

## ALCHEMIX<sup>®</sup> EP 426

*Two Part Epoxy System*  
*90 – 95 Shore D Hardness*

ALCHEMIX EP 426 is an aluminium filled, two part epoxy casting system formulated for high temperature applications, such as vacuum forming tools. ALCHEMIX EP 426 is formulated to have fast cure with minimal shrinkage, and is highly polishable. The low mixed viscosity ensures excellent detail reproduction. A slow hardener is available for very large or deep castings.

### Special Features

- Low viscosity / excellent reproduction
- Easily polishable
- Low shrinkage
- Fast cure

### Mix Ratio

**EP 426 : H426 / H426S**  
By Weight 100 : 6

### Product Data

Property	Units	EP 426	H426	H426S	Mix
Material	-	Metal filled epoxy resin	Formulated amine	Formulated amine	Epoxy
Appearance	-	Grey liquid	Amber liquid	Amber liquid	Grey liquid
Viscosity (25 °C)	mPa.s	35000 – 45000	60 – 100	45 – 65	10000 – 15000
Density (25 °C)	g/cm <sup>3</sup>	1.70 – 1.80	0.93 – 0.98	0.91 – 0.96	1.62 – 1.72
Pot Life (200g, 25 °C)	Hours	-	2 – 3	3 – 4	-
Demould Time (200g, 25 °C)	Hours	-	12 See "Curing" below	12 – 24 See "Curing" below	-

# Technical Data Sheet



## Cured Properties

Properties	Standard	Units	Result (Full Cure)
Hardness (25°C)	BS 2782: Part 3: Method 365B	Shore D	90 – 95
Linear Shrinkage	500 x 50 x10 mm	%	0.07
Tensile Strength	BS 2782: Part 3: Method 320A	MPa	12.0 – 17.0
Elongation at break	BS 2782: Part 3: Method 320A	%	2.5 – 3.5
Flexural Strength	BS 2782: Part 3: Method 335A	MPa	44.0 – 49.0
Flexural Modulus	BS 2782: Part 3: Method 335A	MPa	6300 – 6700
Maximum Operating Temperature	Alchemie STM 24	°C	80
Machinability	-	-	Good

## Method of Use

### **Preparation**

Ensure that both ALCHEMIX EP 426 and HARDENER H426 / H426S are between 15 – 25°C. Before use, mix ALCHEMIX EP 426 thoroughly in order to homogenise the fillers.

Mould surfaces should be clean, dry and treated with ALCHEMIX R7, ALCHEMIX R5 or other suitable release agent. Porous materials should be well sealed. Polish if necessary, to obtain the desired surface finish. Where deep sections occur (more than 75 mm), we recommend coring out the mould using tapered wood cores with edges and corners rounded off and covered in tin foil and treated with release agent. Cores should be at no more than 13 cm centres and a minimum of 35 mm off working resin face. Cores must be removed after curing. Alternatively, HARDENER H426S can be used.

## ***Mixing Instructions***

ALCHEMIX EP 426 should be mixed with HARDENER H426 / H426S according to the indicated mixing ratio. Both components should be thoroughly mixed, care should be taken to avoid air entrapment and make certain that material at bottom and sides of container is thoroughly stirred into centre. After thorough mixing, the material should be poured into the mould. To avoid air entrapment, pour the material slowly, and into one place in the mould. Mixing and pouring must be completed within the stated pot life. Where fine detail is to be reproduced, we advise that the mixed product is first brushed onto the surface using a stippling action. The remainder of the material can then be cast into the mould.

## ***Curing and Post Curing***

Demould times will vary with the thickness of casting, for example, thin sections may take 16 to 24 hours before they can be demoulded. Using HARDENER H426S will increase the demould time. 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 1 hour, followed by 100°C for 1 hour.

To prevent any distortion during the post cure cycle, the unit should be fully supported during the process. 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 426 and HARDENER H426 / H426S 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 426 / H426 / H426S will have a shelf life of 12 months, from the date of production.

## **Packaging**

EP 426 is supplied in 5kg and 10kg containers.  
H426 / H426S are supplied in 300g and 600g 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 develop, 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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