SYNOLITE™ 6494-U-2

CHEMICAL/PHYSICAL NATURE

Synolite™ 6494-U-2 is an unsaturated polyester based on DCPD, dissolved in styrene. The resin is pre-accelerated with polymeric amines, has a medium viscosity, and a high reactivity.

MAJOR APPLICATIONS

Synolite™ 6494-U-2 is a versatile putty resin, intended primarily for use in the manufacture of car body fillers and putties for benzoyl peroxide cure. Filler pastes made from Synolite™ 6494-U-2 show excellent dry sand ability and do not rapidly clog sanding paper. This resin is cold-curing, even around 0°C.

PRICIPAL PROPERTIES

Fillers and putties based on Synolite™ 6494-U-2 achieve early dry sand ability, especially with sanding machines. The hardness of Synolite™ 6494-U-2 is equivalent to that of a 4:6 combination of the hard Synolite™ 9248-U-3 and the flexible Synolite™ 2710-U-2. Synolite™ 6494-U-2 is ideal for use as the sole binder for car body fillers, accepts higher filler loads, and shows excellent storage stability of derived pastes. It can be made harder by the addition of Synolite™ 9248-U-3 and more flexible by combination with Synolite™ 2710-U-2. Synolite™ 6494-U-2 putties show very good adhesion to various substrates, including mild steel, galvanized steel, aluminum, and polyester.

PRODUCT SPECIFICATIONS UPON DELIVERY

Property	Range	Unit	TM
Appearance	clear	-	2265
Color, Gardner	0 - 7	-	2017
Acid value, as such	18 - 24	mg KOH/g	2401
Viscosity, 23°C	582 - 788	mPa.s	2013
Solids content, IR	65.0 - 68.0	%	2033
Gel time from 25 to 35°C	5.2 - 7.2	minutes	2625
Cure time from 25°C to peak	8.0 - 12.0	minutes	2625
Peak temperature	104 - 127	°C	2625

REMARKS

The curing characteristics are obtained using 2 wt.% BPO-50% Perkadox CH50L (AKZO Nobel).

PROPERTIES OF THE LIQUID RESIN (TYPICAL VALUES)

Property	Value	Unit	TM
Flash point °C	appr. 33	°C	2800
Stability, no init., dark, 25°C	min. 6	months	-

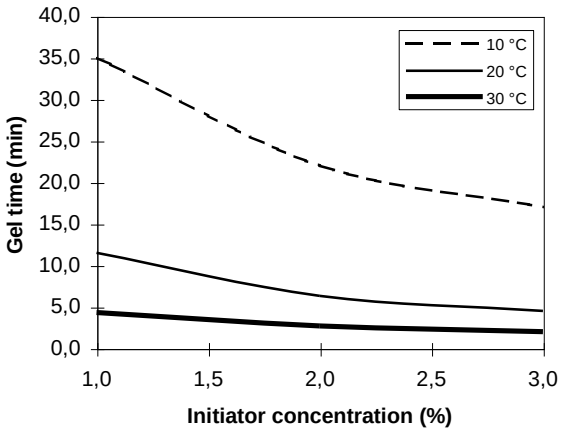
PROPERTIES OF CAST UNFILLED RESIN (TYPICAL VALUES)

Property	Value	Unit	TM
Tensile strength	19	MPa	ISO 527-2
Tensile E-modulus	0.79	GPa	ISO 527-2
Elongation at break	33	%	ISO 527-2
Flexural strength	30	MPa	ISO 178
Flexural E-Modulus	0.92	GPa	ISO 178
Heat Deflection Temp. (HDT)	30	°C	ISO 75-A
Impact res. - unnotched sp.	14	kJ/m²	ISO 179
Hardness	78	Shore D	2602

REMARKS

Casting (4 mm) cured with 2 wt.% BPO-50% Perkadox CH50L (AKZO Nobel). Post cure 2hrs. at 60°C + 2hrs. at 80°C + 2hrs. at 100°C.

GRAPH SHOWING POT LIFE OF RESIN WITH A STANDARD CATALITIC SYSTEM



REMARKS

Gel time of 100 g resin, using BPO-50% Perkadox CH50L (AKZO Nobel).

FORMULATION

Suitable extenders are talc, dolomite/calcite, crystalline chalk and barites with a low iron content. Talc is applied as the main component because it improves sanding properties, and the adhesion to the substrate. In addition, the more spherical extenders such as dolomite, chalk and barites ensure dense packing.

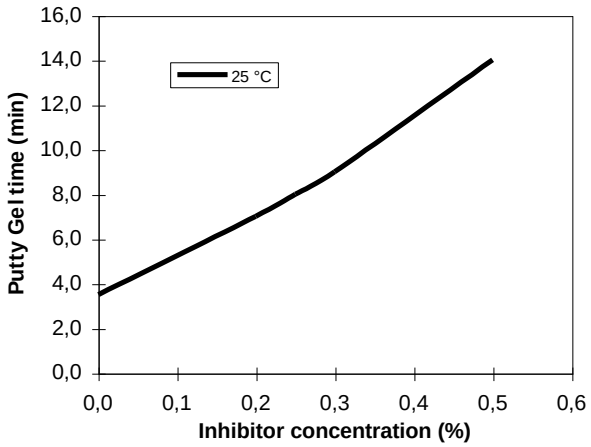
TYPICAL STARTING FORMULATION

Component	Weight
Synolite 6494-U-2	300,00
Thixcin E (a)	10,00
Finntalc M50 (b)	475,00
Titanium dioxide (c)	50,00
Barium sulphate EWO (d)	140,00
Styrene monomer	25,00

REMARKS

a) Elementis Specialties, b) Mondo Minerals, c) Kronos Europe d) Sachtleben.
Putty geltime at 20°C with 2 wt.% BPO-50% paste (AKZO Nobel Perkadox BT-50): 3-4 minutes.

GRAPH SHOWING POT LIFE OF PUTTY WITH A STANDARD INHIBITOR SYSTEM



REMARKS

Putty gel time at 25°C with 2 wt.% BPO-50 % (AKZO Nobel Perkadox BT-50), with increasing levels of inhibitor NLC-10 (AKZO Nobel). The levels of inhibitor refer to total putty formulation.

PROCESSING

This putty resin cures by the addition of benzoyl peroxide (BPO), without the application of external heat.

GUIDELINES BEFORE USE

In order to mix resin plus fillers in a proper way, the resin should be conditioned at a well-defined temperature (usually 15°C minimum).
Stir the product before blending.

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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