

# CRYSTIC<sup>®</sup> 406 COS

## Unsaturated Polyester Resin for Artificial Marble

### Introduction

Crystic 406 COS is a non thixotropic, non-accelerated, orthophtalic unsaturated polyester resin. It contains UV absorbers allowing a very good resistance to yellowing and to UV radiation.

### Application

Crystic 406 COS has been designed specially for the production of filled castings and polyester concrete.

### Features and Benefits

Features	Benefits
Low viscosity	High filler content
Low shrinkage	Possibility to cast large mouldings
Fast curing	Fast mould turn round High production rate

### Formulation

The following cold curing formulation is recommended:

Crystic 406 COS :	100 parts
Catalyst M :	1 to 2 parts
Accelerator E :	4 parts

Catalyst M is a Methyl Ethyl Ketone Peroxyde at 50% such as the Butanox M 50 from AKZO. Accelerator E is a cobalt octoate with 0.4% active cobalt. Catalyst and accelerator should not be mixed directly together, as they will react with explosive violence.

### Gel time

The ambient temperature, the quantity and the type of catalyst will control the gel time of the resin.

Temperature	Gel time with 2% Catalyst M and 4% Accelerator E
Gel time at 20°C	
Gel time at 25°C	5

Curing should not be carried out at temperature below 15°C.

### Additives

Since certain pigments, fillers or extra styrene may affect the properties of CRYSTIC 406 COS their effect should be evaluated before addition to the formulation.

### Post-Curing

For most applications satisfactory result will be obtained by curing at room temperature (20°C). Some improvement in properties may be obtained by post-curing 16 hours at 40°C after release from the mould.

## Typical Properties

Test according to BS 2782 : 1980

Property	Units	Liquid Resin
Viscosity at 25°C Rhéomat at 37.35 sec-1	dPas	3.5 – 4.5
Specific Gravity at 25°C		1.10
Volatile Content	%	36 - 40
Acid index	mg KOH/g	19 - 23
Aspect		Clear
Stability at 20°C	months	6
Geltime at 25°C using 2% Catalyst M and 4% Crystic Accelerator E	minutes	4.5 – 5.5
Property	Units	Fully *Cured Resin
Barcol Hardness (Model GYZJ 934-1)		46
Deflection Temperature under load † (1.80 MPa)	°C	65
Water Absorption 24 hrs at 23°C	mg	15
Tensile Strength	MPa	60
Tensile Modulus	MPa	3800
Elongation at Break	%	2
Specific Gravity at 20°C		1.2

\* Cured for 24 hours at 20 °C, then 3 hours at 80 °C

† Cured for 24 hours at 20 °C, then 5 hours at 80 °C, then 3 hours at 120 °C

## Food Contact

Crystic 406 COS is fully approved for being in contact with food stuff as the global migration and specific migration are inside the limits of the European Directives (CEE no. 85/512 – CE no. 97/48 –CE no. 2002/72).

## Storage

Crystic 406 COS should be stored under cover, in the dark in the container in which it was supplied. It is recommended that the storage temperature should not exceed 20°C. Ideally, containers should be opened only immediately prior to use.

## Packaging

Crystic 406 COS is supplied in 225kg or 1100kg 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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