

Chemical/physical nature

Palatal A 400-976A is unsaturated polyester resin based on isophthalic acid and standard glycols, dissolved in styrene. The resin has a medium viscosity and a high reactivity.

Major applications/Principal properties

Palatal A 400-976A is special for making pipes, tanks, car bodies, boats, gratings and pultruded profiles requiring high mechanical properties, excellent water-resistance and good anti-corrosion properties, matched-die and other mouldings.

Palatal A 400-976A has been widely approved for use in products that come in contact with food products and/or potable water (Chinese National Standards GB13115-91).

Product specifications

Property	Range	Unit	TM
Appearance	clear	-	2265
Acid value	8-16	mgKOH/g	2401
Viscosity, 23°C	400-550	mPa.s	2013
Solid content	55-62	%	2033
Gel time, 25-35°C	15-25	minutes	2625

Remarks: The curing characteristics are obtained using 1.5g Butanox M50 (AKZO-Nobel), 1.0g NL49P (AKZO-Nobel) added to 100g resins.

Properties of liquid resin (typical values)

Property	Value	Unit	TM
Stability, no init., dark, 20°C	6	months	-
Flash point	33	°C	2800

Properties of cast resin (typical values)

Property	Value	Unit	TM
Tensile strength	82	MPa	ISO 527-2
Tensile E-modulus	3200	MPa	ISO 527-2
Elongation at break	4.5	%	ISO 527-2
Flexural strength	135	MPa	ISO 178
Flexural E-modulus	3300	MPa	ISO 178
Impact res.-unnotched	18	KJ/m ²	ISO 179
HDT	92	°C	ISO 75A

Curing conditions: cure for 24hours at R.T. Post cure for 24 hours at 80°C.

Testing conditions: temperature: 23±2°C, relative moisture: 50±5%.

Processing

Palatal A 400-976A 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. 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 /Test methods

A material safety data sheet and test methods (TM) referred for the product are available on request.

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