CRYSTIC® 935PA

Polyester Resin for Casting

Introduction
Crystic 935PA is a pre-accelerated high performance, isophthalic neopentyl glycol unsaturated polyester resin, developed specifically for the casting of Solid Surface products.

Crystic 935PA is a high clarity, low colour resin and is supplied at a low to medium viscosity in order to accept the maximum level of fillers such as Aluminium Tri-Hydrate (ATH), and coloured chips or natural stone.

For production of flat sheet, where quicker geltimes and cure times are required, then Crystic 935PAHR is available on request.

Applications
Applications using Crystic 935PA include high performance sanitary ware, vanity units, worktops and cladding panels in kitchens, bathrooms and commercial premises.

Features and Benefits
Solid Surface is produced from Crystic 935PA mixed with Aluminium Tri-Hydrate and polyester chips, using either continuous or batch mixing equipment fitted with a vacuum facility. Whilst it is not essential, optimum processing conditions use vibration on the moulds when the resin mix is being cast.

- Solid Surface is homogeneous throughout so can easily be machined, polished and repaired during production or in service. i.e. scratches can be polished out and holes filled and abraded back
- The use of vacuum and vibration eliminates the introduction of air bubbles and enables the surface to be successfully abraded and polished, if required.
- Inclusion of Poly Stone chips allows different aesthetic finishes to be achieved
- Using ATH as the filler provides translucency to the Solid Surface, imparts fire retardancy and offers resistance to most cleaning chemicals.

Approvals
Fully cured Solid Surface based on Crystic 935PA meets the following criteria:

- Tested by FIRA to BS EN438. 1991 (Full certificate available on request)
- Class I rating to BS476 Part 7 1987
- Class 0 rating to B5476 Part 6 1989
- M2 FO rating to the Epiradiateur NFF - 16-101 Test

Formulation
Crystic 935PA should be allowed to attain workshop temperature (18°C - 20°C) before use. The recommended catalyst is Butanox M50 which should be added at 2% based on the resin content.

Recommended formulations for the casting of Crystic Stonecast Solid Surface are shown below:

	Mix 1*	Mix2†
Crystic 935PA	40%	35%
Aluminium Tn-Hydrate (ATH) — Martinal 0N935	48%	53%
Chips - ACS Poly Stone chips	12%	12%

* To meet Class I rating to BS476 Part 7 1987
†To meet Class 0 rating to BS476 Part 6 1989

Pot Life of Crystic Stonecast Solid Surface Mix

Temperature	Mix 1
15°C	27.5
20°C	20
25°C	12
30°C	9

Different filler grades and formulations may affect properties and performance.

The mould, resin mix and workshop should all be at or above 15 °C before casting is carried out.

Post Cure
For optimum properties, Solid Surface should be post cured before being put into service. The Solid Surface should be allowed to cure for 24 hours at 20°C and then be oven cured for 3 hours at 80°C.

Casting of the Crystic Stonecast Solid Surface
For full details on the casting method, please refer to the Scott Bader "Application Guide for the casting of Crystic Stonecast Solid Surface."

Typical Properties
The following tables give typical properties of unfilled Crystic 93SPA.

Property		**Liquid Resin**
Appearance		Pink
Viscosity at 25°C	poise	6.0
Volatile Content	%	37
Acid Value	Mg KOH/g	17
Stability at 20°C	months	3
Geltime at 25°C using 2% Butanox M50	minutes	10
Property		**Fully Cured* Resin (Unfilled Casting)**
Barcol Hardness (Model GYZJ 934-1)		44
Deflection Temperature under load† (1.8OMPa)	°C	105
Water Absorption 24hrs at 23°C	mg	24
Tensile Strength	MPa	60
Tensile Modulus	MPa	3000
Elongation at Break	%	2.2

* Curing Schedule—24hrs 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 935PA should be stored in the dark in suitable closed containers. It is recommended that the storage temperature should be less than 20ºC where practical, but should not exceed 30ºC. Ideally, containers should be opened only immediately prior to use.

Packaging
Crystic 935PA is supplied in 25kg, 225kg and 1 tonne containers.

Health & Safety
Please see separate Material Safety Data Sheet.

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