

AKTISIL VM 56

Field of application: Elastomers

1. Description

AKTISIL VM 56 is an activated SILLITIN Z 86, produced by modifying the surface with a vinyl 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 the vulcanization the vinyl groups of the AKTISIL VM 56 react in the presence of radicals with the polymer.

Characteristics

| | | free-flowing powder |
|----------------------------|-----------------|-----------------------|
| Appearance | | |
| Color CIELAB scale: | L* | 94.0 |
| | a* | 1.0 |
| | b* | 9.7 |
| Volatile matter at 105 °C | | 0.8 % |
| Density | | 2.6 g/cm ³ |
| Particle size distribution | D ₅₀ | 2,2 µm |
| | D ₉₇ | 10.0 µm |
| Oil absorption | | 45 g/100 g |

Packaging

| | |
|------------|--------------|
| Paper bags | á 25 kg |
| EVA bags | ≤ 20 kg |
| Big Bags | 550 - 900 kg |
| Bulk | ≤ 24 t |

Shelf life

3 years if stored properly under dry conditions.



2. Applications

In elastomer applications AKTISIL VM 56 can be used as a functional filler either on its own or in combination with other non-reinforcing or reinforcing fillers. The best effect is achieved in radical cured systems (peroxide, high-energy radiation).

It can be used whenever high tensile strength and high modulus, combined with low tensile and compression set, are as important as excellent processing and extrusion properties.

These properties are an ideal combination, in particular for pressure-less cured extruded products and sponge rubber.

Field of application

- pressure-less cured extruded products (profiles, hoses)
- cable sheaths and cable insulation
- sponge rubber products
- molded products and seals
- radiator hoses (peroxide cured)
- condenser seals

Methods of processing:

Any process commonly used in the rubber industry.

Elastomers:

Radical cured elastomers such as CM, CSM, EPM, EPDM, EVM, HNBR, pre-crosslinked IIR

Metering:

| | |
|----------------------|--------------|
| EPM, EPDM: | 50 - 250 phr |
| EVM: | 50 - 250 phr |
| CM: | 50 - 250 phr |
| HNBR: | 30 - 150 phr |
| pre-crosslinked IIR: | 50 - 150 phr |



3. Benefits

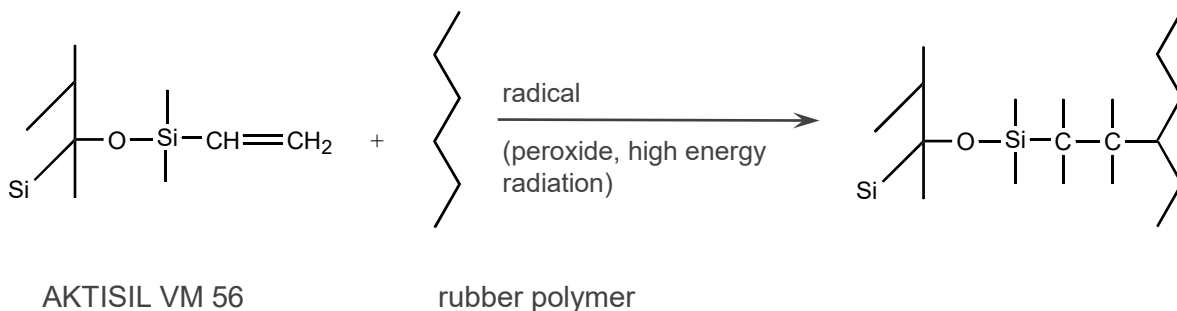
The excellent properties of the base material SILLITIN Z 86 are retained:

- good, fast incorporation
- very good dispersion behavior
- good rheological properties
- excellent surfaces
- very good extrusion properties
- good heat conductivity
- no negative influence on curing rate
- low tensile and compression set
- high electric insulation resistance
- good aging properties
- high chemical resistance
- matting effect

AKTISIL VM 56 also provides the following benefits compared with the base SILLITIN Z 86:

- increased tensile strength
- maximum tensile strength combined with a higher level of filling
- increase in modulus
- reduced tension and compression set
- reduced abrasion
- improved resistance to liquids
- electric insulation resistance remains high and constant after storage in water

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



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