

## ALCHEMIX<sup>®</sup> EP 5753 – H5753HT

*Epoxy Resin System with High Temperature Resistance  
Long Working Time*

ALCHEMIX EP 5753 – H5753HT is an epoxy laminating resin exhibiting high temperature resistance and excellent mechanical properties. ALCHEMIX EP 5753 – H5753HT is ideal for resin infusion, resin transfer moulding (RTM), filament winding, pultrusion and wet lay up applications. The system is formulated to produce high performance composite parts using a wide variety of fibre systems, including carbon fibre, glass fibre and aramid fibre. The system has been formulated to ensure efficient wetting of fibres, eliminating air entrapment, dry spots and porosity in the composite part.

### Special Features

- High glass transition temperature (103 – 109°C)
- Long working time
- Excellent fibre wetting
- Excellent mechanical properties

### Mix Ratio

**EP 5753 : H5753HT**  
By Weight 100 : 29

### Product Data

Property	Units	EP 5753	H5753HT	Mix
Material	-	Epoxy Resin	Formulated Amine	-
Appearance	-	Pale Liquid	Straw Colour Liquid	Straw Colour Liquid
Viscosity (25°C)	mPa.s	400 – 700	60 – 100	250 – 450
Density (25°C)	g/cm <sup>3</sup>	1.13 – 1.18	0.90 – 0.95	1.07 – 1.12

# Technical Data Sheet

## Working Time and Cure Speed

Property	Units	Typical Value
Pot life (200g, 25°C)	Hours & Minutes	2 hours 40 – 3 hours 40
Cure Time (200g, 25°C)	Hours	24 – 48
Full Cure (25°C)	Days	7 (Post cure recommend)
Minimum Curing Temperature	°C	20

## Cured Properties

Properties	Standard	Units	Result (Full Cure)
Hardness	BS EN ISO 868	Shore D	83 – 87
Tensile Strength	BS EN ISO 527	MPa	58 – 64
Elongation at Break	BS EN ISO 527	%	3 – 5
Tensile Modulus	BS EN ISO 527	MPa	1700 – 2000
Flexural Strength	BS EN ISO 178	MPa	105 – 110
Flexural Modulus	BS EN ISO 178	MPa	2350 – 2750
Glass Transition Temperature (Tg)	DMA	°C	103 – 109

## Method of Use

### **Preparation**

Before use ensure that the resin, fibre or filler and gelcoat (if applicable) are compatible. For advice on the choice of gelcoat, please contact Alchemie Ltd. Do not apply resin if the ambient or substrate temperature is less than minimum curing temperature of 20°C.

### **Mixing and Application**

Thoroughly mix the resin and the hardener according to the indicated mixing ratio, avoid air entrapment and ensure that the material at the bottom and sides of the

container is well stirred into the centre. The two components should be mixed and applied within the pot life. For advice on processing please contact Alchemie Ltd.

## ***Cure and Post Cure***

Lower ambient temperatures will result in slower cure. The product should always be processed and cured at temperatures above the minimum curing temperature of 20°C.

A step wise post cure treatment is recommended for ALCHEMIX EP 5753 – H5753HT. Allow the product to cure at room temperature for at least 24 hours, then heat to 60°C for 1 hour, followed by 80°C for 1 hour, followed by 100°C for 1 hour, followed by 120°C for 3 hours. To prevent any distortion during the post cure cycle, the unit should be placed on a conformer. When post-curing is complete, let the unit cool down slowly to room temperature, preferably in the oven. Sudden change in temperature can cause distortion or warping.

## **Storage**

ALCHEMIX EP 5753 and HARDENER H5753HT should be stored in original, unopened containers between 15 and 25°C.

If stored under the above conditions, ALCHEMIX EP 5753 and HARDENER H5753HT will have a shelf life of 12 months, from the date of production.

## **Packaging**

EP 5753 is supplied in 1kg, 5kg, 25kg and 200kg containers  
H5753HT is supplied in 290g, 1.45kg, 7.25kg and 200kg containers.

(Please contact Alchemie Ltd for bulk supply)

## **Further Information**

This data is not to be used for specifications. Values listed are for typical properties and should not be considered minimum or maximum.

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.

## **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.

**Alchemie® and Alchemix® are registered Trademarks of Alchemie Ltd, Warwick Road, Kineton, Warwick, England, CV35 0HU, England, United Kingdom. Ph: +44 (0)1926 641600; FAX: +44 (0)1926 641698**