

# Technical Data Sheet

## ALCHEMIX<sup>®</sup> EP 571 – H3 / H8

*High Temperature Epoxy Resin System  
87 – 95 Shore D Hardness*

ALCHEMIX EP 571 is a high temperature laminating resin system. It has low viscosity, enabling good wetting of fibres and fillers. A superior modified resin system, possessing good heat distortion resistance, used with HARDENER H3 or H8 either singly or blended produces versatility in pot life and cure time.

ALCHEMIX EP 571 is formulated for applications such as RIM tooling, marine, aerospace, vacuum forming tooling and other applications requiring high heat dimensional stability.

### Mix Ratio

|                  |                    |           |
|------------------|--------------------|-----------|
|                  | <b>EP 571 : H3</b> | <b>H8</b> |
| <b>By Weight</b> | 100 : 25           |           |
| <b>By Weight</b> | 100 :              | 25        |

### Product Data

| Property                       | Units             | EP 571       | H3                  | H8                  |
|--------------------------------|-------------------|--------------|---------------------|---------------------|
| <b>Material</b>                | -                 | Epoxy resin  | Formulated amine    | Formulated amine    |
| <b>Appearance</b>              | -                 | Clear liquid | Straw colour liquid | Straw colour liquid |
| <b>Viscosity (25 °C)</b>       | mPa.s             | 1600 – 2400  | 150 – 250           | 45 – 65             |
| <b>Density (25 °C)</b>         | g/cm <sup>3</sup> | 1.13 – 1.18  | 0.98 – 1.03         | 0.91 – 0.96         |
| <b>Mixed Viscosity (25 °C)</b> | mPa.s             | -            | 1300 – 1800         | 800 – 1300          |
| <b>Mixed Density (25 °C)</b>   | g/cm <sup>3</sup> | -            | 1.10 – 1.15         | 1.09 – 1.14         |
| <b>Pot Life (200g, 25 °C)</b>  | Mins              | -            | 40 – 50             | 120 – 140           |

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## Cured Properties

| Properties                        | Standard      | Units   | H3<br>(Post Cured) | H8<br>(Post Cured) |
|-----------------------------------|---------------|---------|--------------------|--------------------|
| Hardness                          | BS EN ISO 868 | Shore D | 87 – 92            | 90 – 95            |
| Tensile Strength                  | BS EN ISO 527 | MPa     | 25 – 35            | 20 – 30            |
| Elongation at Break               | BS EN ISO 527 | %       | 3 – 4              | 2 – 3              |
| Flexural Strength                 | BS EN ISO 178 | MPa     | 85 – 95            | 110 – 120          |
| Flexural Modulus                  | BS EN ISO 178 | MPa     | 2300 – 2700        | 2600 – 3000        |
| Heat Distortion Temperature (HDT) | TMA           | °C      | 130 – 135          | 135 – 140          |

Above values refer to pure resin, properties of the laminate will differ and will depend on the reinforcements used.

## Method of Use

### **Preparation**

Before use ensure that the resin, fibre or filler and Gelcoat are compatible. For advice on the choice of Gelcoat and for processing instructions, please contact Alchemie Ltd.

### **Mixing Instructions**

Thoroughly mix the resin and the hardener according to the indicated mixing ratio, avoiding air entrapment and make certain that the material at the bottom and sides of the container is well stirred into the centre. The mixed material should be used within the stated pot life. Please note that the pot life is mentioned for 200g test sample mixing larger quantities will shorten the pot life similarly smaller quantities will increase the pot life.

### **Curing and Post Curing**

To achieve full high temperature properties, post cure treatment is recommended. Allow the product to cure at room temperature for at least 24 hours and then heat to 60°C for 1 hour, followed by 100°C for 1 hour, followed by 120°C for 5 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 physical properties.

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## **Storage**

ALCHEMIX EP 571, HARDENER H3, and HARDENER H8 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 571, HARDENER H3, and HARDENER H8 will have a shelf life of 12 months, from the date of production.

## **Packaging**

ALCHEMIX EP 571 is supplied in 5kg, 20kg and 200kg containers.  
HARDENER H3 is supplied in 1.25kg, 5kg and 12.5kg containers.  
HARDENER H8 is supplied in 1.25kg, 5kg and 12.5kg containers.

(Please contact Alchemie Ltd for bulk supply)

## **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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