

# CRYSTIC<sup>®</sup> Gelcoat 69PA White

## High Performance White Brush Viscosity Isophthalic-NPG Gelcoat

### Introduction

Crystic Gelcoat 69PA White is a pre-accelerated isophthalic/neopentyl glycol gelcoat with excellent resistance to hot and cold water. It also has good resistance to a wide variety of chemicals including acid and alkaline solutions. It has been formulated for brush application, but a spray version, Crystic Gelcoat 92PA White, is available (see Technical Leaflet No. 229). Crystic Gelcoat 69PA White is pigmented using a high quality grade of white pigment, chosen for its excellent performance under harsh weathering conditions.

### Application

Crystic Gelcoat 69PA White is recommended for use in sanitary ware, swimming pool and chemical process plant fabrications.

### Versions

Crystic Gelcoat 69PAX White has a more rapid rate of cure. It is used in high volume production where fast back up times are essential, and in cool weather conditions.

### Approvals

Crystic Gelcoat 69PA White is approved by Lloyd's Register of Shipping for use in the construction of craft under their survey. When backed with Crystic 397PA it is approved by the Water Byelaws Advisory Service for storing potable water. With Crystic 392, it is approved by Wine Laboratories Ltd. for the storage of both high alcohol content potable spirits and wines.

### Formulation

Crystic Gelcoat 69PA White 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 69PA White requires only the addition of catalyst to start the curing reaction. The recommended catalyst is Norox<sup>®</sup> KP9 which should be added at 2% into the gelcoat. For low-taint applications, or at high ambient temperatures, the catalyst should be Norox<sup>®</sup> MEKP-925H also 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.

### Pot Life

The temperature, and the amount of catalyst affect the geltime, and hence pot life, of Crystic Gelcoat 69PA White, as shown in Table 1.

**Table 1:** Geltimes using 2% Norox KP9 in Crystic Gelcoat 69PA White.

Temperature	Geltime (minutes)
15°C	35
20°C	18
25°C	10

Curing should not be carried out at temperatures below 15°C. The gelcoat, mould and workshop should all be at, or above, this temperature. 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.

### Application

For normal moulding, the application of Crystic Gelcoat 69PA White should be controlled to 0.4-0.5mm wet film thickness. As a guide, approximately 600-800g/m<sup>2</sup> of gelcoat mixture will give the required thickness when evenly applied.

### Do

- Use clean brushes and containers.
- Ensure that the gelcoat is well stirred in its container before measuring quantities for use.
- Measure catalyst carefully and thoroughly stir it into the gelcoat.
- Ensure that the mould temperature is close to that of the gelcoat. Even if the gelcoat is kept warm in its container, applying it to a cold mould will absorb all the heat and cause it to cure slowly. Applying cold gelcoat with an appropriate catalyst level to a warm mould will result in too fast a film geltime and possibly cause pinholes.
- Brush the gelcoat onto the mould using even, long, vigorous strokes, dipping the brush into the gelcoat often.
- Ensure that the gelcoat is well sheared by the brush when applying it. The bristles must touch the mould surface.
- Touch up thin patches by adding extra gelcoat, not by brushing over from the gelcoat nearby.

### Don't

- Use brushes contaminated with cleaning solvents or moisture.
- Brush the gelcoat out too far – it is designed to be applied at 0.5mm thickness with the proper brush technique.
- Apply too thick a layer – this can cause pre- release, and runs can cause colour streaking.
- Mix fillers into gelcoat.
- Thin with styrene, acetone or thinners.
- Allow puddles and blobs of gelcoat to accumulate on the mould, or pour it onto the mould and use this as a reservoir for brushing. This may cause pinholes and colour streaking.
- Begin laminating too soon. The back-up time will vary with temperature, but a good test is to touch the back of the gelcoat with a thumb. It will feel tacky but none should transfer to the skin.

### Additives

Crystic Gelcoat 69PA White is supplied pre-pigmented. Addition of coloured pigment pastes to achieve pastel shades is not recommended as this can lead to colour separation. The addition of fillers or pigments can adversely affect the weather, water and chemical resistance of the cured gelcoat.

### Post Curing

Satisfactory laminates for many applications can be made with Crystic Gelcoat 69PA White by curing at workshop temperature (20°C). However, for optimum chemical resistant 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 24 hours at 80°C. For low-taint applications, the moulding should be allowed to cure for 24 hours at 20°C, and then be oven cured for 3 hours at 85°C. This should be followed by wet-steam cleaning for 1 hour. If the moulding is of a suitable shape, it can be filled with hot water for 2 hours instead of steam cleaning. The water should be at 80°C and contain a perfume-free detergent. Several lots of clean water should be used for rinsing.

### Typical Properties

The following tables give typical properties of Crystic Gelcoat 69PA White when tested in accordance with BS2782.

**Table 2:** Typical properties of liquid Crystic Gelcoat 69PA White.

Property	Units	Nominal value
Appearance	Visual	White
Viscosity @ 25°C (Brookfield RVT, sp. 6 @ 100rpm)	Centipoise	5500
Thixotropic index	Ratio	3.5
Specific Gravity @ 25°C		1.3
Stability in the dark @ 20°C	months	3
Gel time @ 25°C using 2% Norox KP9	minutes	10

**Table 3:** Typical properties of Crystic Gelcoat 69PA White fully cured\* gelcoat (unfilled casting).

Property	Units	Nominal value
Barcol Hardness (model GYZJ 934-1)		49
Water Absorption 24 hrs @ 23°C	mg	16
Deflection Temp. under load† (1.80 MPa)	°C	96
Elongation at Break	%	1.6
Tensile Strength	MPa	57
Tensile Modulus	MPa	3884

\*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 69PA White 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 only be opened 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.

### Packaging

Crystic Gelcoat 69PA White 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 102.22SA  
August 2013

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.

### SCOTT BADER COMPANY LIMITED

Scott Bader (Pty) Ltd  
Reg. No. 93/00466/07  
1 Lubex Road,  
Hammarisdale  
P.O. Box 1539, Hillcrest,  
3650. South Africa  
Tel: +27 (0) 31 736 8500  
Fax: +27 (0) 31 736 8511

Gauteng  
Broadacres Business  
Centre  
Cnr Cedar Rd and 3<sup>rd</sup>  
Ave  
Broadacres, Sandton  
Tel: (011) 064 5673

KwaZulu Natal  
1 Lubex Road,  
Hammarisdale  
Tel: (031) 736 8500

Eastern Cape  
Freightpak Building  
Chevrolet St  
Markman Industrial  
Port Elizabeth  
Tel: (041) 409 783

Western Cape  
Unit 4B  
Tyger Lake  
Niagara Way  
Tyger Valley  
Cape Town  
Tel: (021) 914 6011

