

CRYSTIC[®] U 1131 T

Fire Resistant, Low Smoke Polyester Resin

Introduction

Crystic U 1131 T is a filled, orthophthalic, non accelerated, low styrene content and thixotropic unsaturated polyester resin. It has to be used when excellent low smoke and fire resistant laminates are required. Crystic U 1131 T is halogene free and does not contain heavy metals.

Application

Crystic U 1131 T has been designed to be used by spray application or by contact moulding. Its fire resistance and low smoke properties enable the product to be used in demanding applications such as building, public transport and railways.

Features and Benefits

Features	Benefits
Filled resin	Cost effective per kilo
	Low toxicity of the fumes
Halogene free	Excellent smoke rating
No heavy metals	In line with safety regulation and REACH recommendations
	Better comfort for the workers
Low styrene content	Lower smell for the neighbourhood
Very stable rheology	No filler sedimentation.

Approvals

Fully cured laminates produced with resin Crystic U 1131 T and Crystic Gelcoat 72 PA are classified M2 according to the French Standard. Laminates have also passed the ASTM E162 E662 and BSS7239 Fire and Smoke tests and are classified S4 SR2 ST2 according to the German DIN 5510.

Resin/Glass Ratio

Due to the high specific gravity of Crystic U 1131 T a resin to glass by weight ratio of 2.6 : 1 is recommended.

Formulation

Crystic U 1131 T should be allowed to attain workshop temperature and being a filled resin should be thoroughly stirred before being formulated for use. The following cold curing formulation is recommended:

Crystic U 1131 T	100 parts
Catalyst M	1 to 2 parts
Accelerator G	0.25 to 1 part

Catalyst M is a Methyl Ethyl Ketone Peroxide at 50% such as the Butanox M50 from AKZO. Accelerator G is a cobalt octoate at 1 % active cobalt. Catalyst and accelerator should not be mixed directly together since they can react with explosive violence.

Gel Time

The ambient temperature and the amount, and type, of accelerator control gel time of resin formulations. At 25°C the gel time of Crystic U 1131 T with 2% of Catalyst M and 1.5 % of Accelerator G is about 15 minutes.

Parts of Catalyst M for 100 parts Crystic U 1131 T and 1.5 parts Accelerator G	2
Gel time at 25°C	13 – 17 minutes

Additives

Since certain pigments, fillers or extra styrene may affect the properties of CRYSTIC U 1131 T 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

Property		Liquid Resin
Viscosity at 25°C (Brookfield Sp3 / 5Rpm)	dPas	25 - 40
Specific Gravity		1.60
Volatile Content	%	20 - 23
Appearance		Whitish
Stability at 20°C	months	3
Gel time at 25°C with 100 parts of U 1131 T and 2 parts Catalyst M and 1.5 parts Accelerator G	minutes	13 – 17
Property		Cured Base Resin
Barcol Hardness (Model GYZJ 934-1)		45
Heat Deflection Temperature (1.80 MPa)	°C	94
Tensile Strength	MPa	65
Tensile Modulus	MPa	3850
Elongation at Break	%	2.2

Packaging

Crystic U 1131 T is supplied in 250 kg drums.

Health and Safety

Please see the applicable Material Safety Data Sheets.

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Version 2 : February 2013

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