



KETTLITZ-Silanogran HVS

- technical leaflet -

Kettlitz-Silanogran HVS is the granular form of a new vinyl silane for peroxide cured rubber compounds which contain silica, clay or aluminium hydroxide as fillers. The active silane content is 50 %.

Silanes are used to improve processability and physical properties of rubber vulcanizates. In compounds which are used for cable isolation silanes are applied as hydrophobing agent. In bright peroxide cured rubber compounds the most common used agent is tris-(2-methoxyethoxy-)vinyl silane (e. g. A-172, GF 58, VTMOEO). This silane is severely criticized because it separates methoxy ethanol (also called methyl cellosolve or methyl glycol) when reaction with the OH groups of the fillers takes place. It is said that methyl glycol may cause cancer, and therefore only 5 ppm are permitted on workmen's place. These problems may not occur if Silanogran HVS is used instead of methoxyethoxy-vinyl silanes.

A further benefit which will result from the application of Silanogran HVS is the outstanding influence on physical and electrical properties of rubber compounds. Tests in our rubber lab showed that a dosage of only 50 % of the original silane quantity (tris-(2-methoxyethoxy-) vinyl silane led to better values for physical properties as well as for aging properties. These results have been proved by tests of some of our customers. The possibility to reduce the silane dosage in such a significant way may also help to save money.

Properties

Chemical Characteristics	trimethoxyvinylsilane, hydrolyzed, coated by paraffins, bound to carriers
Appearance	light granules (diameter 6–8 mm), free-flowing
Density at 20 °C (g/cm ³)	approx. 1.38 (mathematically)
Physiol. Behavior	see safety data sheet
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