CRYSTIC®

VE 679-03PA (100)

Technical Data Sheet

Introduction

Crystic® VE 679-03PA (100) is a pre-accelerated, DCPD modified Vinyl Ester resin. Crystic® VE 679-03PA (100) is designed for vacuum infusion and provides excellent flow and fibre wet-out characteristics. It has excellent resistance to osmotic blistering, and significantly reduces the occurrence of fibre print-through, resulting in durable mouldings with an enhanced surface finish. Crystic® VE 679-03PA (100) is recommended for marine structures such as hulls and decks, as well as other large infused parts requiring controlled exotherm and high quality surface finish.

Features and Benefits

The low exotherm of Crystic® VE 679-03PA (100) enable improved process control and superior surface finish.

The flow behaviour of Crystic® VE 679-03PA (100) supports reliable infusions of large complex parts with minimal risk of dry spots.

Crystic® VE 679-03PA (100) is compatible with Kevlar and Carbon Fibre reinforcements.

Formulation

Crystic® VE 679-03PA (100) should be allowed to attain workshop temperature (18 - 25°C) before use. Crystic® VE 679-03PA (100) requires only the addition of a medium reactivity MEKP catalyst to start the curing reaction. The recommended catalyst is Butanox M50 (or equivalent), which should be added at 1.25 - 2% into the resin and thoroughly incorporated using a low shear mechanical stirrer where possible.

Alternatively, low exotherm catalysts such as Trigonox 249 or Norox MCP-75 (or equivalent MEKP/CHP blends) can be used to give a more controlled cure profile, resulting in lower shrinkage and improved surface finish.

N.B. Catalyst and accelerator must not be mixed directly together since they can react with explosive violence.

Physical Data – Uncured

The following tables give typical properties of Crystic® VE 679-03PA (100) when tested in accordance with SB, BS EN or BS EN ISO test methods.

Property	Unit	Liquid Resin
Appearance	-	Brown / Red
Viscosity, Brookfield Spindle 3 at 60rpm, 25°C	mPa.s	175
Geltime using 1.5% Butanox M50, 25°C	Mins	100
Specific Gravity, 25°C	-	1.1
Volatile Content	%	41
Stability at 20ºC	Months	6

Physical Data – Cured

Property	Unit	Fully cured* resin
Barcol Hardness (Model GYZJ 934- -1)	-	34
Deflection Temperature under load† (1.80 MPa)	ºC	97
Elongation at Break	%	2.3
Tensile Strength	MPa	64
Tensile Modulus	GPa	3.4

*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® VE 679-03PA (100) 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.

Recommended testing

It is recommended that customers test Crystic® VE 679-03PA (100) before use under their own conditions of application to ensure the required performance is achieved.

Storage

Crystic® VE 679-03PA (100) should be stored in its original container and out of direct sunlight. It is recommended that the storage temperature 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® VE 679-03PA (100) is supplied in 20kg metallic pails, 200kg metallic drums, or 1000kg IBC's. Bulk supplies can be set up.

Health and Safety

Please see separate Material Safety Data Sheet.