

# CRYSTIC<sup>®</sup> FIREGUARD 75PA (IMB) EXCEL

## Intumescent Fire Retardant Gelcoat for Brush Application

### Introduction

Crystic Fireguard 75PA (IMB) Excel is an intumescent in mould brush (IMB) gelcoat based on an unsaturated polyester resin. Crystic Fireguard 75PA (IMB) Excel is available in standard in white, grey and black only, and the information contained in this technical datasheet applies to all three versions. Other colours can be made subject to a minimum order quantity.

### Applications

Crystic Fireguard 75PA (IMB) Excel is suitable for use in the marine, building and transport industries.

### Features and Benefits

Crystic Fireguard 75PA (IMB) Excel gives outstanding fire protection to FRP laminates which are accidentally exposed to direct flaming.

### Approvals

A properly applied, fully cured coating of Crystic Fireguard 75PA (IMB) Excel on a laminate made from standard general purpose resin can obtain a Class 1 rating according to BS476 Part 7. This combination can also satisfy the requirements of BS476 Part 6: 1989 + A1:2009: "Fire tests on building materials and structure" for a Class 0 structure, as well as achieve and M1 rating according to Epiradiateur NFP 92-501.

### Formulation

Crystic Fireguard 75PA (IMB) Excel should be allowed to attain workshop temperature (18°C-20°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 Fireguard 75PA (IMB) Excel requires only the addition of catalyst to start the curing reaction. The recommended catalyst is Butanox M50 (or other equivalent catalyst) which should be added at 2%. (Please consult our Technical Service Department before using other catalysts).

The catalyst should be thoroughly incorporated into the Crystic Fireguard 75PA (IMB) Excel, with a low shear mechanical stirrer where possible. Curing should only be carried out at temperatures above 15°C. The Crystic Fireguard 75PA (IMB) Excel, the surface to be coated and the workshop should all be at, or above this temperature.

### Application

For normal moulding, the application of Crystic Fireguard 75PA (IMB) Excel should be controlled to 0.4 - 0.5mm (0.015 - 0.020 inch) wet film thickness. As a guide, approximately 550-750g/m<sup>2</sup> of gelcoat mixture (depending on pigment) will give the required thickness when evenly applied.

### Additives

The addition of fillers or pigments to Crystic Fireguard 75PA (IMB) Excel is likely to affect the cure of this material and is not recommended.

### Recommended Testing

It is recommended that customers test Crystic Fireguard 75PA (IMB) Excel before use under their own conditions of application to ensure the required surface finish is achieved.

### Physical Data – Uncured

The following tables give typical properties of Crystic Fireguard 75PA (IMB) Excel when tested in accordance with SB, BS EN or BS EN ISO test methods.

Property	Unit	Liquid Gelcoat
Appearance		Opaque, Coloured
Viscosity at 25°C		Thixotropic
Specific Gravity at 25°C		1.35
Volatile Content	%	20
Stability at 20°C	Months	2
Geltime at 25°C Using 2% Butanox M50 (or Other Equivalent Catalyst)	Minutes	10

### Physical Data – Cured

Property	Unit	Fully Cured *Gelcoat (Unfilled Casting)
Barcol Hardness (Model GYZJ 934-1)		40
Specific Gravity at 25°C	°C	1.46

\* Curing Schedule - 24 hrs at 20°C, 8 hrs at 60°C.

### Weathering

Crystic Fireguard 75PA (IMB) Excel has been designed for internal use. However, although the weather resistance is not as good as a standard polyester gelcoat, it is superior to most intumescent paints. Crystic Fireguard 75PA (IMB) Excel has been exposed to natural weathering for 5 years and has been found to retain its full intumescent properties. The panels were in good condition except for a loss of surface gloss. Other samples were immersed in oils and detergents for 6 months and in all cases the intumescence was found to be completely unimpaired.

### Post Curing

For many applications, Crystic Fireguard 75PA (IMB) Excel will perform adequately when cured at workshop temperature (20°C). However, for optimum fire retardant properties it should be allowed to cure for 24 hours at 20°C, and then be oven-cured for 8 hours at 60°C.

### Storage

Crystic Fireguard 75PA (IMB) Excel 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 Fireguard 75PA (IMB) Excel is supplied in 25Kg and 225Kg containers.

### Health and Safety

Please see separate Material Safety Data Sheet.

Version 4 : August 2014

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