

ALCHEMIX[®] EP 596 / H596 / H596F

*Ultra High Temperature Epoxy Laminating Resin System
82 – 87 Shore D Hardness*

ALCHEMIX EP 596 is a low viscosity epoxy resin system specifically formulated for use in demanding industrial applications such as heavy duty corrosion protection, structural adhesives and civil engineering. ALCHEMIX EP 596 has a long working time, but will cure at low temperatures and in damp conditions, enabling it to be used in many different environments. Standard and fast cure hardeners are available, and can be combined to give the desired cure speed.

Special Features

- Excellent low temperature cure
- Excellent cure in damp conditions
- Excellent chemical resistance
- Fast and standard cure speeds available

Mix Ratio

	EP 596 :	H596	H596F
By Weight	100 :	61	
	100 :		41

Product Data

Property	Units	EP 596	H596	H596F
Material	-	Epoxy Resin	Formulated Amine	Formulated Amine
Appearance	-	Yellow liquid	Red liquid	Green liquid
Viscosity (25 °C)	mPa.s	1100 – 1600	1600 – 2800	1000 – 1500
Density (25 °C)	g/cm ³	1.12 – 1.17	1.00 – 1.02	1.01 – 1.03
Mix Viscosity (25 °C)	mPa.s	-	1400 – 1900	1100 – 1600
Mix Density (25 °C)	g/cm ³	-	1.07 – 1.12	1.07 – 1.12

Product Data (continued)

Property	Units	EP 596	H596	H594F
Pot life (200g, 25°C)	Minutes	-	90 – 110	25 – 30
Cure Time (200g, 25°C)	Hours	-	24	16 – 24
Full Cure (25°C)	Days	-	7	7

Cured Properties

Properties	Standard	Units	EP 596 / H596 (7 day cure, 25°C)	EP 596 / H596F (7 day cure, 25°C)
Hardness	BS 2782: Part 3: Method 365B	Shore D	82 – 87	82 – 87
Tensile Strength	BS 2782: Part 3: Method 320A	MPa	45.0 – 50.0	10.0 – 15.0
Elongation at Break	BS 2782: Part 3: Method 320A	%	5.0 – 6.0	1.0 – 2.0
Flexural Strength	BS 2782: Part 3: Method 335A	MPa	53.0 – 58.0	42.0 – 47.0
Flexural Modulus	BS 2782: Part 3: Method 335A	MPa	1350 – 1650	2300 – 2600
Heat Distortion Temperature (HDT)	-	°C	62 – 67	55 – 60

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

Method of Use

Preparation

If using with a filler or fibre reinforcement, check that the systems are compatible before use. Before applying ensure that the surface to be bonded is free of dust, dirt and grease.

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

ALCHEMIX EP 596 will cure at room temperature. If using as a laminating resin, a post cure will improve the physical properties. 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 1 hour, followed by 100°C for 3 hours. Then allow the product to slowly return to room temperature.

Storage

ALCHEMIX EP 596, HARDENER H596 and HARDENER H596F 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 596 / H596 / H596F will have a shelf life of 12 months, from the date of production.

Packaging

EP 596 is supplied in 1kg, 5kg, 25kg or 200kg containers.
H596 is supplied in 610g, 3.05kg and 15.25kg containers.
H596F is supplied in 410g, 2.05kg and 10.25kg 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.

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