

AKTISIL MAM

Field of application: Paint & Varnish

1. Description

AKTISIL MAM is an activated SILLITIN V 88, produced by modifying the surface with a methacrylic functional group. The by-products split off during the treatment reaction are largely removed during the production process which firmly attaches the functional group to the filler surface. This helps minimize undesirable side effects, as they are potentially encountered with in-situ mixing (direct addition of additive to the compound).

During curing (hardening) of the paint formulation, the methacryl groups of AKTISIL MAM react with the functional groups of the binder, especially in the presence of radicals.

Characteristics

Appearance		free-flowing powder
Color CIELAB scale:	L*	95.1
	a*	0.3
	b*	4.0
Volatile matter at 105 °C		0.2 %
Density		2.6 g/cm ³
Particle size distribution	D ₅₀	4.5 µm
	D ₉₇	18.0 µm
Oil absorption		45 g/100 g
Refractive index n		1.55

Packaging

Paper bags	á 25 kg
EVA bags	≤ 20 kg
Big Bags	550 - 900 kg

Shelf life

2 years if stored properly under dry conditions.



2. Applications

In paint and varnish applications AKTISIL MAM can be used as a functional filler either on its own or combined with extenders or matting agents. The best effect is achieved in binder systems which polymerize or cure due to a radically initiated reaction.

In particular these include:

- UV or electron-beam cured paints
- unsaturated polyester resins
- vinyl ester and acrylic resins
- other radically cured systems.

It is also suitable for melamine and UF resins.

In addition, aqueous dispersions, especially cleanable emulsion paints.

It can be used whenever optimum wettability, minimum yield point (even with a high solids content) are just as important as high chemical resistance, very high abrasion resistance, excellent transparency and an excellent matting effect.

Fields of application

- UV-cured wood and foil coatings
- reactive adhesives
- sealing and embedding compounds
- stoving paints/enamels
- road marking paints
- special emulsion paints, in particular with excellent cleaning properties and low soiling
- anti-corrosive coatings

Minimum film thickness:

> 20 µm, less in special cases down to 6 µm

Metering:

up to 55 % depending on intended application



3. Benefits

The excellent properties of the base material SILLITIN V 88 are retained:

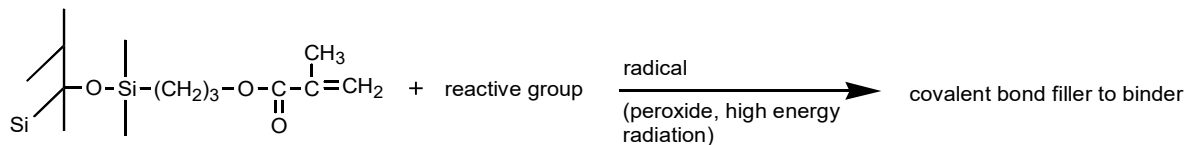
- high filling ratio
- outstanding dispersion behavior
- good pigment dispersion (spacer effect)
- relatively low abrasiveness
- low tendency to settle
- good wet edge strength
- quick drying
- weathering resistance
- breathability
- scratch resistance
- high abrasion resistance
- excellent transparency
- very good flattening effect

AKTISIL MAM also provides the following benefits compared with the base SILLITIN V 88:

- optimum wettability even using binders with low polarity
- minimization of the yield point with high solids content
- increased tensile and bending strength as well as impact strength
- improved abrasion resistance and scratch resistance
- increased resistance to chemicals and moisture
- improved swelling characteristics
- minimal water absorption with high water vapor permeability
- optimized cleanability in dispersion paints (with suitable formulation)

4. Possible reaction at user's plant (model)

Vinyl polymers; (Meth-)acrylic polymers; UP resins



AKTISIL MAM

- a) unsaturated polymer
- b) monomer



5. Application examples and benefits

UV curing clear coats

- good matting
- very good transparency
- improvement of abrasion resistance
- cost reduction potential

Cleanable, low-gloss emulsion paints

- superior staining resistance and significantly lower soiling
- easier and gentle stain removal even with just wiping off with a damp cloth
- optimized wet-scrub resistance
- good dry burnish resistance
- low gloss
- improved hiding power and optimized spreading rate at high brightness

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