

CRYSTIC[®] 446PALV

Low Exotherm Versatil Spray Resin

Introduction

CRYSTIC 446PALV is an orthophtalic pre-accelerated 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.

Applications

CRYSTIC 446PALV is designed mainly for spray application but is also suitable for contact moulding. CRYSTIC 446PALV is a versatile resin and may be used for most general purpose mouldings.

Formulation

The following cold curing formulation is recommended:

Component	Parts by weight
CRYSTIC 446PALV	100
Catalyst M	1.0-2.0

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

Approvals

Crystic 446PALV is approved by the Lloyd's register of shipping.

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 446PALV	1	2
Gel time at 15°C (min)	62	38
Gel time at 20°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 446PALV their effect should be evaluated before addition to the formulation.

Post-Curing

For most applications satisfactory results 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.

On liquid resin			
Viscosity at 25°C (Rhéomat 37,35 sec-1)	446PALV	dPas	2.5-3.5
Specific gravity	446PALV		1.10
Volatile content	446PALV	%	40-45
Aspect	446PALV		Blue thixo
Stability in dark at 20°C	446PALV	Months	3
Gel time at 25°C with 100 parts of Resin and 2 parts Catalyst M	446PALV	Minutes	14-17

On fully cured resin				
Barcol Hardness (Model GYZJ 934-1)		*	**	***
Water absorption (24 H at 23°C)	mg	38	40	42
Heat deflection temperature (1.80 MPa)	°C	15	14	16
Specific gravity		55	60	65
Tensile strength	MPa	1.17		
Tensile modulus	MPa	55	55	60
Volumic shrinkage	%	3300	3600	3700
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

Storage

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Packaging

CRYSTIC 446PALV is supplied in 225 kg or 1100 kg containers. Bulk supplies can be delivered by road tanker.

Health and Safety

Please see the applicable Material Safety Data Sheets, depending on the curing system used.

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