AKTISIL AM

Field of application: Paint & Varnish

1. Description

AKTISIL AM is an activated SILLITIN Z 86, produced by modifying the surface with an amino 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 amino groups of AKTISIL AM react with appropriate functional groups of the binder or build a strong interaction in the form of hydrogen bridge linkage.

Characteristics

Appearance		free-flowing powder
Color CIELAB scale:	L* a* b*	94.0 1.0 10.0
Residue > 40 µm		30 mg/kg
Volatile matter at 105 °C		0.3 %
Densitiy		2.6 g/cm³
Particle size distribution	D_{50} D_{97}	2.4 µm 12.0 µm
Oil absorption		60 g/100 g

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 AM can be used as a functional filler either on its own or combined with extenders or flatting agents. The best effect is achieved in binder systems which have functional groups with active hydrogen or which can react with. With inert, polar groups hydrogen bridge linkages can be build up.

In particular these include:
- epoxy resins
- polyurethane resins
- acrylic resins
- alkyd resins
- polyester resins
- phenol, melamine and urea resins
- polysulfide systems
- all stoving paints/enamels

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

Information on compliance with certain regulations/recommendations and other safety-related aspects: Product safety information

Fields of application

- high-grade, reactive industrial paints
- reactive adhesives
- sealing and embedding compounds
- stoving paints/enamels incl. powder coatings
- anti-corrosive coatings
- OEM primer-surfacer, water dilutable, with high gloss and good stone chip resistance

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

Metering:
up to 50 % depending on intended application

3. Benefits

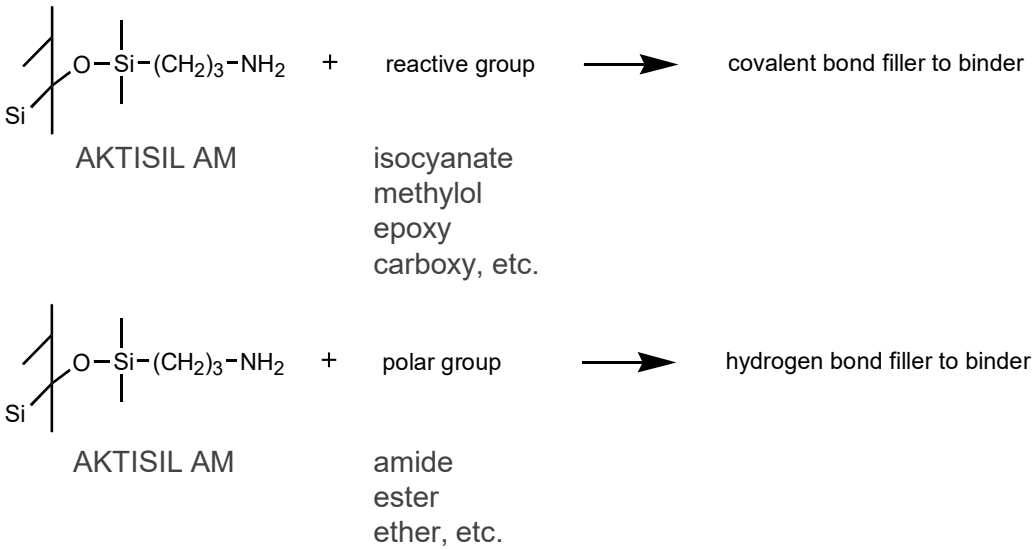
The excellent properties of the base material SILLITIN Z 86 are retained:

- 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 and weathering resistance
- breathability
- scratch resistance
- high abrasion resistance
- good transparency
- slight flatting effect

AKTISIL AM 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 anti-corrosive effect
- increase of gloss and stone chip resistance

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



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