

# Crystic<sup>®</sup> Permabright (B)

## Low Colour Change Polyester Gelcoat for Brush Application

### Introduction

Crystic Permabright (B) is a high performance polyester brush gelcoat. It is a pre-accelerated and has been formulated to offer exceptionally low colour change and excellent water resistance. It is only available in white, off-white and light cream shades and the information contained in this technical datasheet also applies to pigmented versions.

The Scott Bader Technical Service Department is able to provide information and advice relating to the use of composites products in a wide range of markets and applications.

### Applications

Crystic Permabright (B) is recommended for use in marine, land transport and building applications. It is also suitable for general moulding requirements.

### Features and Benefits

Crystic Permabright (B) has been developed to ensure excellent intrinsic weathering properties and excellent water resistance. The robust formulation ensures the gelcoat is suitable for use in a wide range of application conditions.

### Product Characteristics

Crystic Permabright (B) should be allowed to attain workshop temperature (18°C - 25°C) before use. Stir well by hand, or with a low shear mixer to avoid aeration, and then allow to stand to regain thixotropy. Crystic Permabright (B) requires only the addition of a catalyst to start the curing reaction. The recommended catalyst is Butanox M50 (or other equivalent catalyst), which should be added at 2 % into the gelcoat. (Please consult our Technical Service Department if other catalysts are to be used). The catalyst should be thoroughly incorporated into the gelcoat, with a low shear mechanical stirrer where possible. Please consult our Technical Service Department for further application advice.

For normal moulding, the application of Crystic Permabright (B) should be controlled to 0.4 - 0.5 mm (0.015 - 0.020 inches) wet film thickness. As a guide, approximately 450-600 g/m<sup>2</sup> of gelcoat mixture (depending on pigment) will give the required thickness when evenly applied.

### Post Curing

Laminates take time to cure fully and develop mechanical properties at room temperature. This process can be accelerated by post-curing at elevated temperature. Please seek advice for your specific needs. Optimum properties can normally be obtained by allowing curing for 24 hours at room temperature followed by 3 hours at 80 °C.

### Typical Properties

The following table gives typical liquid properties of Crystic Permabright (B) when tested in accordance with Scott Bader test methods.

Properties Crystic Permabright (B) White 337	Method	Typical Result
Viscosity, 25°C 0.6s-1	3.41	350 – 450 poise
Viscosity, 25°C 4500s-1	3.6	12 – 18 poise
Specific Gravity at 25 °C	-	1.2
Stability at 20°C	-	3 months
Geltime 25°C 2% Butanox M50 (or other equivalent catalyst)	5.25	6 – 10 minutes

The following are typical mechanical properties obtained from the gelcoat base resin following a post cure of 16hrs at 40°C :

Mechanical properties	Method	Value
Barcol Hardness (Model 934-1)	EN59	46
Heat Deflection Temperature	BS EN ISO 75-2 (1996)	53°C
Water Absorption 24 hours at 23°C	BS EN ISO 62 part 6.2	9.4 mg
Tensile Strength	BS EN ISO 527- 2	58 MPa
Elongation at Break	BS EN ISO 527- 2	3.3%
Flexural Strength	BS EN ISO 178	103 MPa
Flexural Modulus	BS EN ISO 178	2980 MPa

#### Storage

Crystic Permabright (B) should be stored in its original container and out of direct sunlight. 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.

#### Packaging

Crystic Permabright (B) is supplied in 25kg and 225kg containers.

#### Health and Safety

Please refer to Material Safety Data Sheet.

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