

Product Data Sheet

Synolite 0564-A-1

Chemical/physical nature

Synolite 0564-A-1 is a pre-accelerated unsaturated polyester resin based on orthophthalic acid and neopentylglycol. Due to the composition of the resin the chemical resistance can be compared with standard isophthalic acid based resins.

Major applications

Synolite 0564-A-1 is recommended for filler/resin castings that require a brilliant colour after cure; e.g. onyx and (white) marble imitations with low amounts of pigments and dyes. Due to the good chemical resistance this resin is very suitable for "fully densified" products (filler/resin castings without gelcoat).

Principal properties

Synolite 0564-A-1 is a medium reactive unsaturated polyester resin with low polymerisation shrinkage and gradual curing speed. This resin has a very good colour after cure. Synolite 0564-A-1 is stabilised against UV-light and for use in tropical regions.

Product specifications upon delivery

Property	Range	Unit	TM
Appearance	clear	-	2265
Colour, APHA	0 - 40	-	2017
Acid value, as such	25 - 30	mg KOH/g	2401
Viscosity, 23°C	1000 - 1300	mPa.s	2013
Solids content, IR	64 - 67	%	2033
Colour and clearness of UP resins	yes	-	2266B
Colour, cured UP resin	0 - 90	APHA	2266D
Gel time from 25 to 35°C	12 - 14	minutes	2625
Cure time from 25°C to peak	25 - 33	minutes	2625
Peak temperature	105 - 145	°C	2625

Remarks

Viscosity measurement TM 2013:
Z 2 / 100 / 23°C.

Colour, cured UP resin TM 2266D:
Cured with 0.5 g Butanox M-50 in 100 g resin.
Curing conditions at 25°C, TM 2625:
1.0 g Butanox M-50 in 100 g resin.

Properties of the liquid resin (typical values)

Property	Value	Unit	TM
Density, 20°C	1140	kg/m ³	2160
Flash point	33	°C	2800
Stability, no init., dark, 25°C	6	months	-

Properties of cast unfilled resin (typical values)

Property	Value	Unit	TM
Tensile strength	70	MPa	ISO 527-2
Tensile E-modulus	4.0	GPa	ISO 527-2
Elongation at break	2.1	%	ISO 527-2
Flexural strength	150	MPa	ISO 178
Heat Deflection Temp. (HDT)	75	°C	ISO 75-Ae
Barcol hardness GYZJ 934-1	42-47	-	2604 1
Density, 23°C	1225	kg/m ³	DIN 53479
Volume shrinkage	6.9	%	-

Curing conditions

Cured with 1% Butanox M-50. Postcured 24 hrs at RT followed by 24 hrs at 60°C plus 24 hrs at 80°C.

Remarks on curing agents

Butanox M-50 is an AKZO Nobel product, methyl ethyl ketone peroxide (MEKP).

Guidelines before use

The resin should be conditioned at 15°C minimum before use to obtain a sufficient cure when MEKP is used as a curing system.

Storage guidelines

The resin should be stored in a dark and dry place at temperatures between 5°C and 25°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.

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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