



### Introduction

Crystic® VE 671 PA T LF is a pre-accelerated, thixotropic, Bisphenol A Epoxy based Vinyl Ester resin with excellent chemical resistance to a wide range of substances at room and elevated temperatures. Crystic® VE 671 PA T LF is low foaming when catalysed with standard MEKP catalyst. It is recommended for the manufacture of chemical storage tanks or as a corrosion resistant tie layer during the manufacture of GRP swimming pools. Crystic® VE 671 PA T LF is designed to be applied by hand or spray lamination.

### Features and Benefits

Its high HDT makes Crystic® VE 671 PA T LF suitable for applications where high heat resistance is required.

Crystic® VE 671 PA T LF has high thixotropy for application on vertical surfaces.

Low foaming formulation reduces the risk of microbubbles within the laminate.

### Approvals

Crystic® VE 671 PA T LF has been qualified against the AS1838 standard for use as a corrosion resistant tie layer in GRP pools.

**Note:** Crystic® VE 671 PA T LF is only recommended for use in GRP swimming pools operating at ambient temperatures, and the water must be properly maintained within a pH range of 7.2 – 7.4, and a chlorine level of 1.5 – 2.5ppm (never exceeding 5ppm).

### Formulation – Cold Curing

Crystic® VE 671 PA T LF should be allowed to attain workshop temperature (18 - 25°C) before use. Crystic® VE 671 PA T LF 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 also be added at 1 - 2% 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® VE 671 PA T LF when tested in accordance with SB, BS EN or BS EN ISO test methods.

Property	Unit	Liquid Resin
Appearance	-	Pinkish, Hazy
Viscosity, ICI Cone & Plate, 25°C	dPa.s	2.8
Viscosity, Brookfield Spindle 3 at 5rpm, 25°C	mPa.s	2200
Viscosity, Brookfield Spindle 3 at 50rpm, 25°C	mPa.s	700
Geltime using 2.0% Butanox LPT, 25°C	Mins	30
Geltime using 1.5% Butanox LPT, 25°C	Mins	45
Stability at 20°C	Months	6

## Physical Data – Cured

Property	Unit	Fully cured* resin
Barcol Hardness (Model GYZJ 934- -1)	-	40
Deflection Temperature under load† (1.80 MPa)	°C	100
Elongation at Break	%	4.5
Tensile Strength	MPa	80
Tensile Modulus	GPa	3.4
Flexural Strength	MPa	130

\*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 671 PA T LF 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.

## Chemical Resistance

Fully cured Crystic® VE661PAT may be suitable for use in several chemical environments. For further information around chemical containment requirements please refer to our separate Chemical Containment Brochure which offers a comprehensive guide to the use of Crystic resins in a wide variety of chemical environments. For specific advice and recommendations, please contact Scott Bader Technical Support.

## Recommended testing

It is recommended that customers test Crystic® VE 671 PA T LF before use under their own conditions of application to ensure the required performance is achieved.

## Storage

Crystic® VE 671 PA T LF 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 671 PA T LF is supplied in 200Kg metallic drums or 1000kg IBC's. Bulk supplies can be set up.

## Health and Safety

Please see separate Material Safety Data Sheet.

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