyurethanes

- VC 330** **A clear polyurethane for general clear or pigmented castings. Quick demould and rigidity like ABS. MDI based system.**
- VC 331** **A flexible polyurethane of 40 Shore A hardness. Easily pigmentable and quick curing.**
- VC 332** **A flexible polyurethane of 60 Shore A hardness. Easily pigmentable with very high elongation and tear strength.**
- VC 333** **A semi-flexible polyurethane of 85 Shore A hardness. Easily pigmentable and a very quick cure.**
- VC 334S** **A slower version of VC 334 which can be cast in a thickness of up to 40 mm, and can be cast without vacuum.**
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