

# 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%

<sup>\*</sup> To meet Class I rating to BS476 Part 7 1987 †To meet Class 0 rating to BS476 Part 6 1989

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## Pot Life of Crystic Stonecast Solid Surface Mix

Temperature	Mix 1 27.5	
15°C		
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† (1.80MPa)	°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

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## Storage

Crystic 935PA 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.

## **Packaging**

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

## Health & Safety

Please see separate Material Safety Data Sheet.

Version 2: February 2013

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