

CRYSTIC[®] Gelcoat 90PA

Low Viscosity Isophthalic Spray Gelcoat

Introduction

Crystic Gelcoat 90PA is a pre-accelerated gelcoat with excellent water and weather resistance. It has been formulated for spray application and have good air release. It is low in viscosity but gives good coverage in thin films and does not drain on the mould. It is available in a wide range of colours and the information contained in this leaflet also applies to these pigmented versions.

Formulation

Crystic Gelcoat 90PA 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 Gelcoat 90PA requires only the addition of catalyst to start the curing reaction. The recommended catalyst is Norox[®] KP9, which should be added at 2% into the gelcoat. (Please consult our Technical Service Department if other catalysts are to be used).

Pot Life

The temperature, and the amount of Catalyst M affect the geltime, and hence the pot life of Crystic Gelcoat 90PA. Table 1 shows this relationship.

Table 1: Geltime in minutes of Crystic Gelcoat 90PA at varying temperatures, with 2% Catalyst M.

■ = Combination not recommended.

Catalyst type		Norox KP9		
		1%	2%	3%
Catalyst addition		Geltime in minutes		
Temperature	15°C	■	20	13
	25°C	24	8	6
	35°C	11	5	■

The gelcoat, moulds and workshop should all be at or above, 15°C before curing is carried out. Scott Bader (Pty) Ltd. will not be liable for problems caused by use at lower temperatures than recommended.

N.B. Peroxide catalysts are highly reactive and may decompose with explosive violence, or cause fires, if they come into contact with flammable materials, metals or accelerators. For this reason they must never be stored in metal containers or be mixed directly with accelerators.

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-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 the risk of 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 90PA. 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.

Post Curing

Satisfactory laminates for many applications can be made with Crystic Gelcoat 90PA by curing at workshop temperature (20°C). However, for optimum properties, laminates must be post cured before being put into service. The mouldings should be allowed to cure for 24 hours at 20°C, and then be oven-cured for 3 hours at 80°C.

Typical Properties

The following tables give typical properties of Crystic Gelcoat 90PA when tested in accordance with BS2782.

Table 2: Typical properties of liquid Crystic Gelcoat 90PA.

Property	Units	Nominal value
Appearance		Hazy pink
Viscosity @ 25°C Brookfield model RVT @ 100 rpm	centipoise	1750
Specific Gravity @ 25°C		1.1
Volatile content	%	45
Stability in the dark @ 20°C	months	3
Gel time @ 25°C using 2% Norox KP9 catalyst	minutes	8

Table 3: Typical properties of fully cured* Crystic Gelcoat 90PA (unfilled casting).

Property	Units	Nominal value
Barcol Hardness (Model GYZJ 934-1)		40
Water Absorption 24 hrs @ 23°C	mg	18
Deflection Temperature under load† (1.80 MPa)	°C	73
Elongation at Break	%	2.5
Tensile Strength	MPa	66
Tensile Modulus	MPa	3400

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

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

Storage

Crystic Gelcoat 90PA should be stored in the dark in suitable, closed containers. 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. Where they have to be stored outside, it is recommended that drums be kept in a horizontal position to avoid the possible ingress of water. Wherever possible, containers should be stored under cover.

Packaging

Crystic Gelcoat 90PA is supplied in 25kg and 225kg containers.

Health and Safety

Please see the applicable Material Safety Data Sheets, depending on the curing system used.

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Before you use this information, kindly verify that this data sheet is the latest version.

All information is given in good faith but without warranty. We cannot accept responsibility or liability for any damage, loss or patent infringement resulting from the use of this information.

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