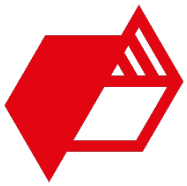


AKTISIL MM

Field of application: Paint & Varnish

1. Description

AKTISIL MM is an activated SILLITIN Z 86, produced by modifying the surface with a mercapto 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 mercapto groups of AKTISIL MM react with appropriate functional groups of the binder.

Characteristics

Appearance		free-flowing powder
Color CIELAB scale:	L* a* b*	93.8 1.1 10.3
Volatile matter at 105 °C		0.7 %
Densitiy		2.6 g/cm³
Particle size distribution	D_{50} D_{97}	2.2 µm 10.0 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

3 years if stored properly under dry conditions.

2. Applications

In paint and varnish applications AKTISIL MM can be used as a functional filler both on its own or combined with other extenders or flatting agents. The best effect is achieved in binder systems which have functional groups with active hydrogen or which polymerize or cure as a result of these.

In particular these include:
- amine-type or carboxylic anhydride-cured epoxy resins
- polyurethane systems including TPU
- polysulfide systems
- acrylic acid polymers
- melamine and UF resins
- phenol formaldehyde resins

It can be used whenever optimum wettability, low yield point with a high solids content and very low tendency to settle are just as important as excellent mechanical properties and high chemical resistance.

Fields of application

- high-grade, reactive industrial paints
- reactive adhesives
- sealing and embedding compounds
- stoving paints/enamels
- anti-corrosive coatings

Minimum film thickness:
> 10 µm, less in special cases

Metering:
up to 50 % depending on intended application

3. Benefits

The excellent properties of the base material SILLITIN Z 86 are retained:

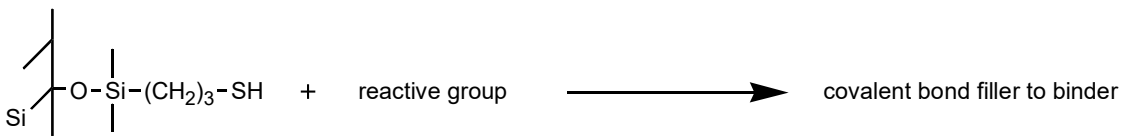
- high filling ratio
- outstanding dispersion behavior
- good pigment dispersion (spacer effect)
- low abrasiveness
- very low tendency to settle
- soft sediment
- good wet edge strength
- quick drying
- weathering resistance
- breathability
- scratch resistance
- high abrasion resistance
- good transparency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

AKTISIL MM also provides the following benefits compared with the base SILLITIN Z 86:

- improved wettability even using binders with low polarity
- reduction 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
- improved anti-corrosion properties

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

PUR systems



AKTISIL MM

a) isocyanate group
b) epoxy group of resin

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