

CRYSTIC[®] PDME 074

Acrylic Modified Resin for Roofing Sheets by Continuous Lamination

Introduction

Crystic PDME 074 is an acrylic modified orthophthalic unsaturated polyester resin developed specifically for the manufacturing of maximum clarity roofing sheets by continuous sheeting process.

Transparency

Crystic PDME 074 shows good transparency, as the Refractive Index of cured Crystic PDME 074 (RI = 1.5272 – 1.528) matches with that of the E powder bound glass matt. In order to obtain good clarity, the glass matt must be clean, dry, and have a proper high solubility binder for roofing sheet production.

Ultra Violet Stability

Crystic PDME 074 is ultra violet stabilized by addition of special anti UV additives. The resin also contains acrylic monomers to reduce long term yellowing of the laminates. The resin is also slightly tinted Blue to improve the optical properties.

Curing

Crystic PDME 074 is non-accelerated and requires addition of Crystic Low Color accelerator, Accelerator LC up to 0.6 %. The recommended catalyst is Butanox M50. Shortly before use, the correct amount of catalyst should be added and stirred thoroughly into the mixture.

Typical Properties

Test methods as in BS 2782: 1980

Property		Liquid Resin
Appearance		Light blue clear
Viscosity at 25°C (Broofield LVF SP3, 60 RPM)	cps	175 - 225
Refractive Index		1.5272 – 1.528
Acid Value	Mg KOH/g	25 - 35
Solid Content	%	55 - 60
Stability at 25°C	months	6
Geltime at 25°C using Crystic PDME 074 100 pbw Cobalt (1%) 1.2 pbw Catalyst M 1 pbw	minutes	10 - 15
Property		Fully Cured Resin (unfilled casting)
Barcol Hardness (Model GYZJ 934-1)		46
Water Absorption 24 hours at 23°C	mg	20
Deflection Temperature under load (1.80 MPa)	°C	65
Elongation at Break at 20°C	%	2.0
Tensile Strength	MPa	71
Tensile Modulus	MPa	3700
Volumetric Shrinkage	%	6

The curing schedule was 24 hrs at 20 °C, followed by 3h at 80 °C, except in determining the deflection temperature, where the schedule was 24 hrs at 20 °C, 5h at 80 °C, 3h at 120 °C.

Storage

To ensure maximum stability and maintain optimum properties, polyester resin should be stored in closed containers, maintained below 25°C and away from heat sources and sunlight. All storage should conform to local fire and building codes. Drum stock should be kept to a reasonable minimum with first-in, first-out rotation.

Where bung-in-head containers are stored outside, it is recommended that these be stored in a horizontal position to avoid the ingress of water.

Storage

It is recommended that storage temperatures should not exceed 25°C, and that containers should be stored away from direct sunlight and not be opened until they are required for use. The shelf life of the resin under these conditions is three (3) months.

Packaging

Crystic PDME 074 is supplied in 225 kg steel containers. For the purpose of shipping, Crystic PDME 074 is class 3.0 in the IMCO Code (Page 3153)

Health and Safety

Please see separate Materials Safety Data Sheet.

Version 2 : February 2013

All information on this data sheet is based on laboratory testing and is not intended for design purposes. Scott Bader makes no representations or warranties of any kind concerning this data. Due to variance of storage, handling and application of these materials, Scott Bader cannot accept liability for results obtained. The manufacture of materials is the subject of granted patents and patent applications; freedom to operate patented processes is not implied by this publication.

SCOTT BADER COMPANY LIMITED

Wollaston, Wellingborough, Northamptonshire, NN29 7RL

Telephone: +44 (0) 1933 663100

Facsimile: +44 (0) 1933 666623

www.scottbader.com