

# CRYSTICROOF RESIN

## Introduction

CrysticROOF Resin is a low styrene emission, pre-accelerated, orthophthalic polyester resin, which rapidly wets out reinforcements. It has been specifically designed for roofing applications. It is not suitable for boat construction, chemical resistance or mouldings in contact with food products.

## Product Characteristics

### Formulation

CrysticROOF Resin should be stirred well by hand, or with a low shear mixer to avoid aeration, and then allowed to stand to regain thixotropy. CrysticROOF Resin requires only the addition of catalyst to start the curing reaction. The recommended catalyst is Catalyst M (or Butanox M50), which should be added at 1% into the resin. The catalyst should be thoroughly incorporated into the resin with a low shear mechanical stirrer where possible.

### Pot Life

Temperature	Pot Life In Minutes with 1% Catalyst M
15°C	42
20°C	22
25°C	17

Ideally the resin and ambient temperature should be at, or above, 15 °C before curing is carried out. Lower temperatures will lengthen the cure time considerably. The level of catalyst can be increased to 2% to assist the cure at reduced temperatures. The environmental conditions should be dry and with no imminent rain forecast. The substrate should also be dry before application begins in order to ensure a good bond.

### Application

CrysticROOF Resin is designed for hand laminating and would normally be used with chopped strand mat.

### Additives

The addition of filler or pigments can adversely affect the hardening of the resin. Users should evaluate the effect of any potential additives before use.

## Typical Properties

The following tables give the minimum expected properties of CrysticROOF Resin when tested in accordance with BS 2782.

Property		Liquid Resin
Appearance		Greenish blue
Viscosity @ 25°C		Thixotropic
Specific Gravity @ 25°C		1.12
Volatile Content	%	43
Stability in the dark @ 20°C	months	5*
Geltime @ 25°C using 1% Catalyst M (or Butanox M50)	minutes	17

\* From date of delivery

Property		Fully Cured* Resin (unfilled casting)
Barcol Hardness (Model GYZJ 934-1)		42
Deflection Temperature under load † (1.80 MPa)	°C	67
Water Absorption 24 hours at 23°C	mg	15
Tensile Strength	MPa	50
Tensile Modulus	MPa	3800
Elongation at Break	%	1.5

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

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

Property		CSM** Laminate
Tensile Strength	MPa	98
Tensile Modulus	MPa	7600
Flexural Strength	MPa	190
Flexural Modulus	MPa	7400
Elongation at Break	%	1.7

\*\*Made with 4 layers 450g/m<sup>2</sup> PB CSM

Curing Schedule - 24 hrs @ 20°C, 16hrs @ 40°C.

## Storage

CrysticROOF Resin 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

CrysticROOF Resin is supplied in 20kg and 225kg containers.

## Health & Safety

Please see separate Material Safety Data Sheet.