

Technical Data Sheet

ALCHEMIX® EP 5243

*Low Colour, UV Stabilized Epoxy Resin System
80 – 85 Shore D Hardness*

ALCHEMIX EP 5243 is a fast curing epoxy resin specially designed for use in industrial applications requiring a strong, durable coating where low colour and high UV resistance is required. ALCHEMIX EP 5243 has excellent water resistance, chemical resistance, mechanical properties and excellent adhesion to a variety of substrates.

Special Features

- Fast cure
- Low viscosity, easy to apply
- Low tendency to yellow on exposure to UV
- Excellent mechanical properties
- Excellent chemical and water resistance
- Excellent adhesion

Mix Ratio

EP 5243 : H5243
By Weight 100 : 50

Product Data

Property	Units	EP 5243	H5243	Mix
Material	-	Epoxy Resin	Formulated Amine	-
Appearance	-	Colourless liquid	Colourless liquid	Colourless liquid
Viscosity (25°C)	mPa.s	1700 – 2100	200 – 300	600 – 900
Density (25°C)	g/cm ³	1.14 – 1.18	1.01 – 1.05	1.09 – 1.13

Technical Data Sheet

Working Time and Cure Speed

Property	Units	Typical Value
Pot life (200g, 25 °C)	Minutes	25 – 30
Cure Time (200g, 25 °C)	Hours	24
Full Cure (25 °C)	Days	7
Minimum Curing Temperature	°C	15

Cured Properties

Properties	Standard	Units	Result (Post Cure)
Hardness	BS EN ISO 868	Shore D	80 – 85
Tensile Strength	BS EN ISO 527	MPa	61.0 – 66.0
Elongation at Break	BS EN ISO 527	%	4.0 – 6.0
Tensile Modulus	BS EN ISO 527		1600 – 1900
Flexural Strength	BS EN ISO 178	MPa	75.0 – 80.0
Flexural Modulus	BS EN ISO 178	MPa	2050 – 2350
Glass Transition Temperature (Tg)	DMA	°C	60 – 65

Method of Use

Preparation

Prior to use, ensure that the resin is compatible with the substrates, reinforcements or fillers being used. Do not apply resin if the ambient or substrate temperature is less than minimum curing temperature, see “Working Time and Cure Speed” section.

Technical Data Sheet

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. Vacuuming the mixed material will help produce a void free cured material. The two components should be mixed and applied within the pot life.

Cure and Post Cure

The system is designed to be used and cured at room temperature. Lower ambient temperatures will result in slower cure. The product should always be processed and cured at temperatures above the minimum curing temperature, see "*Working Time and Cure Speed*" section.

It is not necessary, but if desired, a step wise post cure treatment can be used to maximise cured 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 3 hours. To prevent any distortion during the post cure cycle, the part 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 5243 and HARDENER H5243 should be stored in original, unopened containers between 15 and 25 °C.

If stored under the above conditions, ALCHEMIX EP 5243 and HARDENER H5243 will have a shelf life of 12 months.

Packaging

ALCHEMIX EP 5243 is supplied in 1kg, 5kg, 25kg and 200kg containers.
HARDENER H5243 is supplied in 500g, 2.5kg, 12.5kg and 200kg containers.

Technical Data Sheet

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