

Palatal® P 4-01

Multi-purpose Orthophthalic resin for Tanks, Pipes and Artificial stone

Palatal® P 4-01 is the standard resin for making Artificial Stone slabs. In addition, the resin is commonly used for the manufacturing of agricultural and industrial storage tanks (both liquids and solids).

Benefits

- Easy processing
- Thick laminates in one go through low peak exotherm
- Consistency track record
- High versatility

Major Applications

Palatal® P 4-01 is suitable for a wide range of applications. It is recommended for all kinds of glass fiber reinforced moldings, for unreinforced castings and for the production of polymer concrete and artificial stone. On account of its reactivity and curing behavior Palatal® P4-01 is particularly suitable for the production of laminates that need to have minimal internal stresses.

Certifications and Approvals

Cured unreinforced Palatal® P 4-01 conforms to type 1120 according to DIN 16946/2 and is classified in group 1A according to EN 13 121-1.

The resin is approved by Det Norske Veritas and Lloyd's Register of Shipping for use in boat building.

Product Specifications

Property	Value	Unit	TM
Appearance	Clear		TM 2265
Color Lico APHA	0 - 80	APHA	TM 2017
Solids content	62 - 65	%	TM 2033
Viscosity 23 °C, 100 s ⁻¹	540 - 610	mPa.s	TM 2013
Gel time 25 until 35 °C	15 - 21	min	TM 2625
Peak time	22 - 29	min	TM 2625
Peak temperature	135 - 155	°C	TM 2625

Viscosity measurement: Physica, Z2 / 100 s⁻¹ / 23°C Reactivity: 1,0 g Acetyl acetone peroxide and 0,5 g Cobalt solution 1% added to 100 g resin.

Liquid			
Property	Value	Unit	TM
Density 20 °C	1100	kg/m ³	TM 2160
Refractive index	1.5443	-	TM 2150
Flash point	33	°C	TM 2800
Stability (no initiator, dark, 25°C)	6	month	
Acid value	31	mg KOH/g	TM 2401

Solid Unfilled			
Property	Value	Unit	TM
Tensile strength	70	MPa	ISO 527-2
Tensile modulus	4.3	GPa	ISO 527-2
Elongation at break	2	%	ISO 527-2
Flexural strength	110	MPa	ISO 178
Flexural E-Modulus	4.3	GPa	ISO 178
Outer fiber strain	2.6	%	ISO 178
HDT	63	°C	ASTM D648
Impact strength	10	kJ/m ²	ISO 179
Tg	93	°C	DIN 53445

The mechanical characteristics are obtained curing the resin with 1ml Medium reactive MEKP and 0.2 ml Cobalt solution 1% added to 100 g resins. Cured for 24 h at RT and post cured for 24 h at 80 °C.

Application Guidelines

Palatal® P 4-01 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 optimized by post curing at elevated temperatures (e.g. 80 °C) for several hours.

The resin should be conditioned at a well-defined, application dependent temperature (usually 15°C minimum for a MEKP/Cobalt 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 and the properties might change during storage. 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.

Material Safety

A Safety Data Sheet (SDS) of this product is available on request.

Test Methods

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

ISO 9001:2015 Certified

The Quality Management Systems at every AOC manufacturing facility have been certified as meeting ISO 9001:2015 standards. This certification recognizes that each AOC facility has an internationally accepted model in place for managing and assuring quality. We follow the practices set forth in this model to add value to the resins we make for our customers.

AOC. Trusted Solutions

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Contact us for more information

We will help you to choose the right resin solution.

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