

CRYSTIC 2446PALV

Introduction

CRYSTIC 2446PALV is an orthophthalic pre-accelerated, low styrene emission and thixotropic unsaturated polyester resin. It contains a colour change system and will change from blue to natural colour when the catalyst is added to the resin.

Application

CRYSTIC 2446PALV is designed mainly for spray application but is also suitable for contact moulding. **CRYSTIC 2446PALV** is a versatile resin and may be used for most general purpose mouldings.

Features and Benefits

<i>Features</i>	<i>Benefits</i>
Low viscosity.....	Easy impregnation of the reinforcement
Rapid hardening.....	Fast mould turn – round
General purpose.....	Only one resin for many applications
Colour change system.....	Secures that catalyst is well added and mixed

Formulation

The following cold curing formulation is recommended:

CRYSTIC 2 446PALV : 100 parts

Catalyst M : 1 to 2 parts

Catalyst M is a Methyl Ethyl Ketone Peroxyde at 50% such as the Butanox M50 from AKZO.

Approvals

CRYSTIC 2446 PALV is approved by the Lloyd's Register of Shipping

Variants

CRYSTIC 2446 PALV also exists in a non L.S.E with reference **CRYSTIC 446 PALV**.

A longer gel time version is available under reference **CRYSTIC 2.446 MPALV**. **CRYSTIC 2246 PALV** and **CRYSTIC 2246 MPALV** are also available in white with a quantity minimum of order.

Gel time

The ambient temperature, the amount and type of catalyst, control gel time of resin formulations. Curing should not be carried out at a temperature below 15°C.

The resin must be allowed to attain the workshop temperature before being used.

Parts of Cat. M for 100 parts of 2446PALV	1	2
Gel time at 15°C (min)	62	38
Gel time at 25°C (min)	39	25
Gel time at 25°C (min)	25	17

Additives

Since certain pigments, fillers or extra styrene may affect properties of **CRYSTIC 2446 PALV** their effect should be evaluated before addition to the formulation.

Post-Curing

For most applications satisfactory result will be obtained by curing at room temperature (20°C). Some improvement in properties may be obtained by post-curing 16 hours at 40°C after release from the mould

Typical Properties

On liquid resin :

Viscosity at 25°C (Rhéomat 37,35 sec ⁻¹)	2446PALV	dPas	2.5 – 3.5
Specific gravity	2446PALV		1.10
Volatile content	2446PALV	%	40 – 45
Aspect	2446PALV		Blue thixo
Stability in dark at 20°C	2446PALV	Months	3
Gel time at 25°C with 100 parts of Resin and 2 parts Catalyst M	2446PALV	min	14 – 17

On fully cured resin:

		*	**	***
Barcol Hardness (Model GYZJ 934-1)		38	40	42
Water absorption (24 H at 23°C)	mg	15	14	16
Heat Deflection Temperature (1.80 MPa)	°C	55	60	65
Specific gravity		1.17		
Tensile strength	MPa	55	55	60
Tensile modulus	MPa	3300	3600	3700
Volumic shrinkage	%	7	7	7
Elongation at break	%	2.4	1.6	1.5

BS 2782 : 1980

1Mpa = 1MN/m² approx. 10.2 kgf/cm²

* 24h at 20°C then post cured 16h at 40°C

** 24h at 20°C then post cured 24h at 50°C

*** 24h at 20°C then post cured 3h at 80°C, except for HDT : 24h at 20°C, then 5h at 80°C, then 3h at 120°C

Packaging

CRYSTIC 2446PALV is supplied in 225 kg or 1100 kg containers. Bulk supplies can be delivered by road tanker.

Health and Security

The most important protective measures to be taken with unsaturated resins and resin systems are:

- Correct storage
- Stock rotation
- Adequate workplace ventilation
- Local extraction where vapour
- Concentrations may build up or are high
- Use of fresh air masks in confined spaces or spray applications outside of spray booths
- Work place monitoring of vapour concentrations
- Good housekeeping
- Systematic work routines
- Competent personnel
- Supervision, training and instruction
- Fire precautions
- Correct disposals

Points of Caution

Monomer and solvent vapour concentrations above certain levels can be hazardous to health and safety. The safety risks are associated essentially with the fire and possible explosions. The risks to health come mainly from the build up of vapours in the workplace in excess of certain limits and the limits applicable to the user's country should be determined.

The symptoms of the more common vapours are similar, i.e. dry irritating throat, coughing, drowsiness, and headache. Both liquids and vapours may cause skin irritation and dermatitis to susceptible personnel.

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