Technical Data Sheet

EP 5243

Low Colour,UV Stabilized EpoxyResin System 80 – 85Shore D Hardness

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. EP 5243 has excellent water resistance, chemical resistance, mechanical properties and excellent adhesion to avariety 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/cm3	1.14 – 1.18	1.01 – 1.05	1.09 – 1.13

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Curing Data

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
Recommend Casting Thickness*	mm	2 – 5

*See "Cure & Post Cure" section.

Cured Properties

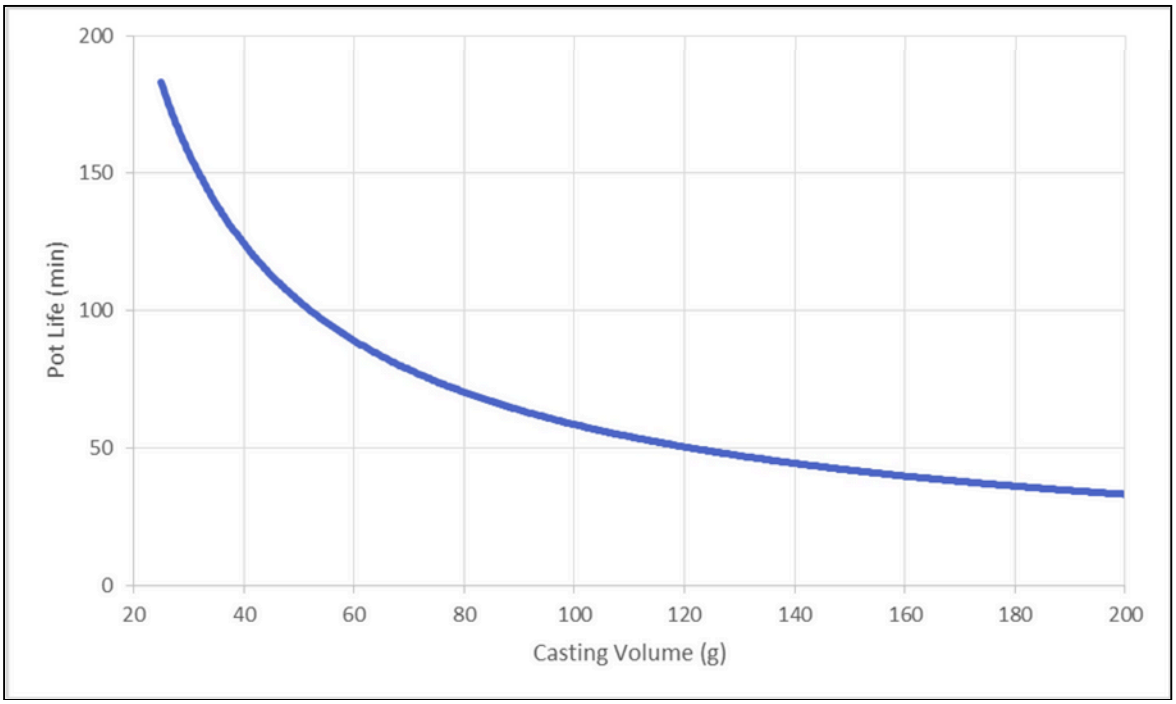
Properties	*Standard*	*Units*	*Result (Post Cure)*
Hardness	BS EN ISO 868	Shore D	80 – 85
Tensile Strength	BS EN ISO 527	MPa	61.0 – 66.0
Elongation at Break	BS EN ISO 527	%	4.0 – 6.0
Tensile Modulus	BS EN ISO 527	MPa	1600 – 1900
Flexural Strength	BS EN ISO 178	MPa	75.0 – 80.0
Flexural Modulus	BS EN ISO 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. Inspect both components for any signs of crystallization. Crystallization can cause the liquid to become cloudy or viscous, and in extreme cases, the product could become solid. If either component has crystallized, heat to 40°C using sufficient extraction to remove any fumes. Shake the containers periodically until the product becomes a clear liquid. Allow the

product to cool toroomtemperaturebeforeuse. Do not apply resin if the ambient orsubstrate temperature islessthanminimum curing temperature, see “Curing Data” section. ***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. The data below shows the typical pot life results for various casting sizes. It is important to note that pot life can be significantly affected by the size and shape of the mixing vessel.



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 “***Curing Data***” section. Incomplete cure could occur if cast in thin section. Exact cure time will depend on the size and geometry of the casting and should be determined by customer testing. Thinner castings will take longer to cure than thicker castings, but generally, the product can be demoulded after 24 hours at 25°C. Incomplete cure can result in slight distortions or deformations of the components if forces are applied. The recommended casting thicknesses stated

above may not apply to smallor large volume castings. Thicker castings will tend to shrink more than thinner castings due tothe amount of heat generated. 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*** 5243 and HARDENER H5243 should be stored in original, unopened containers between 15 and 25°C. If stored at lower temperatures for prolonged periods of time, EP 5243 can crystallize, see "Preparation" section for more details. If stored under the above conditions, EP 5243 and HARDENER H5243 will have a shelf life of 12 months. ***Packaging*** EP 5243 is supplied in 1kg, 5kg, 25kg and 200kg containers. HARDENER H5243 is supplied in 500g, 2.5kg, 12.5kg and 200kg 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.