

CRYSTIC LS 30PA

Superior Weathering Iso - NPG Gelcoat for Spray Application

Introduction

Crystic LS 30PA is a superior weathering Iso - NPG gelcoat. It is filled, pre-accelerated and formulated for spray application. This product 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 LS 30PA is recommended for use in marine, land transport and building applications. It is also suitable for general moulding requirements.

Features & Benefits

Crystic LS 30PA has been developed to ensure excellent intrinsic weathering properties. The viscosity profile ensures even coverage with minimal drainage and low film porosity. Crystic LS 30PA typically contains 29 – 31% 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.

Product Characteristics

The product should be conditioned at workshop temperature (18°C – 25°C) and gently mixed before use. Gelcoat LS 30PA requires the addition of a catalyst to start the curing reaction. The recommended catalyst is Butanox M50 (or other equivalent catalyst) which should be incorporated 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 (e.g. for use with some air assisted spray equipment) do not prepare more material than is required to complete the job. Ensure that spray equipment is thoroughly cleaned after use. Please consult our Technical Service Department for further application advice.

Do

- Gently stir the gelcoat before use, by hand or with a low shear mixer.
- Ensure workshop temperature is between 18° - 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 exceeding 0.8 mm or drainage may occur.
- Allow vapour to be retained in deep mould sections, this can slow cure.
- Apply excessive gelcoat in corners. This can cause pre-release.

Additives

The addition of pigment pastes, or other additives, may adversely affect the spraying 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 30PA when tested in accordance with Scott Bader test methods.

Properties for 'White 337' Gelcoat	Method	Typical Result
Viscosity, 25°C 0.6s ⁻¹	3.41	250 poise
Viscosity, 25°C 4500s ⁻¹	3.6	2.4 poise
Specific Gravity at 25°C	-	1.2 g/cc
Stability at 20°C	-	3 months
Geltime at 25°C, 2% Butanox M50 (or other equivalent catalyst)	5.25	9 minutes

Typical Properties

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

Mechanical Properties	Units	Value (2 s.f.)
Barcol Hardness (Model 934-1)*		46
Heat Deflection Temperature †	°C	62 °C
Water Absorption 24 hours at 23°C*	mg	10 mg
Tensile Strength*	MPa	52 MPa
Elongation at Break*	%	2.8 %

* 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 LS 30PA should be stored in the original containers 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 30PA is supplied in 25kg and 225kg containers.

Health & Safety

Please refer to Material Safety Data Sheet.