

Product Data Sheet

Palatal P 61-02

Chemical/physical nature

Palatal P 61-02 is an unsaturated polyester based on orthophthalic acid and standard glycols, dissolved in styrene.

The resin has a high reactivity and a low viscosity.

Major applications

Due to its low viscosity Palatal P 61-02 features excellent impregnation during the production of glass-fibre reinforced mouldings which are processed by hand lay-up and injection techniques. Mouldings made from Palatal P 61-02 feature very good mechanical properties. Furthermore, Palatal P 61-02 allows high filler contents in the production of artificial stone and polymer concrete.

Approvals

Cured unreinforced Palatal P 61-02 conforms to type 1140 according to DIN 16 946/2 and is classified in group 1 according to DIN 18 820/1.

Product specifications upon delivery

Property	Range	Unit	TM
Appearance	clear	-	2265
Colour, Lico 200	0 - 80	APHA	2017
Viscosity, 23°C	300 - 400	mPa.s	2013
Solids content, IR	58 - 61	%	2033
Gel time from 25 to 35°C	19 - 25	minutes	2625
Cure time from 25°C to peak	36 - 44	minutes	2625
Peak temperature	140 - 170	°C	2625

Remarks

Viscosity measurement: $Z2/100 \text{ s}^{-1}/23^\circ\text{C}$

The curing characteristics are obtained using 1 g Butanox

M 50 (AKZO-Nobel) and 0.5 g Accelerator

NL 49 P (AKZO-Nobel) added to 100 g resin.

Properties of the liquid resin (typical values)

Property	Value	Unit	TM
Density, 23°C	appr. 1100	kg/m ³	2160
Refractive index, 23°C	1.5415	-	2150
Flash point	appr. 33	°C	2800
Stability, no init., dark, 25°C	6	months	-

Properties of cast unfilled resin (typical values)

Property	Value	Unit	TM
Tensile strength	85	MPa	ISO 527-2
Tensile E-modulus	4.4	GPa	ISO 527-2
Elongation at break	2.8	%	ISO 527-2
Flexural strength	160	MPa	ISO 178
Flexural E-Modulus	4.6	GPa	ISO 178
Outer fibre strain	4.6	%	ISO 178
Impact res. - unnotched sp.	13	kJ/m ²	ISO 179
Heat Deflection Temp. (HDT)	90	°C	ISO 75-A
Glass transition temp. (Tg)	122	°C	DIN 53445

Curing conditions

The mechanical characteristics are obtained curing the resin with 1ml MEKP-HA 2 (Peroxid-Chemie GmbH) and 0.4 ml Co-oct. solution (1% Co in styrene) added to 100 g resins. Cured for 24 h at RT and post-cured for 24 h at 100 °C.

Dimensions of the test specimen for HDT measurement: 1/4"x1/2"x5"

Processing

Palatal P 61-02 normally does not exhibit tack-free cure. To ensure tack-free cure of surfaces exposed to air, suitable additives (e.g. paraffin solution) should be added.

The final state of cure may be optimised by post-curing at elevated temperatures (e.g. 80 °C) for several hours.

Guidelines before use

Before use the resin should be conditioned at a well defined, application dependant temperature (usually 15°C minimum for a MEKP / Co-cure).

Storage guidelines

The resin should be stored indoors in the original, unopened and undamaged packaging, in a dry place at temperatures between 5°C and 30°C. Shelf life is reduced at higher temperatures and the properties of the resin might change during storage. The shelf life of styrene containing unsaturated polyesters will be significantly reduced when exposed to light. Store in dark and in 100% light tight containers only.

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Material Safety

A material safety data sheet for the product is available on request.

Test methods

Test methods (TM) referred to in the table(s) are available on request.

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