

CRYSTIC[®] 1113PA

Orthophthalic Polyester Resin for Roof Sheeting

Introduction

Crystic 1113PA is a light stabilised orthophthalic unsaturated polyester resin, containing methyl methacrylate, developed for the manufacture of hand-made GRP sheeting of high clarity. Crystic 1113PA readily wets-out and impregnates the glass fibre reinforcement, thus facilitating speedy and efficient production. Fully cured laminates made with Crystic 1113PA and a sheeting grade of grade 'E' glass chopped strand mat show very little fibre pattern and can have a light transmission of more than 80%. They have very good weather resistant properties and exhibit little or no change in appearance even after prolonged exposure.

Formulation

Crystic 1113PA should be used in the cold curing formulation given in Table 1:

Table1:

Component	Parts by weight
Crystic 1113PA	100
Andonox [®] KP9	1-3

The resin must be allowed to attain workshop temperature before being formulated for use. The resin and workshop should all be at or above, 15°C before curing is carried out. Scott Bader (Pty) Ltd. will not be liable for problems caused by use at lower temperatures than recommended.

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.

Weather Resistance and Light Transmission

For optimum weather resistance and durability, laminates made with Crystic 1113PA must be fully cured. To ensure maximum light transmission, laminates should have a resin to glass ratio of at least 3:1, and should be fully cured. After moulding, laminates should be allowed to mature at workshop temperature, (not less than 20°C), for at least three weeks. It is an advantage to leave the Melinex[®] or Mylar[®] film used during manufacture on the laminate during the maturing period and in storage **and** transit, as a surface protection. It must, however, be removed before the laminate is installed.

Typical Properties

Table 2: Typical properties of liquid Crystic 1113PA.

Property	Units	Liquid Resin
Appearance		Clear purple
Viscosity at 25°C at 100rpm	centipoise	300
Non-Volatile Content	%	63.2
Acid Value	mg KOH/g	23.4
Stability at 20°C	months	3
Geltime at 25°C using 1.5% Andonox [®] KP9 catalyst	minutes	20

Gelcoat

The composition of Crystic 1113PA makes it unsuitable for application as a gelcoat. When a gelcoat is required for a Crystic 1113PA laminate it is recommended that Crystic Gelcoat 65PA should be used.

Coloured Laminates

Crystic 1113PA may be coloured by the addition of small quantities of translucent tints of good stability. Tests should be made to ensure that the chosen tints give an even colour effect, as some tints can be absorbed onto the surface of the glass fibre reinforcement during lamination.

Storage

Crystic 1113PA 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.

Packaging

Crystic 1113PA is supplied in 25kg kegs, 225kg drums, and 1125kg intermediate bulk containers. Bulk supplies can be delivered by road tanker.

Health and Safety

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

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