

# ALCHEMIX<sup>®</sup> EP 4307

*2 Component, Low Density, Epoxy Modelling Dough  
50 – 55 Shore D Hardness*

Alchemix EP 4307 is a two component, hand-mixed epoxy paste system that is particularly suitable for the manufacture of Design/Styling models or Master models. Once cured the material can be easily machined or worked with hand tools to give a very smooth surface finish.

## Special Features

- Low density.
- Easily machined to an excellent surface finish.
- Low level of abrasion/wear on tools.
- Can be applied up to 25mm thick without slumping.
- High HDT.
- Excellent adhesion to common core modelling materials such as expanded polystyrene, wood or modelboard.

## Applications

- Design and Styling Models.
- Master Models.
- Moulds.

## Mix Ratio

**Epoxy : Hardener**  
By Weight/Volume 100 : 100

## Product Data

Property	Units	Epoxy	Hardener	Mix
Material	-	Filled epoxy resin	Filled amine	Epoxy
Appearance	-	Brown Dough	Cream Dough	Pale Brown Dough
Viscosity (25°C)	-	Paste	Paste	Paste
Density (25°C)	g/cm <sup>3</sup>	0.50 – 0.60	0.50 – 0.60	0.50 – 0.60
Process Time (100g, 25°C)	Minutes	-	-	100 – 120

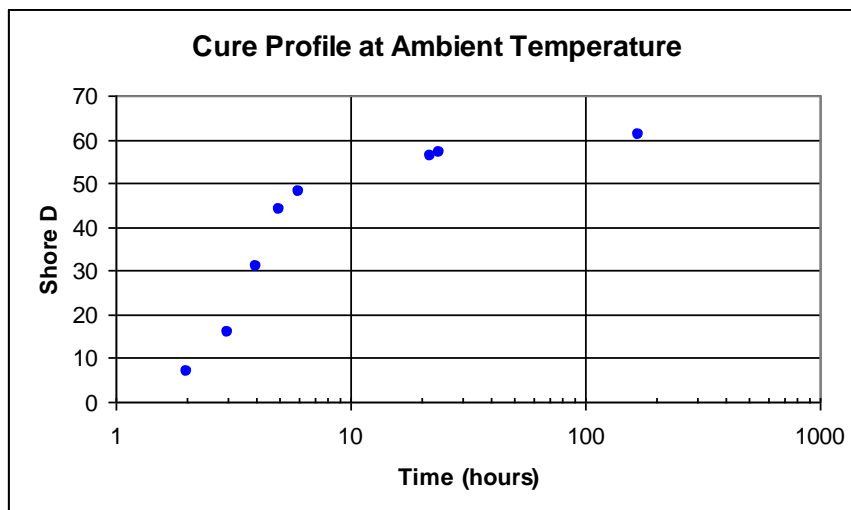
**Cured Properties**

Properties	Standard	Units	Result (Full Cure)
Hardness	BS 2782: Part 3: Method 365B	Shore D	55 – 60
Coefficient of Thermal Expansion	TMA	$10^{-6} \text{ K}^{-1}$	5 – 10
Heat Deflection Temperature (HDT)	TMA	°C	75 – 80
Glass Transition Temperature (Tg)	TMA	°C	70 – 75
Compressive Strength	ISO 604	MPa	10 – 15
Flexural Modulus	BS 2782: Part 3: Method 335A	MPa	300 – 450
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Linear Shrinkage	500 x 50 x10 mm	%	0.06%

**Method of Use**

Small quantities, up to 1kg, of EP 4307 can be easily mixed by hand. Thoroughly knead the resin and the hardener according to the indicated mixing ratio. The mixed material should be streak free, and of uniform colour. Incomplete mixing will significantly reduce the physical properties of the system and may result in incomplete or no cure. The mixed material should be used within the stated process time. For larger quantities it is recommended to use a mechanical mixer such as a Z-blade or planetary mixer.

**Cure Profile**



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Alchemix EP 4307 reaches a handleable strength after 5 hours and can be machined after 16 hours (overnight), however, for optimum performance results and reproducibility, we recommend curing at 40°C for 16 hours.

## **Storage**

ALCHEMIX EP 4307 and H 4307 should be stored in original, unopened containers between 15 and 25°C. KEEP THE PACKING TIGHTLY SEALED WHEN NOT IN USE.

If stored under the above conditions, ALCHEMIX EP 4307 and H 4307 will have a shelf life of 12 months, from the date of production.

## **Packaging**

Please contact Alchemie Ltd.

## **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 any of our products, users should familiarise themselves with the relevant Technical and MSDS provided by Alchemie Ltd.

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## **Alchemie Limited**

Alchemie Ltd develops, 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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