VIALKYD® TO 608/60WS

Technical Datasheet

TYPE

Oil-modified, air-drying polyurethane resin

Soya oil type

FORM OF DELIVERY (f.o.d.)

60 % in white spirit (60WS)

SPECIAL PROPERTIES AND USE

Rapid initial and through drying, along with good brushability. High film hardness and abrasion resistance. Very good resistance to chemicals and water.

Single binder in wood, industrial and floor finishes. Combinations with other long oil alkyds for improved drying and resistance.

RESIN COMPOSITION

(approx.)

64 % oil
15 % phthalic anhydride

PRODUCT DATA

Determined per batch:

Dynamic Viscosity DIN EN ISO 3219		
dynamic viscosity 50 % WS (25 1/s; 23 °C)	[mPa.s]	330 - 530
Iodine Colour Number DIN 6162		
iodine colour number 50 % WS		<= 8
Acid Value DIN EN ISO 2114		
acid value (nfA)	[mg KOH/g]	<= 3
Non-Volatile Matter DIN 55671		
non-volatile matter (120 °C; 5 min)	[%]	58 - 62

Not continually determined:

Non-Volatile Matter DIN EN ISO 3251		
non-volatile matter (1 h; 125 °C)	[%]	58 - 62
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]	36

DILUTABILITY

white spirit	●	butyl acetate	●
xylene	●	methoxypropyl acetate	●
solvent naphtha 180/210	●	methoxypropanol	●
trichlorethylen	●	ethanol	○
acetone	●	butanol	◉

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

COMPATIBILITY

% Vialkyd TO 608	90	75	50	25	10
% other binder	10	25	50	75	90
Alkyd resins					
Vialkyd AM 342, AF 445	○	○	○	○	○
Vialkyd AL 633, AF 654n, AM 764	●	●	●	●	●
Other binders					
Alpex CK 450	●	●	●	●	●
nitrocellulose 24 E	○	○	●	●	○

● = einwandfrei verträglich
○ = sehr beschränkt oder nicht verträglich

SUGGESTED USES

Vialkyd TO 608 is an oil-modified polyurethane resin which doesn't contain free isocyanate and is characterized by rapid initial and through-drying and high resistance to water after appropriate drying.

It is used as single binder in wood, floor and industrial finishes and in primers. In combination with long-oil alkyd resins its drying properties are considerably improved. Addition of up to 30 % of Vialkyd TO 608 to other long-oil alkyd resins does not impair their respective outdoor performance.

Wood and industrial finishes

Rapid drying and high resistance to chemicals and water are the most remarkable characteristics of Vialkyd TO 608. Finishes on the basis of Vialkyd TO 608 are readily brushable, display excellent flow properties and yield films of high hardness already after short drying.

Combinations of Vialkyd TO 608 with other resins, e. g. Vialkyd AF 764 produce interesting results. Initial and through drying are considerably improved. The good weather resistance and brushability of Vialkyd AM 764 is not impaired in a 70 : 30 (solids content) blend of Vialkyd AM 764 and TO 608. Vialkyd TO 608 is also suitable for forced drying up to 70 °C.

Floor finishes

On account of its good drying properties and abrasion resistance Vialkyd TO 608 lends itself very well to the manufacture of floor finishes. Its high gloss films provide good surface protection for floors exposed to heavy wear.

PROCESSING

Vialkyd TO 608 can be processed with all current pigments and fillers, using conventional grinding methods. With thixotropic resins, e.g. Vialkyd AS 533tix, any desired thixotropy effect can be achieved. With long-oil alkyds Vialkyd TO 608 lends itself to the formulation of high build paints of improved initial and through drying and excellent weather resistance. By combination with cyclized rubber the material's good resistance to chemicals can be further improved.

The combination of cobalt and lead driers may impair the quality of colours. For achieving good drying of clear varnishes it is therefore suggested to add 0.01 - 0.03 % Co and 0.05 - 0.1 % Zn (ratio of metal to solid resin). In order to avoid skinning in storage containers, addition of an anti-skinning agent is indispensable, e. g. 1 - 1.5 % Additol XL 297 (referred 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 TO 608 differs from Vialkyd TO 604 only by the type of oil used, the latter binder showing slightly better pigment wetting in critical formulations and yielding somewhat harder films. All other technical properties are comparable to those of Vialkyd TO 604, but in comparison with Vialkyd TO 544, Vialkyd TO 608 is characterized by better brushability, flow and flexibility, while its hardness is lower.