

CRYSTIC[®] 397PASA

Isophthalic NPG Polyester Resin

Introduction

Crystic 397PASA is a pre-accelerated, thixotropic isophthalic/neopentyl glycol unsaturated polyester resin, with a high heat deflection temperature and excellent water and chemical resistance. Crystic 397PASA is suitable for contact moulding and for use as a bonding layer for incorporating uPVC sheet or mouldings into GRP structures. Grades of uPVC vary as to their suitability for this duty, and users are advised to carry out their own adhesion tests before embarking on production. Under EN13121-2:2003 this resin is rated category 4.

Surfaces in contact with aggressive environments should be made resin rich by incorporating a surfacing tissue, or a layer of Crystic Gelcoat 69PA. Alternatively, fabric backed polypropylene (e.g. Celmar[®]) or certain grades of uPVC can be used, backed with glass fibre reinforced Crystic[®] 397PASA.

Formulation

Crystic 397PASA should be allowed to attain workshop temperature (18°C - 25°C) before use. It requires only the addition of a catalyst to start the curing reaction. The recommended catalysts are Norox[®] KP9 or, under hot conditions, Norox[®] MEKP-925 H. Either should be added at 2% into the resin and thoroughly dispersed.

The recommended formulation is given in Table 1:

Table 1: Recommended formulation for Crystic 397PASA.

Component	Parts by weight
Crystic 397PASA	100
Catalyst Norox KP9 or Norox MEKP-925 H	1.0 – 3.0

N.B. Peroxide catalysts are highly reactive and may decompose with explosive violence, or cause fires, if they come into contact with flammable materials, metals or accelerators. For this reason they must never be stored in metal containers or be mixed directly with accelerators.

Additives

Crystic 397PASA may be pigmented by the addition of up to 5% Crystic Pigment Paste. Certain pigments, fillers or extra styrene can adversely affect the food taint, toxicity and chemical resistant properties of Crystic 397PASA. Customers should therefore satisfy themselves that any additions made will give the performance required.

Post Curing

Satisfactory laminates for many applications can be made with Crystic 397PASA by curing at workshop temperature (20°C). However, for optimum chemical, water and heat resistant properties, laminates must be post cured before being put into service. Mouldings should be allowed to cure for 24 hours at 20°C and then be oven cured for 3 hours at 80°C.

Typical Properties

The following tables give typical properties of Crystic 397PASA when tested in accordance with BS 2782.

Table 2: Typical properties of Crystic 397PASA liquid resin:

Property	Units	Nominal value
Appearance		Pinkish to mauve, cloudy
Viscosity @ 25° C using Brookfield RVT @ 100rpm	cPs	325
Thixotropic Index		1.9
Specific Gravity @ 25° C		1.05
Stability in the dark @ 20°C	months	3
Geltime @ 25°C using 1% Norox KP9 catalyst	minutes	23

Table 3: Typical properties of Crystic 397PASA fully cured* resin (unfilled casting):

Property	Units	Nominal value
Barcol Hardness (Model GYZJ 934-1)		38
Deflection Temperature under load † (1.80 MPa)	°C	114
Specific Gravity @ 25° C		1.16
Water Absorption 24 hours at 23°C	mg	23
Tensile Strength	MPa	65
Tensile Modulus	MPa	2700
Elongation at Break	%	3.3

*Curing Schedule - 24 hrs @ 20°C, 3 hrs @ 80°C

† Curing Schedule - 24 hrs @ 20°C, 5 hrs @ 80°C, 3 hrs @ 120°C

Storage

Crystic 397PASA 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 drums be kept in a horizontal position to avoid the possible ingress of water. Wherever possible, containers should be stored under cover.

Packaging

Crystic 397PASA is supplied in 25kg and 225kg containers.

Health and Safety

Please see the applicable Material Safety Data Sheets, depending on the curing system used.

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Before you use this information, kindly verify that this data sheet is the latest version.

All information is given in good faith but without warranty. We cannot accept responsibility or liability for any damage, loss or patent infringement resulting from the use of this information.

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