

CRYSTIC GELCOAT 253PA

Spray Gelcoat for Use with Hand-lay and Infusion Epoxy Laminating Systems

Introduction

Crystic Gelcoat 253PA is a thixotropic, pre-accelerated, isophthalic gelcoat designed as an in-mould gelcoat with excellent adhesion to epoxy resins without the need for a tie-coat. Formulated for spray application, Crystic Gelcoat 253PA is available in a wide range of colours and the information contained in this technical data sheet also applies to these pigmented versions.

Applications

Crystic Gelcoat 253PA is designed for use with wet lay and vacuum injected epoxy systems.

It is not recommended for use in any application which is subject to continuous immersion in water.

It is also not recommended for epoxy pre-pregs.

Features and Benefits

Crystic Gelcoat 253PA has good epoxy bonding characteristics and excellent weather resistance. It has been shown to give a robust, reliable bond with a number of wet lay, and vacuum injection, epoxy resin systems, but users should check with their specific epoxy system supplier or perform a test themselves before proceeding with use.

Application

Crystic Gelcoat 253PA should be allowed to attain workshop temperature (18°C- 20°C) and mixed before use. Crystic Gelcoat 253PA requires the addition of an initiator to start the curing reaction. Use Butanox M-50 (or other equivalent catalyst) and incorporate this into the gelcoat at 1 – 2% v/w. Unsaturated polyester products release heat when they cure in bulk. If manually adding catalyst to the product prior to spraying, do not prepare more material than is required to complete the job and spray within 3 minutes. Ensure that all equipment is thoroughly cleaned after use.

DO

- Gently stir the gelcoat before use, by hand or with a low shear mixer.
- Ensure that the workshop temperature is between 18 and 25 °C.
- Spray at the minimum pressure to achieve an acceptable spray pattern.
- Apply the gelcoat in thin even passes, building up the film thickness to 0.5 – 0.6 mm wet.
- Ensure adequate mould ventilation.

DON'T

- Exceed a wet film thickness of 0.8 mm or drainage may occur.
- Allow vapour to be retained in deep mould sections as this will slow the cure.
- Apply excessive gelcoat in corners of moulds as this can cause pre-release.

Pot Life

Temperature	Pot Life in Minutes
15°C	25
20°C	15
25°C	10

Additives

Crystic Gelcoat 253PA is supplied in a wide range of colours. This eliminates the potential for mixing errors with small quantities of pigment paste. The addition of fillers or other additives can adversely affect the properties of the gelcoat and are not recommended.

Recommended Testing

It is recommended that customers test Crystic Gelcoat 253PA before use under their own conditions of application to ensure the required surface finish and adhesion is achieved. It should be noted that some epoxy systems require post cure to achieve full properties and optimise the bond to the gelcoat.

Typical Properties

The following tables give typical properties of Crystic Gelcoat 253PA when tested in accordance with SB, BS, EN or BS, EN, ISO test methods.

Property	Units	Liquid Gelcoat
Appearance		mauvish, cloudy
Viscosity at 25 °C		thixotropic
Specific Gravity at 25 °C		1.11
Volatile Content	%	43
Geltime at 25°C using 2% Butanox M-50 (or other equivalent catalyst)	minutes	9
Stability at 20 °C	months	3

Property		Fully cured* (unfilled casting)
Barcol Hardness (Model GYZJ 934-1)		42
Water Absorption 24hrs @ 23°C	mg	18
Heat Deflection Temperature under load (1.80MPa)†	°C	76
Elongation at Break	%	2.2
Tensile Strength	MPa	67
Tensile Modulus	MPa	3960

* Curing schedule - 24 hrs @ 20°C, 3 hrs @ 80°C

† Curing schedule - 24 hrs @ 20°C, 5 hrs @ 80° C, 3 hrs @ 120° C

Post-Curing

For optimum properties, laminates should be post-cured before being put into service. A period of cure at room temperature is recommended before post-cure at temperatures up to 80°C. For the most appropriate post-cure schedule, users should refer to their epoxy system supplier's recommendations.

Storage

Crystic Gelcoat 253PA should be stored in its original container and out of direct sunlight. It is recommended that the storage temperature should be less than 20°C where practical, but should not exceed 30°C. Ideally, containers should be opened only immediately prior to use.

Packaging

Crystic Gelcoat 253PA is supplied in 25kg and 225kg containers.

Health and Safety

See separate Material Safety Data Sheet.