Crystic® GC 84E PA

Sanitaryware IsoNPG Gelcoat

Technical Data Sheet

Product description

Crystic® GC 84E PA is a high-performance pre-accelerated ISO NPG gelcoat designed for spray applications.

Crystic® GC 84E PA is recommended for sanitaryware applications due to its excellent hydrolytic stability, UV resistance and smoothness. Crystic GC 84E PA is pre-accelerated and available in a wide range of colours.

Features and benefits

Features	Benefits
ISO Neopentyl Glycol base resin	Excellent water / blistering resistance
Excellent UV resistance	Good impact resistance
Easy to apply	Excellent surface finish

Spray application

Do	Don't
Ensure the gelcoat has attained workshop temperature of 15°C - 35°C before use.	Stir the gelcoat with high shear mixers as this will temporarily break down the thixotropy leading to drainage.
Add 2% Butanox M-50 or equivalent catalyst.	Exceed a wet film thickness of 800 microns as thick films encourage air retention.
Gently stir the gelcoat by hand or low shear stirrer.	Apply excessive thickness in corner areas as this can cause pre-release.
Spray at the minimum practical pressure whilst maintaining an acceptable spray pattern and full fan width.	Apply backing laminate before the gelcoat has reached an appropriate degree of cure.
Apply a mist coat and then build up thickness in long, even passes of 100 - 150 microns until the recommended wet film thickness of 600 - 800 microns is reached.	Catalyse more gelcoat than can be applied before it starts to gel as this will lead to wastage and possible exothermic reaction.
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.

Formulation

Crystic® GC 84E PA should be conditioned at workshop temperature (15°C – 35°C) and mixed before use.

It requires only the addition of catalyst to start the curing reaction. The recommended catalyst is Butanox M-50 which should be added at 1-2% into the gelcoat. The catalyst should be thoroughly incorporated into the resin, using a low shear mechanical stirrer where possible.

(Please consult our Technical Service Department if other catalysts are to be used).

Physical data – liquid

The following tables give typical properties of Crystic® GC 84E PA when tested in accordance with BS2782 test methods.

Property	Unit	Typical value
Brookfield Viscosity, 25°C , SP5/20	mPa.s	27,000
Brookfield Viscosity, 25°C , SP5/2.5	mPa.s	5,000
C & P Viscosity , 25°C	mPa.s	3.0
Geltime @ 25°C using 2% Butanox M-50	minutes	12
Stability from date of manufacture when stored in accordance with storage recommendations	months	5

Physical data – cured

The following tables give typical properties of Crystic® GC 84E PA when tested in accordance with BS2782 test methods.

Property	Unit	Typical value
Barcol Hardness*		44
Water Absorption 24 hrs at 23°C*	mg	11
Heat Deflection Temperature† (1.8MPa)	ºC	80
Elongation at Break*	%	2.5
Tensile Strength*	MPa	75
Tensile Modulus*	MPa	3,500

* Curing Schedule - 24hrs at 20°C, 3hrs at 80°C.
† Curing Schedule - 24hrs at 20°C, 16 hrs at 40°C, 3hrs at 80°C

Additives and Variants

The information contained in this technical data sheet applies to all pigmented versions.

Incorporation of additional material may affect the working, weathering or cured properties of the gelcoat. Please check with Scott Bader's Technical Service department before using the gelcoat outside of specified parameters.

Post-curing

Satisfactory laminates for many applications can be made with Crystic® Gelcoat 84E PA when backed by suitable laminating resin by curing at workshop temperature (15ºC - 35ºC). However, for optimum properties, laminates must be post-cured before being put into service. The moulding should be allowed to cure for 24 hours at workshop temperature, and then oven-cured for 3 hours at 80°C or 16 hours at 40°C.

Packaging and storage

Crystic® Gelcoat 84E PA is supplied in 25kg and 225kg containers.

Crystic® Gelcoat 84E PA 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. Material should be used within 5 months from date of production.

Health and safety

Please see separate Material Safety Data Sheet.

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