

CRYSTIC[®] 327 PA

Introduction

Crystic 327PA is a pre-accelerated, filled polyester resin, recommended for the production of opaque fire retardant laminates. The unique properties of Crystic 327PA make it ideal for use in the building, marine and land transport industries.

Approvals

Fully cured laminates moulded with Crystic 327PA can obtain a Class 2 rating to BS 476 Part 7 : 1997.

Formulation

Crystic 327PA must be thoroughly stirred and allowed to attain workshop temperature (18°C – 20°C) before use. It needs only the addition of a catalyst to start the curing reaction. The recommended catalyst is Butanox M50 or equivalent. The catalyst should be added at 2% into the resin and thoroughly stirred, shortly before use. The geltime of Crystic 327PA using Butanox M50 is approximately 8 – 9 minutes.

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

Additives

Crystic 327PA can be pigmented by the addition of up to 5% of Crystic Pigment Paste. It is difficult to obtain dark colours due to the white, opaque nature of the resin. Customers are advised to test pigments for colour stability before any large scale use.

Resin:Glass Ratio

A resin to glass ratio of 2.8 to 1 is recommended, due to the high specific gravity of Crystic 327PA.

Post curing

Satisfactory fire retardant laminates for many applications can be made with Crystic 327PA by curing at workshop temperature (20°C). However, for optimum dimensional stability, mechanical and fire retardant properties, mouldings should be post cured before being put into service. The mouldings should be allowed to cure for 24 hours at 20°C, then be oven cured for a minimum of 3 hours at 80°C or 15 hours at 50°C.

Typical properties

The following tables give typical properties of Crystic 327PA when tested in accordance with BS 2782.

Property		Liquid Resin
Appearance		Opaque, pinkish white
Viscosity at 25°C 37.35 sec-1	Poise	5.2
Viscosity at 25°C 4500 sec-1	Poise	3.0
Specific gravity at 25°C		1.4
Volatile content	%	27
Stability in the dark at 20°C	Months	3
Geltime at 25°C using 2% Butanox M50	Minutes	8.5

Property		Fully cured* resin
Barcol Hardness (Model GYZJ 934-1)		52
Deflection Temperature under load † (1.80 MPa)	°C	81

Tensile Strength	MPa	48
Tensile Modulus	MPa	6400

- * Curing Schedule - 24 hrs 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

Property		C.S.M** Laminate
Glass Content	%	27
Barcol	-	67
Tensile Strength	MPa	120
Tensile Modulus	MPa	11400
Elongation at Break	%	1.9
Flexural Strength	MPa	223
Flexural Modulus	MPa	10800

- ** Made with 3 layers 450g/m² PB CSM
Curing schedule - 24hrs at 20°C, 16hrs at 40°C

Storage

Crystic 327PA 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. Where they have to be stored outside, it is recommended that they are kept in a horizontal position to avoid the possible ingress of water.

Packaging

Crystic 327PA is supplied in 25 kg and 200 kg containers. Bulk supplies can be delivered by road tanker.

Health and safety

Please see separate Material Safety Data Sheet

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