

Planiseal VS

Epoxy moisture barrier for cementitious substrates

WHERE TO USE

Application on concrete slabs and screeds with high moisture and high pH before the installation of floorings sensitive to humidity such as wood, rubber or vinyl. **Planiseal VS** can be applied to substrates with moisture up to 6% CM (measured with Carbide hygrometer - UNI 10329) or relative moisture up to 100% RH (measured with in situ probe test - ASTM F2170 - BS 8203).

Application to consolidate inconsistent and/or weak substrates.

Some application examples

- Application, prior the laying of flooring sensitive to moisture, to stop moisture related problems of concrete or cementitious screeds.
- Consolidation of weak cementitious substrates.
- Dustproof treatment over inconsistent cementitious or dried gypsum-based underlayments.
- Binder for mixing with quartz to realize synthetic mortar for small smoothing and repair operations.

TECHNICAL CHARACTERISTICS

Planiseal VS is a two-component product, 100% solid epoxy resin, solvent free, with low viscosity and high penetration capability in the pores of the substrates.

Because of the total absence of solvents

Planiseal VS is not flammable and has a light odor,

typical of resin based products, therefore it can be used in building sites situated near inhabited environments (e.g. apartments, schools, offices, ecc.). After the application and the polymerization of the resins the permeability of the substrate is strongly reduced and, in the meantime, it becomes sound, stronger and more resistant to abrasion.

RECOMMENDATIONS

- Do not dilute **Planiseal VS** with water or solvents. If the product needs to be diluted, only use **Primer KL**.
- Do not use on wet surfaces.
- Do not use **Planiseal VS** over smoothing or levelling compounds.
- Do not use acids to clean substrates where the product has to be applied.
- The product is suitable for consolidating heated screeds and anhydrite substrates, but it cannot be used as a moisture blocker on these substrates. Therefore, make sure that these kinds of substrates have completely dried before applying **Planiseal VS**. A cementitious substrate is normally considered dry for values of humidity up to 2.5% CM or up to 75% R.H.
- To ensure a good bonding of levelling compounds or adhesives over the surface treated with **Planiseal VS**, sprinkle a layer of **Quartz 1.2** or

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clean, dry sand of the right size on the product while it is still fresh. The remains of sand which are not well bonded must be removed, before carrying out further application, after the polymerization of **Planiseal VS**. When laying parquet directly on substrates treated with **Planiseal VS** that have not been sprinkled with sand, use reactive polyurethane adhesives, epoxy polyurethane or silitated polymer-based adhesive.

- If **Planiseal VS** has not been sprinkled with sand and has already set with a final shiny surface, the surface must be treated after 4 hours (or when dry to the touch) and not later than 24 hours with **Eco Prim Grip** or **Eco Prim T Plus** before the application of smoothing compounds and adhesives or, as an alternative, must be well sanded.
- To avoid condensation on the surface of the product during its polymerization, the substrate temperature at time of installation must be at least 3°C above the dew point.

APPLICATION PROCEDURE

Preparing the substrate

The substrate must be clean, sound, free of oil, wax, dirt or any other contaminant that can compromise the adhesion. The substrate must be cured, not subject to hygrometric shrinkage. Concrete must have reached a minimum tensile strength of 1.05 MPa. All cement laitance, such as anti-evaporating agents, on surface must be completely removed with a mechanical abrasion.

For direct application without mechanical profiling, the surface must be porous, concrete surface profile (CSP) of #2 to #3, and be in pristine condition with no contamination present. If these conditions are not present before the application of **Planiseal VS** the surface must be mechanically profiled using dustless, engineer-approved methods to obtain a CSP of #2 to #3.

Cracks and surface crazing must be opened and then sealed with **Eporip** or **Eporip Turbo** to eliminate unevenness. MAPEI cannot be responsible against the appearance of cracks or debonding that result from subsequent substrate movement of any kind.

The product can be applied as moisture barrier to cementitious substrates with no standing water on the surface and with humidity up to 6% CM or 100% R.H. Please note that high level of humidity (above 6% CM or 98% RH) could be determined by external water infiltration due, for example, to an incorrect design of the drainage, of the waterproofing or sealing, to leaks, broken pipes, etc. Before proceeding to the application of **Planiseal VS**, it is then necessary to verify the absence of such type of situations.

Preparing the product

The two components of **Planiseal VS** are supplied pre-measured: component A: 3 parts by weight; component B: 1 part by weight. The components must be mixed together with a low speed mixer until a uniform mix is obtained.

