VIALKYD® AY 402/50X

Technical Datasheet

TYPE

Acrylic, vinyl and urethane modified alkyd resin

FORM OF DELIVERY (f.o.d.)

50 % in xylene (50X)
(containing also 3 % butanol)

SPECIAL PROPERTIES AND USE

Extremely fast initial and through drying. Excellent recoatability at any time. Excellent adhesion to steel and aluminium. Superior protection against corrosion Excellent water resistance.

Anticorrosive primers. Spraying fillers, knifing and spray putties. Air-drying and forced drying industrial and machinery paints.

RESIN COMPOSITION

(approx.)

30 % vegetable fatty acids (as triglycerides)
23 % phthalic anhydride
33 % monomers

PRODUCT DATA

Determined per batch:

Dynamic Viscosity DIN EN ISO 3219		
dynamic viscosity 40 % xylene (25 1/s; 23 °C)	[mPa.s]	530 - 910
Iodine Colour Number DIN 6162		
iodine colour number		<= 20
Acid Value DIN EN ISO 2114		
acid value (non volatile matter)	[mg KOH/g]	< 20
Non-Volatile Matter DIN 55671		
non-volatile matter (120 °C; 5 min)	[%]	48 - 52

Not continually determined:

Non-Volatile Matter DIN EN ISO 3251		
non-volatile matter (1 h; 125 °C; 1 g)	[%]	48 - 52
Density (Liquids) DIN EN ISO 2811-2		
density approx. (20 °C)	[g/cm³]	0,98
Flash Point DIN EN ISO 1523		
flash point approx.	[°C]	22

DILUTABILITY

special white spirit 100/140	⊙	methyl isobutyl ketone	●
white spirit	⊙	butyl acetate	●
turpentine oil	◎	methoxypropyl acetate	●
xylene	●	methoxypropanol	●
Shellsol AB	●	ethanol	⊙
acetone	●	butanol	⊙

● = unlimited dilutability
◎ = substantial dilutability
⊙ = limited dilutability
○ = very limited or no dilutability

COMPATIBILITY

% Vialkyd AY 402	90	75	50	25	10
% other binder	10	25	50	75	90
Alkyd resins					
Vialkyd AM 342	●	○	○	○	●
Vialkyd AM 404	○	○	○	○	○
Vialkyd AS 673m	○	○	○	○	○
Modified alkyd resins					
Vialkyd AY 472, AV 462	○	○	○	○	○
Vialkyd AY 412	●	●	●	●	●
Vialkyd AV 352h	●	○	○	●	●
Amino resins					
not plasticized	●	●	○	○	○
Other binders					
Alpex CK 450	○	○	○	○	○
nitrocellulose 24 E	○	●	●	●	●

● = definite compatibility
○ = very limited or no compatibility

SUGGESTED USES

Vialkyd AY 402/50X is an air-drying acrylic modified phthalic resin with specific properties owing to additional modification with isocyantes. Vialkyd AY 402 is primarily used sole binder in the formulation of anticorrosive primers, and putties and for air drying and forced drying industrial enamels and machinery paints.

Anticorrosive automobile primers

Primers based on Vialkyd AY 402 show extremely rapid set and through drying, excellent recoatability at any time with Vialkyd AY 402 or other paints containing aggressive solvents. The compatibility with basic pigments affords formulation of zinc chromate primers and primer fillers with excellent perfomance, particularly in terms of superior corrosion resistance, mechanical properties and water resistance. It is also possible to formulate zinc chromate free primers on base of zinc phosphate.

Spraying fillers and spraying putties

Vialkyd AY 402, in spray putties and fillers, exhibits quick drying and thus quick sanding and excellent adhesion to steel and aluminium. Vialkyd AY 402 has excellent recoatability and gives very good surface without lifting.

Industrial paints

In the formulation of industrial and machinery paints, with adequate pigmentation Vialkyd AY 402 affords radiant gloss, extremely rapid drying, excellent adhesion to steel and non-ferrous metals. The paints can be forced-dried at 60 - 100 °C. With curing temperatures of from 60 °C upwards no driers are required.

PROCESSING

Vialkyd AY 402 can be combined with some modified alkyd resins like Vialkyd AY 412. The compatibility with amino resins, rosin based resins, nitrocellulose and plasticizers is limited and should be checked individually. Vialkyd AY 402 is not compatible with drying oils, medium and long oil alkyd resins, copolymers and chlorinated paint materials.

For pigmentation normal pigments can be used including strongly basic anticorrosive pigments, like zinc chromate. Cobalt driers at a level of 0.03 % (metal on solid resin) are sufficient. Lead-free siccativations (e. g. based on zirconuim driers) are possible but must be tested thoroughly. In forced drying enamels, the driers can be left out.

The pronounced drying characteristics require higher levels of antiskinning agents, with about 2 - 3 % of Additol XL 297 (on resin solid) being recommended. It has proved favourable to let down with the pigments about half of the antiskinning agents.

STORAGE

At temperatures up to 25 °C storage stability packed in original containers amounts to at least 730 days.

DISTINGUISHING FEATURES

In comparison to other modified alkyds, Vialkyd AY 402 exhibits quickest initial and through drying and best compatibility with anticorrosive pigments like zinc chromate, equal to that of Vialkyd AV 352m an Vialkyd AV 352h.