

ALCHEMIX[®] EP 502

*Low Viscosity Epoxy Laminating and Casting Resin
85 – 90 Shore D Hardness*

ALCHEMIX EP 502 is a very low viscosity, laminating and casting resin, with a choice of hardeners. When used for laminating, the low viscosity of ALCHEMIX EP 502 allows excellent wetting of fibres and fillers. ALCHEMIX EP 502 is formulated for use in backfilling compositions using mineral or metallic fillers and for laminates requiring good flexural strength.

Mix Ratio

By Weight **EP 502 : H3**
 100 : 17

By Weight **EP 502 : H7, H8, H15**
 100 : 18

Product Data

Property	Units	EP 502	H3	H7	H8	H15
Application	-	-	Laminating	Laminating	Laminating	Casting
Speed	-	-	Fast	Medium	Slow	Extra Slow
Material	-	Epoxy resin	Amine	Amine	Amine	Amine
Appearance	-	Straw coloured liquid	Straw coloured liquid	Straw coloured liquid	Straw coloured liquid	Clear liquid
Viscosity (25°C)	mPa.s	4000 – 4500	150 – 250	65 – 85	45 – 65	10 – 20
Density (25°C)	g/cm ³	1.08 – 1.13	0.97 – 1.02	0.93 – 0.98	0.91 – 0.96	0.90 – 0.95
Mixed Viscosity (25°C)	mPa.s	-	1400 – 1700	1100 – 1400	1100 – 1400	1000 – 1300
Mixed Density (25°C)	g/cm ³	-	1.06 – 1.11	1.05 – 1.10	1.05 – 1.10	1.04 – 1.09
Pot Life (200g, 25°C)	Minutes	-	70 – 90	100 – 140	180 – 240	240 – 300
Demould Time (25°C)	Hours	-	18 – 24	18 – 24	24	24

Cured Properties

Properties	Standard	Units	H3	H7	H8	H15
Hardness	BS 2782: Part 3: Method 365B	Shore D	85 – 90	85 – 90	85 – 90	85 – 90
Linear Shrinkage	500 x 50 x 10 mm	%	< 0.20	< 0.20	< 0.20	0.20 – 0.40
Tensile Strength	BS 2782: Part 3: Method 320B	MPa	40 – 50	50 – 60	50 – 60	55 – 65
Elongation at Break	BS 2782: Part 3: Method 320B	%	7.0 – 8.0	7.5 – 8.5	7.5 – 8.5	6.5 – 7.5
Flexural Strength	BS 2782: Part 3: Method 335A	MPa	70 – 80	70 – 80	70 – 80	70 – 80
Compressive Strength	BS 2782: Part 3: Method 345A	MPa	70 – 75	70 – 75	70 – 75	70 – 75
Heat Distortion Temperature (HDT)	TMA	°C	60 – 65	60 – 65	60 – 65	65 – 70

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 poured / laminated within the stated pot life. When using for casting (using HARDENER H15), the maximum layer thickness is 35mm.

Curing and Post Curing

To achieve full high temperature properties, post cure treatment is recommended. After curing / demoulding the part should be heated to 80°C for 3 hours and then allowed 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.

Storage

ALCHEMIX EP 502 and HARDENERS H3, H7, H8 & H15 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 502 and HARDENER H3, H7, H8 & H15 will have a shelf life of 12 months, from the date of production.

Packaging

ALCHEMIX EP 502 is supplied in 5kg and 25kg containers.
HARDENER H3 is supplied in 1kg, 5kg and 12.5kg containers.
HARDENER H7 is supplied in 1kg, 5kg and 12.5kg containers.
HARDENER H8 is supplied in 1kg, 5kg and 12.5kg containers.
HARDENER H15 is supplied in 1kg, 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.

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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