

CRYSTIC GELCOAT 93PA

Fire Retardant Spray Gelcoat

Introduction

Crystic Gelcoat 93PA is a pre-accelerated filled spray gelcoat. It is available in a restricted range of colours and the information contained in this technical data sheet also applies to pigmented versions.

Applications

Crystic Gelcoat 93PA can be used both internally and externally for building, transport and general industrial work.

Features and Benefits

Crystic Gelcoat 93PA has good weathering properties and very low flammability.

Approvals

Properly manufactured, fully cured laminates using Crystic Gelcoat 93PA and Crystic 356PA can achieve a Class 1 rating to BS476 Part 7. This combination can also satisfy the requirements of the Building Regulations 1976 (Section E15) for a Class O structure.

Formulation

Crystic Gelcoat 93PA should be allowed to attain workshop temperature (18°C-20°C) before use. Stir well by hand or with a low shear stirrer to avoid aeration and then allow to stand to regain thixotropy. Crystic Gelcoat 93PA requires only the addition of catalyst to start the curing reaction. The recommended catalyst is Butanox M50 (or other equivalent catalyst) which should be added at 2% into the gelcoat. (Please consult our Technical Service Department if other catalysts are to be used). The catalyst should be thoroughly incorporated into the gelcoat, with a low shear mechanical stirrer where possible.

Pot Life

Temperature	Pot life in minutes
15°C	21
20°C	15
25°C	12

The gelcoat, mould and workshop should all be at, or above, 15°C before curing is carried out.

Spray Application

Do

- Gently stir the gelcoat before use by hand or low shear stirrer.
- Ensure the gelcoat has attained workshop temperature of 18°C-25°C before use. (Temperatures below 18°C will require higher pressure to achieve an acceptable spray pattern and this will encourage porosity).
- Spray at the minimum practical pressure whilst maintaining an acceptable spray pattern and full fan width.
- Apply a mist coat and then build up thickness in long, even passes of 0.125mm (0.005 inch) until the recommended wet film thickness of 0.5-0.625mm (0.020-0.025 inch) is reached. This will minimise porosity and colour defects.

Don't

- Stir the gelcoat with high shear mixers as this will temporarily break down the thixotropy leading to drainage.
- Exceed a wet film thickness of 0.625mm (0.025 inch) as thick films encourage air retention.
- Apply excessive thickness in corner areas as this can cause pre-release.

Additives

The addition of pigment pastes, or other additives, can adversely affect the spraying characteristics of Crystic Gelcoat 93PA. To avoid this, it is supplied in a restricted range of colours, which also eliminates the potential for mixing errors. The inclusion of additives can also adversely affect the weather and water resistance of the cured gelcoat.

Recommended Testing

It is recommended that customers test all pigmented gelcoats before use under their own conditions of application to ensure the required surface finish is achieved.

Typical Properties

The following tables give typical properties of Crystic Gelcoat 93PA when tested in accordance with SB, BS, EN or BS, EN, ISO test methods.

Property		Liquid Gelcoat
Appearance		Cloudy
Viscosity @ 25°C		thixotropic
Specific Gravity @ 25°C		1.4
Volatile content	%	35
Stability @ 20°C	months	3
Gel time @ 25°C using 2% Butanox M50 (or other equivalent catalyst)	minutes	12

Property		Fully cured* Gelcoat (unfilled casting)
Barcol Hardness (Model GYZJ 934-1)		47
Water Absorption 24 hrs @ 23°C	mg	16
Deflection Temperature under load† (1.80 MPa)	°C	68
Elongation at Break	%	2
Tensile Strength	MPa	64
Tensile Modulus	MPa	4220

* 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

Satisfactory laminates for many applications can be made with Crystic Gelcoat 93PA by curing at workshop temperature (20°C). However, for optimum properties, laminates must be post-cured before being put into service. The moulding should be allowed to cure for 24 hours at 20°C, and then be oven-cured for 3 hours at 80°C.

Storage

Crystic Gelcoat 93PA 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 93PA is supplied in 25kg and 225kg containers.

Health and Safety

Please see separate Material Safety Data Sheet.