CRESTAMOULD® Essentials

Crestamould Essentials 474PA

Tooling Resin for Mould Manufacture

Product overview

Crestamould® Essentials 474PA is a thixotropic, pre-accelerated orthophthalic polyester resin with good heat and chemical resistant properties.

Features and Benefits

- Does not move after repeated part production
- Low exotherm
- High temperature performance
- Production of dimensionally stable components with high heat and chemical resistance
- Improves dimensional accuracy and durability of the mould
- Enabling high temperature post cure of parts

Typical liquid properties

Property	Unit	Liquid Resin
Appearance		Cloudy, mauvish
Viscosity at 25°C, 37.35 sec^{-1}	Poise	5.3
Viscosity at 25°C, 4500 sec^{-1}	Poise	1.1
Volatile Content	%	38
Shelf life[1]	Months	6

Typical Mechanical properties

Property	Unit	Fully Cured Resin
Barcol Hardness (GYZJ 934-1)		48
Deflection Temperature under load (1.8 MPa)	°C	112
Water absorption 24hrs at 23°C	mg	28
Tensile Strength[2]	MPa	110 – 120
Tensile Modulus[2]	MPa	7800 – 8500
Elongation at Break[2]	%	2 – 3
Specific Gravity at 25°C		1.22

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Application

Crestamould® Essentials 474PA was developed for use in a wide range of applications throughout the chemical industry, and is suitable for the construction of tanks, pipes and fume stacks to operate in environments where heat and chemical resistance are both required. It is ideally suited to the fabrication of heat resistant, dimensionally stable moulds for cold and heat assisted contact moulding and hot press moulding processes.

Crestamould® Essentials 474PA meets the requirement of BS 3532:1990, for a Type C (heat resistant) polyester resin.

Crestamould® Essentials 474PA should be allowed to attain workshop temperature (18°C – 25°C) before use. It needs only the addition of a catalyst to start the curing reaction. The recommended catalyst is a medium reactivity MEKP catalyst. The catalyst should be added at 2% into the resin shortly before use, and thoroughly dispersed. The gel time of the resin can be approximately determined from the table below.

Temperature	Gel Time[3]
20ºC	22 minutes
25ºC	12 minutes

In order to develop optimum heat and chemical resistance, Crestamould® Essentials 474PA laminates must be post cured before being put into service. Mouldings should be allowed to cure for 24 hours at 20°C - and then be oven cured for 3 hours at 80°C.

Where laminates are to withstand higher service temperatures than 80°C, a further period of post cure at the operating temperature should be given.

Packaging

Crestamould® Essentials 474PA is available in 25kg and 200kg containers.

Storage

Crestamould® Essentials 474PA 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.

Health and Safety

See Separate Material Safety Data Sheet

Notes

1. Shelf life is defined from date of manufacture when stored at less than 20ºC in original container
2. Glass content 28%, laminate made with 3 layers of 450gsm CSM; 16hrs at 40ºC post cure.
3. Gel Time measured with 2% Butanox M50 catalyst