

CRYSTIC[®] GELCOAT LS 98PA

Low Styrene Content Gelcoat for Spray Application

Introduction

Crystic Gelcoat LS 98PA is a pre-accelerated gelcoat formulated for spray application. A wide range of colours is available and the information contained in this technical datasheet also applies to these pigmented versions.

Applications

Crystic LS 98PA is recommended for use in the marine and building industries. It is also suitable for all general moulding requirements.

Features and Benefits

Crystic LS 98PA typically contains 30-32% styrene when formulated as a pigmented gelcoat. It therefore has a lower styrene emission than standard spray gelcoats. Typically a reduction of 25% -30% can be seen in styrene emission when Crystic LS 98PA is evaluated in static and dynamic tests under both laboratory and workshop conditions.

Crystic LS 98PA has good water and weather resistance. It is low in viscosity with excellent air release properties. It achieves good coverage in thin film and does not drain on the mould.

Approvals

Crystic LS 98PA is approved by Lloyd's Register of Shipping for use in the construction of craft under their survey. It is also approved by the Water Byelaws Scheme for the storage of potable water.

Formulation

Crystic LS 98PA should be allowed to attain workshop temperature (18°C-20°C) before use. Stir well by hand, or with a low shear mixer to avoid aeration, and then allow to stand to regain thixotropy. Crystic LS 98PA 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).

Spray Application

Do

- Gently stir the gelcoat before use by hand or low shear mixer.
- Ensure the gelcoat has attained workshop temperature of 18°C-20°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 LS 98PA. To avoid this, it is supplied in a wide 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 LS 98PA when tested in accordance with SB, BS, BS EN or BS EN ISO test methods.

Property		Liquid Gelcoat
Appearance		Mauvish, cloudy
Viscosity at 25°C		Thixotropic
Specific Gravity at 25°C		1.1
Stability at 20°C	months	3
Gel time at 25°C using 2% Butanox M50 (or other equivalent catalyst)	minutes	7
Property		Fully cured *White Gelcoat (unfilled casting)
Barcol Hardness (model GYZJ 934-1)		45
Water Absorption 24 hrs at 23°C	mg	17
Deflection Temperature under load† (1.80 MPa)	°C	76
Elongation at Break	%	2.5
Tensile Strength	MPa	68
Tensile Modulus	MPa	4060

* Curing Schedule - 24 hrs at 20°C, 3 hrs at 80°C

† Curing Schedule - 24 hrs at 20°C, 5 hrs at 80°C, 3 hrs at 120°C

Post Curing

Satisfactory laminates for many applications can be made with Crystic LS 98PA 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 LS 98PA 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 LS 98PA is supplied in 25kg and 225kg containers.

Health and Safety

Please see separate Material Safety Data Sheet.

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