

Technical Data Sheet

ALCHEMIX® EP 521

EP 521 Laminating and Casting Resin
85 – 90 Shore D Hardness

ALCHEMIX EP 521 is a three part epoxy laminating system consisting of Resin, Hardener and Accelerator. The product has very low initial viscosity, low shrinkage and excellent reproduction of detail. Rate of cure may be adjusted by altering the quantity of Accelerator.

Special Features

- Variable pot life
- Low viscosity
- Easy to process

Mix Ratio

	EP 521	H521	A521
By Weight	100	: 50	0 – 10%

Product Data

Property	Units	EP 521	H521	Mix
Material	-	Epoxy resin	Formulated amine	Epoxy
Appearance	-	Amber liquid	Amber liquid	Amber liquid
Viscosity (25°C)	mPa.s	600 – 1000	50 – 90	300 – 450
Density (25°C)	g/cm ³	1.10 – 1.15	0.95 – 1.00	1.05 – 1.10

Cure Profile

Property	Units	10% A521	5% A521	0% A521
Pot life (200g, 25°C)	hours	1 – 2	4 – 6	Approx 20 hours
Cure Time (200g, 25°C)	Days	1	1	7

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Cured Properties

Properties	Standard	Units	Result (Full Cure)
Hardness	BS EN ISO 868	Shore D	85 – 90
Linear Shrinkage	500 x 50 x 10 mm	%	0.20 – 0.30
Tensile Strength	BS EN ISO 527	MPa	50.0 – 60.0
Elongation at Break	BS EN ISO 527	%	4.0 – 6.0
Flexural Strength	BS EN ISO 178	MPa	60.0 – 70.0
Flexural Modulus	BS EN ISO 178	MPa	2000 – 2200
Heat Distortion Temperature (HDT)	TMA	°C	50 – 55

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. Please read the relevant technical datasheet before use.

Mixing and Application

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 two components should be mixed and applied within the pot life of the mixture.

Cure and Post Cure

To achieve full high temperature properties, a step wise post cure treatment is recommended. Allow the product to cure at room temperature for at least 24 hours, then heat to 40°C for 1 hour, followed by 60°C for 1 hour, followed by 80°C for 3 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.

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Storage

ALCHEMIX EP 521, HARDENER H521 and ACCELERATOR A521 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 521 / H521 / A521 will have a shelf life of 12 months, from the date of production.

Packaging

ALCHEMIX EP 521 is supplied in 1kg, 5kg and 25kg containers.
HARDENER H521 is supplied in 500g, 2.5kg and 12.5kg containers.
ACCELERATOR A521 is supplied in 500g and 5kg 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.

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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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