Crystic® 400PA

Sanitaryware casting resin

Technical Data Sheet

Introduction

Crystic® 400PA is a pre-accelerated, unsaturated polyester resin designed to be used in casting applications.

Crystic® 400PA has excellent temperature resistant properties and has been formulated to accept higher levels of filler while ensuring excellent wet out for producing filled castings. Crystic® 400PA is recommended for high-end sanitaryware applications such as vanities, shower trays and bathtubs.

Formulation

Crystic® 400PA should be allowed to attain workshop temperature (15 - 35°C) before use. Crystic® 400PA requires only the addition of catalyst to start the curing reaction. The recommended catalyst is Butanox M-50 (or other equivalent catalyst) which should be added at 1.5 - 2.0% by weight into the resin with a low shear mechanical stirrer where possible.

(Please consult our Technical Service Department if other catalysts are to be used).

Formulation	Typical Backup Mix
25%	Crystic® 400PA
75%	Calcium Carbonate / Calcium Sulphate

Physical data - liquid resin

The following tables give typical properties of Crystic® 400PA when tested in accordance with BS2782 test methods.

Property	Unit	Typical Value
Viscosity at 25ºC SP3 rpm 60	mPa.s	230 - 270
Reactivity, using 1.5% Butanox M-50 at 35°C		
Geltime	Mins	7 - 10
35°C - Peak	Mins	11 - 15
Peak Exotherm	°C	140 - 180
Reactivity, Filled resin at 35°C *50g Crystic 400PA* *150g Calcium Sulphate* *0.75g Butanox M-50*		
Geltime at 35°C	Mins	8 - 11
35°C - Peak	Mins	22 - 26
Peak Exotherm	°C	55 - 65
Stability from the date of manufacture when stored in accordance with storage recommendations	months	6

Physical data - cured

The following tables give typical properties of an unfilled casting of fully cured Crystic® 400PA when tested in accordance with BS2782 test methods.

Property	Unit	Typical Value
Barcol hardness		48
Deflection temperature under load† (1.80 MPa)	ºC	63
Elongation at break	%	2.0
Tensile strength	MPa	55
Tensile modulus	MPa	4,400

*Curing Schedule - 24 hours at 20°C, 3 hours at 80°C.
†Curing Schedule - 24 hours at 20°C, 5 hours at 80°C, 3 hours at 120°C.

Post Curing

Satisfactory laminates for many applications can be made with Crystic® 400PA by curing at workshop temperature (25°C). However, for optimum chemical, water and heat resistant properties, laminates should be post cured before being put into service. Parts should be allowed to cure for 24 hours at 25°C and then be oven cured for 3 hours at 80°C or 16 hours at 40°C.

Packaging and storage

Crystic® 400PA is supplied in 25kg, 225kg and bulk containers.

Crystic® 400PA should be stored in its original container, under cover, and out of direct sunlight. These must be kept closed and airtight. It is recommended that the storage temperature should be less than 25°C and the product should not be frozen. Storing the product outside of these conditions may affect the properties of the product and reduce its shelf life. Ideally, containers should be opened only immediately prior to use. Material should be used within 6 months from date of production

Health and Safety

Please see separate Material Safety Data Sheet.

Version: Crystic® 400PA_EN_JUL25

Group tech class: R20726