

CRYSTIC[®] 911PA

Polyester Resin for Casting

Introduction

Crystic 911PA is a pre-accelerated, orthophthalic unsaturated polyester resin with a low viscosity to accept the maximum level of filler particles.

Applications

Crystic 911PA has been developed specifically for the casting of small detailed castings, including collectables and figurines.

Features and Benefits

- Suitable for both mechanical and hand mixing processes.
- Exhibits excellent wetting of filler particles to achieve the required filler loadings.
- Suitable to cast fine detailed small castings, which will have excellent dimensional stability.
- Finished castings have excellent painting and staining properties.

Formulation

Crystic 911PA 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.

Products made with Crystic 911PA are generally filled with different grades of powdered filler (e.g. calcium carbonate), typically 50% by weight.

Pigment pastes can be mixed with Crystic 911PA, when a specific colour is required.

Pot Life

Pot life of Crystic 911PA in minutes using 2% Butanox M50 based on resin content.

Temperature	Unfilled	ATH ON935 50:50	Calcium Carbonate BLR2 50:50
15°C	27.4	27.2	31.7
20°C	17.9	19.0	19.6
25°C	11.0	10.8	12.5
30°C	7.5	7.8	8.3

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

Typical Properties

The following tables give typical properties of Crystic 911PA.

Property	Units	Liquid Resin
Appearance		Clear Brownish, bit free
Viscosity at 25°C	poise	2.0
Specific Gravity		1.16
Volatile Content	%	37.2
Solid Content	%	62.8
Geltime at 25°C using 2% Butanox M50	minutes	11.0

Property	Units	Fully *Cured Resin (unfilled)
Barcol Hardness (Model GYZJ 934-1)		14
Deflection Temperature under load † (1.80 MPa)	°C	40.4
Water Absorption 24 hrs at 23°C	mg	33.5
Tensile Strength	MPa	26.5
Tensile Modulus	MPa	1085
Flexural Strength	MPa	41.3
Flexural Modulus	MPa	1060
Elongation at Break	%	14.0
Impact Charpy	kJ/m ²	12.12

* Cured for 24 hours at 20 °C, then 3 hours at 80 °C

† Cured for 24 hours at 20 °C, then 5 hours at 80 °C, then 3 hours at 120 °C

Storage

Crystic 911PA 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 911PA is supplied in 25Kg, 225Kg and 1 tonne containers.

Health and Safety

Please see separate Material Safety Data sheet.

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SCOTT BADER COMPANY LIMITED

Wollaston, Wellingborough, Northamptonshire, NN29 7RL

Telephone: +44 (0) 1933 663100

Facsimile: +44 (0) 1933 666623

www.scottbader.com.