



KETTLITZ-Silanogran PV

- technical leaflet -

Silanogran PV is the 50 % granular form of a trimethoxy-silyl-group containing low molecular polybutadiene (formerly Polyvest 25) on a mineral carrier. The pure liquid polymer is sticky and highly viscous. Our granular form provides easier handling, avoids inaccuracy and insecurity while dosing and incorporating the material into the rubber compound. The compressed granules of Silanogran PV are packed in low melting PE bags with a net content of 1 kg (standard packing). If purchasing one pallet i. e. at least 600 kg net, special packings of 0.5 up to 2.5 kg net according to customers' requirements can be supplied. By this means extra weighing will not be necessary, which also results in better hygiene conditions because there will not be any direct contact with the material.

Properties and Application

The active substance of Silanogran PV is a low molecular polybutadiene containing silane groups which react by means of their reactive alkoxy groups (trimethoxy groups) and the silanol-groups-containing surfaces of silica and silicate fillers. The unsaturated polymer chains of Silanogran PV are integrated in the rubber matrix during vulcanization. Highest effectiveness is achieved in EPDM compounds containing silicates with a laminar structure (e. g. Sillitin, talc, mica and some grades of clay), but also in any other vulcanized rubber an improvement of the physical properties will be noticed. Silanogran PV can be used in sulfur and peroxide cured compounds. Silanogran PV is usually dosed between 1–6 weight percent calculated on silica fillers. A special mixing sequence does not have to be observed. Silanogran PV can be incorporated in internal mixers and on mills as well.

The application of Silanogran PV results in an improvement of the curing properties as stated below:

- ⇒ **shorter curing time at equal scorch time**
- ⇒ **better processability of the uncured compounds by lowering the Mooney Viscosity**
- ⇒ **increase of tensile strength, modulus and tear resistance**
- ⇒ **improvement of Compression Set**
- ⇒ **decrease of abrasion**
- ⇒ **minimized water absorption i. e. better electrical properties of cable compounds**
- ⇒ **increase of dynamic properties**

Properties

Chemical Characteristics	trimethoxysilyl-modified polybutadiene (50 %) on special carrier (50 %)
Appearance	soft granules (diameter 6–8 mm), free-flowing
Color	beige
Density at 20 °C (g/cm ³)	approx. 1.10 (mathematically)
Storage Stability	1 year under suitable storage conditions
Packing	hermetically sealed PE bags of low melting foil (60–85 °C) of 1 kg each, in cartons of 15 kg each pre-weighed sachets of between 0.5–2.5 kg net on request available