

CRYSTIC[®] GELCOAT LS 31PA

Superior Weathering Iso - NPG Gelcoat for Brush Application

Introduction

Crystic Gelcoat LS 31PA is a pre-accelerated Iso -NPG gelcoat. It has been formulated for brush application and has exceptional water resistance and weathering durability. It is available in a wide range of colours and the information contained in this technical datasheet also applies to pigmented versions.

The Scott Bader Technical Service Department is able to provide information and advice relating to the use of composites products in a wide range of markets and applications.

Applications

Crystic Gelcoat LS 31PA is recommended for use in marine, land transport and building applications. It is also suitable for general moulding requirements.

Features and Benefits

Crystic Gelcoat LS 31PA has been developed to ensure excellent intrinsic weathering properties and excellent water resistance. Crystic Gelcoat LS 31PA typically contains 24 – 26 % styrene when formulated as a pigmented gelcoat, helping to minimise styrene emissions in the workplace. The robust formulation ensures the gelcoat is suitable for use in a wide range of application conditions.

Approvals

Crystic Gelcoat LS 31PA is approved by Lloyd's Register of Shipping for use in the construction of craft under their survey.

Product Characteristics

Crystic Gelcoat LS 31PA should be allowed to attain workshop temperature (18°C - 25°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 Gelcoat LS 31PA requires only the addition of a 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. Please consult our Technical Service Department for further application advice.

For normal moulding, the application of Crystic Gelcoat LS 31PA should be controlled to 0.4 - 0.5 mm (0.015 - 0.020 inches) wet film thickness. As a guide, approximately 450-600 g/m² of gelcoat mixture (depending on pigment) will give the required thickness when evenly applied.

Additives

Crystic Gelcoat LS 31PA is supplied in a wide range of colours. The addition of pigment pastes, or other additives, may adversely affect the liquid properties or weathering resistance of the cured gelcoat. It is recommended that the gelcoat is ordered from Scott Bader in the colour required.

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.

Post Curing

Laminates take time to cure fully and develop mechanical properties at room temperature. This process can be accelerated by post-curing at elevated temperature. Please seek advice for your specific needs. Optimum properties can normally be obtained by allowing curing for 24 hours at room temperature followed by 3 hours at 80 °C.

Typical Properties

The following table gives typical liquid properties of Crystic LS 31PA when tested in accordance with Scott Bader test methods.

Properties for LS 31PA White 337	Method	Typical Result
Viscosity, 25°C 0.6s-1	3.41	350 – 450 poise
Viscosity, 25°C 4500s-1	3.6	12 – 18 poise
Specific Gravity at 25 °C	-	1.2
Stability at 20°C	-	3 months
Geltime 25°C 2% Butanox M50 (or other equivalent catalyst)	5.25	6 – 10 minutes

The following are typical mechanical properties obtained from the gelcoat when tested in accordance with BS2782.

Mechanical properties	Units	Value (2s.f.)
Barcol Hardness (Model 934-1)*	-	41
Heat Deflection Temperature†	°C	65
Water Absorption 24 hours at 23 °C*	mg	10
Tensile Strength*	MPa	57
Elongation at Break*	%	2.1

* Curing schedule – 24 hours at 20 °C, 3 hours at 80 °C

† Curing schedule – 24 hours at 20 °C, 5 hours at 80 °C, 3 hours at 120 °C

Storage

Crystic Gelcoat LS 31PA 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 LS 31PA is supplied in 25kg and 225kg containers.

Health and Safety

Please refer to Material Safety Data Sheet.

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All information on this data sheet is based on laboratory testing and is not intended for design purposes. Scott Bader makes no representations or warranties of any kind concerning this data. Due to variance of storage, handling and application of these materials, Scott Bader cannot accept liability for results obtained. The manufacture of materials is the subject of granted patents and patent applications; freedom to operate patented processes is not implied by this publication.

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