

GENIOSIL[®] SMP 100

Silane-Modified Polymers

GENIOSIL[®] SMP 100 is a clear, viscous liquid.

Properties

GENIOSIL[®] SMP 100 with release of methanol results in a high crosslinking density, thus producing scratch-resistant coatings. The high number of trimethoxysilyl crosslinking groups in the molecule is crucial here. GENIOSIL[®] SMP 100 is a silane-terminated polyester with 3-trimethoxysilylpropylcarbamate end groups. GENIOSIL[®] SMP 100 reacts with moisture (releasing methanol) to form silanols, which can react further to produce stable siloxane compounds.

Technical data

General Characteristics

Property	Condition	Value	Method
Density	20 °C 1013 hPa	1.13 g/cm ³	-
Flash point	-	93 °C	ISO 2719
Ignition temperature (liquids)	-	410 °C	DIN 51794
Methoxy group content	-	approx. 23.0 %	-
Polymer	-	silane-terminated polymer	-
Reactive terminal groups	-	3-Trimethoxysilylpropyl-carbamate	-
Viscosity, dynamic	25 °C	1800 - 2000 mPa·s	-

These figures are only intended as a guide and should not be used in preparing specifications.

All the information provided is in accordance with the present state of our knowledge. Nonetheless, we disclaim any warranty or liability whatsoever and reserve the right, at any time, to effect technical alterations. The information provided, as well as the product's fitness for an intended application, should be checked by the buyer in preliminary trials. Contractual terms and conditions always take precedence. This disclaimer of warranty and liability also applies particularly in foreign countries with respect to third parties' rights.

Application details

GENIOSIL[®] SMP 100 dissolves readily in standard organic solvents. It is virtually insoluble in aqueous media, and reacts slowly releasing methanol and forming a resinous deposit.

Despite its highly reactive end groups, GENIOSIL[®] SMP 100 is stable in air for several days in the absence of a catalyst. However, its reactivity toward water and atmospheric humidity must be taken into account during storage and processing, since the material will otherwise undergo slow condensation. Therefore, the material should only be removed from its container in the absence of moisture (e.g. inert gases).

GENIOSIL[®] SMP 100 can be formulated by conventional methods and mixing procedures. The composition can be varied to produce the required properties in the resultant coating.

Water scavengers are needed to stabilize formulations against premature curing during preparation or due to the presence of moisture during storage. GENIOSIL[®] XL 63 (trimethoxysilylmethyl-O-methyl-carbamate) and GENIOSIL[®] XL 10 (vinyltrimethoxysilane) are particularly suitable scavengers.

Suitable catalysts include strongly basic amino compounds (e.g. DBU, DBN) as well as organic and inorganic acids (e.g. phosphoric acid derivatives). Common organometallic compounds can also be used.

Clearcoat Base Formulation:

100 parts GENIOSIL[®] SMP 100

1 part water scavenger (e.g. GENIOSIL® XL 63)
0.1 parts silicone-based flow enhancer
5 parts catalyst (butylphosphate, 10% in methoxypropylacetate)
1 space line

Solids content and viscosity can optionally be adjusted by using a solvent (e.g. methoxypropylacetate). The formulation can be further adjusted with rheological agents, pigments and other common surface-coating additives.

GENIOSIL® SMP 100 is used as a reactive binder for scratch- and chemical-resistant coatings. Curing takes place in the presence of water or atmospheric moisture.

Packaging and storage

Storage

The 'Best use before end' date of each batch is shown on the product label. Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

Safety notes

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from WACKER subsidiaries or may be printed via WACKER web site <http://www.wacker.com>.

QR Code GENIOSIL® SMP 100



For technical, quality or product safety questions, please contact:

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