

### Product Description and Approvals

Crystic® Gelcoat 12PA is a pre-accelerated Iso-NPG gelcoat formulated for brush application and is recommended for use in the production of sanitaryware and tooling products.

### Features and Benefits

Features	Benefits
Iso-NPG base resin	Heat resistant
Easy to apply	Can be polished to a high gloss
Exceptional chemical resistance	Versatile

### Brush Application

Do	Don't
Ensure the gelcoat has attained workshop temperature of 15°C - 25°C before use.	Stir the gelcoat with high shear mixers as this will temporarily break down the thixotropy leading to drainage.
Gently stir the gelcoat by hand or low shear stirrer, then allow to stand before use.	Exceed a wet film thickness of 800 microns as thick films encourage air retention.
Add 2% Butanox® M-50 or equivalent catalyst.	Apply excessive thickness in corner areas as this can cause pre-release.
Use long brush strokes and even pressure to apply the gelcoat in an even film across the mould surface.	Apply backing laminate before the gelcoat has reached an appropriate degree of cure.
Use thorough brushing action to build wet film thickness evenly to 600-800 microns.	Catalyse more gelcoat than can be applied before it starts to gel.
Apply the first layer of laminate within 24 hours of the gelcoat.	Allow vapour to be retained in deep mould sections as this can cause slow curing.

### Additives and Variants

- The information contained in this technical data sheet applies to all pigmented versions
- The topcoat can be formulated by addition of 2% Crystic® Solution MW into the gelcoat
- Incorporation of additional material may affect the working, weathering or cured properties of the gelcoat. Please check with Scott Bader's Technical Service team before using the gelcoat outside of specified parameters

### Post-Curing

- The post-cure schedule will affect the end-product properties.
- For optimum properties laminates must be post-cured before being put into service
  - 24 hours at workshop temperature, followed by oven-cure for 16 hours at 40°C (Lloyds post-cure) L
  - 24 hours at workshop temperature followed by 3 hours at 80°C (Scott Bader post-cure) \*
    - Heat deflection testing has an additional 3 hours at 120°C (Scott Bader post-cure) †

### Recommended Testing

- It is recommended that customers test all gelcoats under application conditions prior to full-production to ensure that the product meets specification

### Typical Properties – Uncured

Property	Typical Value
Viscosity, 25°C 0.6s <sup>-1</sup>	300 - 500 (Poise = dPa.S)
Specific Gravity at 25°C	1.1
Styrene Content	34 %

### Typical Properties – Cured

Property	Test Method	Typical Value
Barcol Hardness (Model GYZJ 934-1)	EN59	46
Water Absorption 24 hrs at 23°C	BS EN ISO 62 part 6.2	17 mg
Heat Deflection Temperature† (1.8MPa)	BS EN ISO 75-2 (1996)	83°C
Elongation at Break*	BS EN ISO 527-2	2.0%
Tensile Strength*	BS EN ISO 527-2	64 MPa
Tensile Modulus*	BS EN ISO 527-2	3800 MPa

### Gel time & Backup time

- Catalyst level and initiation temperature will influence the gel time
- The product only requires the addition of catalyst to start curing as it is pre-accelerated. An exothermic reaction will take place.
  - We recommend the use of a 50% MEKP (type Butanox M50 or equivalent) which should be added at 2% in the gelcoat

Temperature	Gel time (2% Butanox M50)^	Backup time (2% Butanox M50)^
25°C	7 - 12 minutes	N/A

^Measured under laboratory conditions. Information should be used as a guide only

### Packaging and Storage

Crystic® 12PA is available in 25kg and 225kg and IBC containers.

Crystic® 12PA should be stored in its original container, under cover, and out of direct sunlight. These must be kept closed and airtight. It is recommended that the storage temperature should be less than 25°C and the product should not be frozen. Storing the product outside of these conditions may affect the properties of the product and reduce its shelf life. Ideally, containers should be opened only immediately prior to use.

The product should be used within 5 months of the date of production.

### Health and Safety

Read and understand separate Material Safety Data Sheet before using this product. Unsaturated polyester products release heat when they cure in bulk.

### 12PA – ENG – July 2018

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