

CRYSTIC[®] U 904 LVK

Vacuum injection, light RTM polyester resin

Introduction

CRYSTIC U 904 LVK is an orthophthalic, pre accelerated, non thixotropic unsaturated polyester resin. It has to be used when good mechanical properties and good heat resistance are required.

Application

CRYSTIC U 904 LVK can be processed by RTM or VacFlo systems. CRYSTIC U 904 LVK has been designed to be catalysed with a conventional MEKP at 50% while giving a very fast demould time under quite low exotherm.

Features and benefits

Features	Benefits
Pre accelerated	Only requires catalyst mixing to start curing
Cures with MEKP	Only one catalyst in the workshop
Special accelerator system	Fast curing without exotherm
Fast curing	Rapid mould turn round, cost savings
Wetting agents	Excellent impregnation of the reinforcement

Variants

CRYSTIC U904LVK30 is a variant with a longer gel time. A minimum of 3.5 tons is required per order.

Formulation

CRYSTIC U 904 LVK should be allowed to attain workshop temperature. The following cold curing formulation is recommended:

CRYSTIC U904LVK	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.

Gel Time

The ambient temperature and the amount, and type, of accelerator control gel time of resin formulations. At 20°C the gel time of CRYSTIC U 904 LVK containing 2% of catalyst M is about 11 minutes.

Additives

Since certain pigments, fillers or extra styrene may affect the properties of CRYSTIC U 904 LVK their effect should be evaluated before addition to the formulation.

Post-curing

Post curing is recommended in order to develop the heat deflection temperature, dimensional stability and optimum mechanical and fire retardant properties.

Typical properties

Liquid resin		
Viscosity at 25°C (Rhéomat at 37.35 sec-1)	dPas	1-1.4
Specific gravity		1.1
Acid value	Mg KOH/g	22
Volatile content	%	44-48
Aspect		Grey
Stability in dark at 20°C	Months	3
Gel time at 20°C with : 100 parts of U 904 LVK 1 parts Catalyst M	Minutes	20-25
100 parts of U 904 LVK60 1.5 parts Catalyst M	Minutes	55-65

Cured resin		*
Barcol Hardness (Model GYZJ 934-1)		40
Water absorption (24 H at 23°C)	Mg	15
Heat deformation temperature (1.80 MPa)	°C	80
Specific gravity		1.2
Tensile strength	MPa	52
Tensile modulus	MPa	4000
Elongation at break	%	2

Test according to BS 2782 :1980

1MPa = 1MN/m² = 1N/mm² = 10,2 kgf/cm²

* cured 24h at 20°C then 3h at 80°C except for the HDT where the schedule was 24h at 20°C then 5h at 80°C then 3h at 120°C.

Packaging

CRYSTIC U 904 LVK is supplied in 250 kg drums.

Health and safety

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

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