

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 to 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 Andonox[®] 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. The below table shows this relationship of geltime in minutes of Crystic Gelcoat 90PA at varying temperatures, with 2% Catalyst M.

 = Combination not recommended.

Catalyst Type		Andonox [®] 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.

Physical Data - Uncured

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

Property	Unit	Liquid Gelcoat
Appearance		Hazy Pink
Viscosity at 25°C Brookfield Model RVT at 100 rpm	Centipoise	1750
Specific Gravity at 25°C		1.1
Volatile Content	%	45
Stability In The Dark at 20°C	Months	3
Geltime at 25°C Using 2% Andonox® KP9 Catalyst	Minutes	8

Physical Data - Uncured

Property	Unit	Fully Cured* Base Resin (Unfilled Casting)
Barcol Hardness (Model GYZJ 934-1)		40
Water Absorption 24 hrs at 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 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.

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.

Technical Leaflet No. 211.20SA

Version 2 : February 2013

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.

SCOTT BADER COMPANY LIMITED

Wollaston, Wellingborough, Northamptonshire, NN29 7RL

Telephone: +44 (0) 1933 663100

Facsimile: +44 (0) 1933 666623

www.scottbader.com