

TECHNICAL DATA SHEET 5242

Atlantic Resin No.5242

Atlantic Casting Resin 5 to 35mm No.5242 is specially designed for use in applications requiring a strong, durable casting where low colour and high UV resistance is required. 5242 has excellent water resistance, chemical resistance, mechanical properties and excellent adhesion to a variety of substrates.

Special Features

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 5242 : H5242
By Weight 100 : 45

Product Data

| Property | Units | EP 5242 | H5242 | Mix |
|-------------------------|-------------------|-------------------|-------------------|-------------------|
| Material | - | Epoxy Resin | Formulated Amine | - |
| Appearance | - | Colourless liquid | Colourless liquid | Colourless liquid |
| Viscosity (25°C) | mPa.s | 800 – 1,200 | 60 – 80 | 350 – 650 |
| Density (25°C) | g/cm ³ | 1.10 – 1.15 | 0.95 – 1.00 | 1.05 – 1.10 |

Curing Data

| Property | Units | Typical Value |
|---------------------------------|-------|---------------|
| Pot life (200g, 25°C) | Hours | > 8 |
| Cure Time (200g, 25°C) | Hours | 48 |
| Full Cure (25°C) | Days | 7 |
| Minimum Curing Temperature* | °C | 18 |
| Recommend Casting Thickness* | mm | 5 – 35 |

*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 | 60.0 – 65.0 |
| Elongation at Break | BS EN ISO 527 | % | 3.5 – 5.5 |
| Flexural Strength | BS EN ISO 178 | MPa | 75.0 – 80.0 |
| Flexural Modulus | BS EN ISO 178 | MPa | 2000 – 2400 |
| 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 to room temperature before use.

Do not apply resin if the ambient or substrate temperature is less than minimum 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 part. 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. The cure rate of 5242 is affected by temperature, the product must be cast at temperatures greater than 18°C. 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 48 hours at 25°C.

Incomplete cure can result in slight distortions or deformations of the components if forces are applied. If the product is softer than expected, allow more time to cure, or heat gently at 30 – 40°C. The recommended casting thicknesses stated above may not apply to small or large volume castings.

Thicker castings will tend to shrink more than thinner castings due to the 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. Heating the cured part can cause a small degree of yellowing.

Storage

EP5242 and HARDENER H5242 should be stored in original, unopened containers between 15 and 25°C. If stored at lower temperatures for prolonged periods of time, EP 5242 can crystallize, see “Preparation” section for more details. If stored under the above conditions, EP 5242 and HARDENER H5242 will have a shelf life of 12 months.

Packaging

EP 5242 is supplied in 1kg, 2kg, 4kg and 25kg containers.

HARDENER H5242 is supplied in 450g, 900g, 1.8kg, and 11.25kg containers.

SWA Art Studios.

Unit 1a Cligga Head Ind Est, St Georges Hill, Perranporth, Cornwall, TR6 0EB