Application of the product

• For consolidating and waterproofing treatments

Apply **Planiseal VS** with a roller, a brush or flat trowel in 2 coats at least, waiting about 3 hours between each coat. Do not wait more than 12-24 hours between each application in order to guarantee that there is a perfect bond between each coat. The first coat may be diluted with **Primer KL** (maximum 1 l, 0,8 kg, for each 6 kg kit of **Planiseal VS**) to enhance the penetration of the product.

To use **Planiseal VS** as a moisture control coating it is necessary to apply it in a continuous layer in a fairly constant thickness that can be obtained easily by applying the first coat with a flat trowel and the second with a roller.

Examine the surface immediately after the application to assure complete, uniform coverage without missed areas.

To use **Planiseal VS** as a consolidating product one coat can be sufficient.

• For repair operations

If only small areas of the screed need to be smoothed over or repaired,

Planiseal VS diluted with **Primer KL** mixed with **Quartz 1.2** may be used.

The mixing ratio in this case is 7 kg of **Quartz 1.2** per 6 kg of **Planiseal VS** diluted with 1 litre (0.8 kg) of **Primer KL**. The mortar prepared using this blend is easy to apply and, once set, forms a very solid repaired area on which any kind of parquet may be applied. The mortar must be applied on substrates which have been treated with **Planiseal VS** (eventually diluted with **Primer KL**) within the previous 24 hours.

Cleaning

Planiseal VS can be cleaned from tools and clothing with ethyl alcohol while the product is still fresh.

COVERAGE

0.200-0.400 kg/m² each coat, depending on the evenness and absorption of the substrate (7.5 to 15 m² per 6 kg unit).

PACKAGING

The product is available in 1 kg (component A 0.750 kg + component B 0.250 kg) and 6 kg (component A 4.5 kg + component B 1.5 kg) units.

STORAGE

The product is stable for 24 months when stored in a cool, dry sheltered place. Protect from frost.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

	component A	component B
Colour:	transparent yellow	transparent yellow
Density (g/cm³):	1.12	1.00
Brookfield viscosity (mPa·s):	350 (# 2 - rpm 50)	150 (# 2 - rpm 50)

APPLICATION DATA

Mix ratio:	component A : component B = 3 : 1
Consistency of mix:	liquid
Colour:	transparent
Density (g/cm³):	1.1
Brookfield viscosity (mPa·s):	300 (# 2 - rpm 50)
Maximum permissible humidity to use as moisture barrier:	6% CM (carbide hygrometer - UNI 10329) 100% RH (in situ probe test - ASTM F2170 - BS 8203)
Permeability to water vapour (ASTM E96-05):	< 0.1 perm at DFT (dry film thickness) ≥ 0.25 mm
Reduction of moisture vapor (ASTM E96-05):	> 96% at 0.25 mm DFT
Resistance to high alkalinity pH 14 (ASTM D1308):	no effect
Application temperature range:	from +10°C to +30°C
Workability – at +10°C: – at +23°C: – at +30°C:	180 minutes 60 minutes 45 minutes
Set to light foot traffic – at +10°C: – at +23°C: – at +30°C:	24 hours 12 hours 9 hours
Final curing at +23°C:	7 days

FINAL PERFORMANCE

Resistance to moisture:	excellent
Adhesion to concrete (N/mm²):	> 3 (failure in the substrate)
Temperature when in use:	from -5°C to +80°C

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SAFETY INSTRUCTION FOR PREPARATION AND INSTALLATION

Planiseal VS components A and B may cause sensitization if they come in contact with the skin of those predisposed.

Planiseal VS component A is irritant for the eyes and skin. Component B is corrosive and may cause burns. The product contains low molecular weight epoxy resins that may cause sensitisation if cross-contamination occurs with other epoxy compounds. When applying the product use protective gloves and goggles and take the usual precautions for handling chemicals. If the product comes in contact with the eyes or skin, wash immediately with plenty of water and seek medical attention. When the product reacts it generates considerable heat. After mixing components A and B we recommend applying the product as soon as possible and to never leave the container unguarded until it is completely empty.

Planiseal VS components A and B are also hazardous for aquatic life. Do not dispose of these products in the environment. For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT ONLY FOR PROFESSIONAL USE.

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best

of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

LEGAL NOTICE

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All relevant references for the product are available upon request and from www.mapei.com