CRYSTIC® VE679 PA (Thix HV)

Technical Data Sheet

Introduction

Crystic® VE679 PA (Thix HV) is a pre-accelerated, highly thixotropic, DCPD modified Vinyl Ester resin designed for both hand and spray lamination. Crystic® VE679 PA (Thix HV) is recommended for use as a skincoat in marine, tooling and swimming pool applications. Crystic® VE679 PA (Thix HV) has excellent blister resistance and significantly reduces the occurrence of fibre print through, to produce durable laminates with an enhanced surface finish.

Features and Benefits

Crystic® VE679 PA (Thix HV) achieves a good degree of cure in a thin laminate, ideal for skincoats.

Its high thixotropy allows for application on vertical surfaces without drainage.

The use of a Crystic® VE679 PA (Thix HV) skincoat greatly improves the surface finish of the final part.

Formulation – Cold Curing

Crystic® VE679 PA (Thix HV) should be allowed to attain workshop temperature (18 - 25°C) before use. Crystic® VE679 PA (Thix HV) requires only the addition of a medium reactivity MEKP catalyst to start the curing reaction. The recommended catalyst is Butanox M50 (or equivalent medium reactivity MEKP catalyst), which should be added at 1.2 – 2.0% into the resin and thoroughly incorporated using a low shear mechanical stirrer where possible. (Please consult our Technical Support Department if other catalysts are to be used).

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® VE679 PA (Thix HV) when tested in accordance with SB, BS EN or BS EN ISO test methods.

Property	Unit	Liquid Resin
Appearance	-	Red / Brown
Viscosity, ICI Cone & Plate, 25°C	dPa.s	2.5
Viscosity, Brookfield Spindle 3 at 5rpm, 25°C	mPa.s	2550
Viscosity, Brookfield Spindle 3 at 50rpm, 25°C	mPa.s	800
Geltime using 2.0% Butanox M50, 25°C	Minutes	25
Stability at 20ºC	Months	6

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Physical Data – Cured

Property	Unit	Fully cured* resin
Barcol Hardness (Model GYZJ 934- -1)	-	35
Deflection Temperature under load† (1.80 MPa)	ºC	94
Elongation at Break	%	2.1
Tensile Strength	MPa	52
Tensile Modulus	GPa	3.0

*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® VE679 PA (Thix HV) 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® VE679 PA (Thix HV) before use under their own conditions of application to ensure the required performance is achieved.

Storage

Crystic® VE679 PA (Thix HV) 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® VE679 PA (Thix HV) is supplied in 20kg pails, 200kg drums, or 1000kg IBC's. Bulk supplies can be set up.

Health and Safety

Please see separate Material Safety Data Sheet.