

# 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 color 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 gel coat).

## PRINCIPAL PROPERTIES

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

## PRODUCT SPECIFICATIONS UPON DELIVERY

Property	Range	Unit	TM
Appearance	clear	-	2265
Color, 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
Color and clearness UP resins	yes	-	2266B
Color, 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.

Color, 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/m³	2160
Flash point	33	°C	2800
Stability, no init., dark, 25°C	6	month	-

## 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 GYJ 934-1	42 - 47	-	2604 1
Density, 23°C	1225	kg/m³	DIN 53479
Volume shrinkage	6.9	%	-

## CURING CONDITIONS

Cured with 1% Butanox M-50. Post cured 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 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 Material Safety Data Sheet of this product is available on request.

## TEST METHODS

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

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