



### Introduction

Crystic® 2-420PALV is a low styrene emission, pre-accelerated orthophthalic polyester resin.

### Features and benefits

Crystic® 2-420PALV has a long gel time and low exotherm, which make it suitable for the moulding of large structures and for multi layering. Crystic® 2-420PALV is a lower viscosity version of 2-420PA.

### Applications

Crystic® 2-420PALV is designed for hand or spray laminating.

### Physical data

The following tables give typical properties of Crystic® 2-420PALV when tested in accordance with SB, BS EN or BS EN ISO test methods.

#### Physical data - uncured

Property	Unit	Liquid Resin
Appearance		Green/Blue Thixotropic
Viscosity, 25°C 37.35 sec <sup>-1</sup>	poise	3
Viscosity, 25°C 4500 sec <sup>-1</sup>	poise	1.8
Acid Value	mgKOH/g	22
Stability at 20°C	Months	3
Gel time at 20°C using 1.5% of a medium reactivity MEKP catalyst	Minutes	45

#### Physical data - cured

Property	Unit	Fully cured Unfilled Casting	
		*	**
Barcol hardness		41	35
Water absorption 24 hrs at 23°C	mg	16.9	14.0
Deflection temperature under load (1.80 MPa)	°C	57†	53

Elongation at break	%	1.3	2.0
Tensile strength	MPa	44	46
Tensile modulus	MPa	3680	3030

Property	Unit	Fully cured Laminate ††	
		*	**
Water absorption 24 hrs at 23°C	mg	20	13
Elongation at break	%	1.9	1.8
Tensile strength	MPa	108	101
Tensile modulus	MPa	7500	7200
Flexural strength	MPa	200	182
Flexural modulus	MPa	6200	5700
Compression strength	MPa	185	156

\*Curing Schedule - 24 hours at 20°C, 3 hours at 80°C.

\*\*Curing Schedule - 24 hours at 20°C, 16 hours at 40°C.

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

††Laminate made with 4 layers 450 g/m<sup>2</sup> EB mat.

## Approvals

Crystic® 2-420PALV is approved by Lloyd's Register of Shipping for use in the construction of craft under their survey.

## Formulation

Crystic® 2-420PALV should be allowed to attain workshop temperature (18 °C - 20 °C) before use. Stir well by hand, or with a low shear mixer to avoid aeration, and then allow to stand to regain thixotropy. Crystic 2-420PALV requires only the addition of catalyst to start the curing reaction, and has a built-in colour change mechanism to indicate this. The recommended catalyst is a medium reactivity MEKP which should be added at 1.5 % into the resin. (Please consult our Technical Support Department if other catalysts are to be used).

## Post Curing

Satisfactory laminates for many applications can be made with Crystic 2-420PALV by curing at workshop temperature (20 °C). However, for optimum properties, laminates must be post-cured before being put into service. The moulding should be allowed to cure for 24 hours at 20 °C, and then be oven-cured for 3 hours at 80 °C.



---

## Additives

Crystic® 2-420PALV is supplied ready for use. The addition of filler or pigments may adversely affect the hardening of the resin. Users should evaluate the effect of any potential additives before use.

---

## Storage

Crystic® 2-420PALV should be stored in the dark in suitable, closed containers. It is recommended that the storage temperature should be less than 20 °C where practical, but should not exceed 30 °C. Ideally, containers should be opened only immediately prior to use. Where they need to be stored outside, it is recommended that they are kept in a manner that avoids the possible ingress of water.

---

## Packaging

Crystic® 2-420PALV is supplied in 25 kg, 200 kg and 1100kg containers. Bulk supplies can be delivered by road tanker.

---

## Health and Safety

Please see separate Material Safety Data Sheet.

© 2023 Scott Bader Company Limited, August 2023, Issue No. 1

All information on this data sheet is based on laboratory testing and is not intended for design purposes. Scott Bader makes no representations or warranties of any kind concerning this data. Due to variance of storage, handling and application of these materials, Scott Bader cannot accept liability for results obtained. The manufacture of materials is the subject of granted patents and patent applications; freedom to operate patented processes is not implied by this publication.