

TYPE

Long oil, drying alkyd resin

FORM OF DELIVERY (f.o.d.)

60 % in white spirit (60WS)

SPECIAL PROPERTIES AND USE

Architectural paints, paints for trade decorators and the do-it-yourself sector. Paints for industrial and agricultural machinery. Anticorrosion paints.

RESIN COMPOSITION

(approx.)

63 % blend of drying, vegetable fatty acids (as triglycerides)
24 % phthalic anhydride

PRODUCT DATA

Determined per batch:

Dynamic Viscosity DIN EN ISO 3219

dynamic viscosity	[mPa.s]	240 - 310
50 % white spirit		
(25 1/s; 23 °C)		

Iodine Colour Number DIN 6162

iodine colour number		<= 25
50 % white spirit		

Acid Value DIN EN ISO 2114

acid value	[mg KOH/g]	< 12
(non volatile matter)		

Non-Volatile Matter DIN 55671

non-volatile matter	[%]	59 - 62
(120 °C; 5 min)		

Not continually determined:

Non-Volatile Matter DIN EN ISO 3251

non-volatile matter	[%]	59 - 62
(1 h; 125 °C; 1 g)		

Density (Liquids) DIN EN ISO 2811-2

density	[g/cm³]	0,93
approx.		
(20 °C)		

Flash Point DIN EN ISO 1523

flash point	[°C]	35
approx.		

DILUTABILITY

white spirit	●	butyl acetate	●
xylene	●	methoxypropyl acetate	●
solvent naphtha 150/180	●	methoxypropanol	●
methyl ethyl ketone	●	ethanol	○
ethyl acetate	●	butanol	⊙

● = unlimited dilutability
⊙ = substantial dilutability

⊙ = limited dilutability
○ = very limited or no dilutability

COMPATIBILITY

% Vialkyd AM 649m	90	75	50	25	10
% other binder	10	25	50	75	90

Drying oils (cold mixture)

paint linseed oil	●	●	●	●	●
linseed oil stand oil 30 dPa.s	●	●	●	●	○
linseed oil stand oil 60 dPa.s	●	○	○	○	○

Alkyd resins

medium oil, drying. e.g. Vialkyd AF 450, AL 520	●	●	●	●	●
long oil, drying. e.g. Vialkyd AL 650, AS 632	●	●	●	●	●

Rosin based resins

Alresen PA 101	●	●	●	●	●
Albertol KP 111, KP 626	●	●	●	●	●
Albertol KP 209	●	○	○	●	●
Alresat KM 201, KM 314	●	●	●	●	●

Other binders

Alpex CK 450	●	●	●	●	●
Hostaflex CM 620, CM 630	○	○	○	○	●

● = definite compatibility

○ = very limited or no compatibility

SUGGESTED USES

Vialkyd AM 649m is employed as sole binder or in combination with other long-oil or medium-oil resins. Other products for combinations are phenolic-modified or maleic-modified resins, cyclized rubber and PVC copolymers.

Vialkyd AM 649m is chiefly used for good value do-it-yourself paints and anticorrosion coatings. Even when applied in thick coats, the films produce a flawless surface.

Architectural and do-it-yourself paints

Vialkyd AM 649m is suitable for use in the production of high-gloss white and coloured decorative paint systems which are notable for their rapid initial drying and good through drying. Outstanding features of these paints are their good flow and brushability without the use of additives. This also applies to the good white shade and high resistance to yellowing.

Anticorrosion paints

The most important feature is the good compatibility of Vialkyd AM 649m with basic pigments such as zinc white, red lead, zinc chromate, and zinc phosphate. Refined linseed oil or stand oils can be used in so far as there is compatibility. If used in coatings exposed to an aggressive atmosphere, Vialkyd AM 649m is best combined with Alpex CK 450 or Hostaflex CM 620. The limited compatibility with Hostaflex CM 620 is improved by incorporating some 10 % butyl acetate.

Paints for industrial and agricultural machinery

With its well-balanced drying property Vialkyd AM 649m is also suitable for use in industrial finishes for brush and spray application. Drying can be further accelerated by using Vialkyd AM 649m in combination with medium-oil alkyd resins such as Vialkyd AF 450.

PROCESSING

Pigmentation

Vialkyd AM 649m can be easily processed with pigments and fillers commonly used in the paint industry. It is also readily compatible with basic pigments such as zinc white and red lead. Small additions of Albertol KP 626 or Alresat KM 314 can be used to improve the gloss if needed. Gloss and body of industrial finishes can be enhanced if the pigments are dispersed in Vialkyd AM 649m and then let down with Vialkyd AF 450 or some other equivalent medium-oil alkyd resin. Additions of up to 30 % Vialkyd AM 649m do not impair the drying of these medium-oil binders.

Small additions of glycol ethers or lower alcohols cause a sharp reduction in viscosity. They also improve the storage life of red lead and zinc chromate primers.

Driers

The following combination of driers has proved very successful in practice for decorative and industrial paints:

0.1 % calcium, 0.04 - 0.05 % cobalt, 0.4 - 0.5 % lead or barium, 0.1 % zirconium calculated as metal, on solid resin in each case.

To improve pigment wetting the calcium drier should be added to the mill base. Good results are also obtained with "Mischrockner 173" (Borchers) using the metal combination of cobalt/barium/zirconium, even if the paints are stored for long periods. Driers need not be added to red lead primers.

Prevention of skin formation and stabilization

Effective protection against skin formation even during long storage is provided by incorporating 1 - 1.5 % Additol XL 297 relative to solid resin.

STORAGE

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

DISTINGUISHING FEATURES

Vialkyd AM 649m provides more uniform drying and better resistance to yellowing than long oil linseed oil alkyd resins. Gloss retention is superior to that obtained with soya oil alkyd resins.