

GENIOSIL[®] WP1



Silane-Modified Polymers

GENIOSIL[®] WP1 is a polyether-based silane-terminated polymer suitable as binder in moisture curing formulations. It is a clear liquid with a slight but characteristic odor and differs to conventional silylated polymers due to its high reactivity. This is a direct consequence of the structural proximity of the nitrogen atom to the silicon atom in the dimethoxy(methyl)silyl-methylcarbamate group (alpha-effect). It hydrolyzes in the presence of moisture to finally form a stable siloxane network initiated by mild catalysis as opposed to heavy metal ions.

Properties

- simple compounding with conventional auxiliaries
- low viscosity offers broader formulation latitude without addition of solvents or plasticizers
- tin-free catalysis
- high mechanical strength formulations with good elasticity feasible
- rapid curing to a non-tacky surface
- broad adhesion profile
- long shelf life of end product

Technical data

General Characteristics

Property	Condition	Value	Method
Density	25 °C 1013 hPa	0.95 g/cm ³	-
Flash point	-	95 °C	ISO 2719
Ignition temperature	-	300 °C	EN 14522

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.

Applications

- Waterproofing Membranes

Application details

GENIOSIL[®] WP1 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 terminal groups, uncatalyzed GENIOSIL[®] WP1 is stable in air for several days. However, its reactivity with water or atmospheric humidity must be taken into account during storage and processing, since the material will slowly start to condense. GENIOSIL[®] WP1 can be formulated by conventional methods and mixing processes. Its composition depends on the required property profile. GENIOSIL[®] WP1 can be formulated with a variety of fillers. The range includes metal oxides, such as aluminum hydroxide extending to quartz flours, pyrogenic silica as well as coated and uncoated chalks. The kind and amount depends on the mechanical needs as well the desired thixotropy. Ferric oxides as fillers must be avoided as these lead to undesirable oxidation reactions in the formulation. Water scavengers can be added to stabilize the formulations against premature curing as this is moisture-curing technology. Therefore exclusion of moisture during compounding and storage is necessary. GENIOSIL[®] XL 10 or GENIOSIL[®] XL 70 are particularly suitable scavengers. The use of antioxidants, UV- and light-stabilizers is mandatory to ensure durability of the end product. The amount and kind of stabilizers depends on application needs and thorough testing of the end product before commercialization is a must. Curing of GENIOSIL[®] WP1 requires a catalyst that does not necessarily have to be an organo-metallic compound. However, dioctyl tin compounds may be used if required. Catalysis can also be accelerated with titanium systems, as well as inorganic or organic acids. Primarily, the use of an amine catalyst is recommended. The skin-formation time can be adjusted by varying the amount and type of the aminosilane. GENIOSIL[®] GF 9, GENIOSIL[®] GF 91 and GENIOSIL[®] GF 96 have proven particularly advantageous here.

GENIOSIL[®] WP1 is used as a reactive binder for especially low viscous, spreadable, rollable or airless sprayable formulations. Curing takes place at ambient temperature in the presence of both moisture and catalyst. Depending on the formulation good adhesion to a wide variety of substrates even without pretreatment can be achieved. The low glass transition temperature allows stable mechanical properties over a wide temperature range. GENIOSIL[®] WP1 can be easily formulated to produce compounds of very different viscosities, suitable for waterproofing of vertical as well as horizontal surfaces, including:

- Waterproofing of flat roofs, balconies and patios
- Waterproofing behind tiles

- Waterproofing of interior and exterior basement walls
- Floor primer with water vapor diffusion retarding properties
- Potting compound for horizontal expansion and movement joints

Packaging and storage

Packaging

Information on available container sizes is obtainable from WACKER subsidiaries.

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® WP1



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

Wacker Chemie AG, Hanns-Seidel-Platz 4, 81737 Munich, Germany
productinformation@wacker.com, www.wacker.com

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