

PRODUCT DATA SHEET

SikaTop[®]-581 Seal

(formerly MSeal 581)

Waterproof Coating for Internal and External Concrete and Masonry in water retaining structures.

PRODUCT DESCRIPTION

SikaTop[®]-581 Seal, when mixed with water or a SikaLatex[®]-600 water blend, provides a waterproof coating to concrete and masonry above and below ground level. It is applied to a minimum thickness of 2mm by stiff brush, broom, or spray.

USES

- Tanking of basements
- Potable water tanks and reservoirs
- Tunnels
- Swimming pools
- Lift pits
- Concrete pipes
- Shower walls and floors prior to tiling

CHARACTERISTICS / ADVANTAGES

- Regulation 31 approved for use in contact with potable water
- 3-day return to service in potable water retaining structures at $\geq 3^{\circ}\text{C}$
- 2-day return to service in potable water retaining structures at $\geq 10^{\circ}\text{C}$
- Labour saving, simple and rapid application
- Water vapour permeable, allows substrate to dry out

- Is applied to damp substrates
- Applied by brush, broom or spray
- Bonds with concrete and masonry, becoming an integral part of the substrate thereby overcoming hydrostatic pressure.
- Non-solvent

APPROVALS / STANDARDS

- Approved for use in contact with potable water under Regulation 31(4) (a) of the water supply (water quality) regulation 2016 for England and 2018 for Wales.
- Approved by Energy and Climate Change Directorate Drinking Water Quality Division, under Water Supply (Water Quality) (Scotland) Regulations 2014, 33(3) (a).
- Approved by the Department of Agriculture, Environment and Rural Affairs under Regulation 30 of the Water Supply (Water Quality) Regulations (Northern Ireland) 2017.

IMPORTANT NOTE

- **Specific instructions for use (IFU) for potable water applications must be followed and are available upon request.**
- **For all other applications follow the guidance within this technical data sheet.**

PRODUCT INFORMATION

Chemical Base	Cementitious material
Packaging	SikaTop [®] -581 Seal is available in 25kg bags. SikaLatex [®] -600 is available in 20 litre plastic containers.
Appearance / Colour	Available in Grey and White

Shelf Life	Rotate stock in order not to exceed the shelf life of 12 months for SikaTop®-581 Seal and SikaLatex®-600.
Storage Conditions	SikaTop®-581 Seal should be stored under cover, clear of the ground and stacked not more than 6 bags high. Protect the materials from all sources of moisture and frost.
Density	~ 2080 kg/m ³
Maximum Grain Size	0.8 mm

TECHNICAL INFORMATION

Compressive Strength	(28 days) - 48 N/mm ²	(EN 12190)
Flexural Strength	(28 days) - 9.7 N/mm ²	(EN 12190)
Tensile adhesion strength	(28 days) - 3.69 N/mm ²	(EN 1542)
Freeze Thaw De-icing Salt Resistance	(28 days) - 3.63 N/mm ²	(EN 13687-1)
Behaviour after Artificial Weathering	Pass	(EN 1062-11)
Permeability to Water Vapour	96 µH ₂ O (DFT = 3.1 mm)	(EN ISO 7783-1)
Water Penetration under Negative Pressure	4 bar	
Water permeability	0.09 kg/m ² .h ^{0.5}	(EN 1062-3)

APPLICATION INFORMATION

Consumption	Approximately 15m ² per bag at 1mm thickness per coat, apply two coats. Consumption may vary depending on roughness of substrate.
Layer Thickness	Total application thickness in two coats - 2mm
Substrate Temperature	Application temperature (substrate and material) - from +3 to +30°C
Pot Life	45 minutes (+20°C)
Final set time	350 (+20°C) minutes

VALUE BASE

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

LIMITATIONS

All closed areas such as basements or cellars must have adequate ventilation or condensation on the walls will occur. It is most likely to form in areas, which were previously damp. Increasing the ventilation and/or plastering the walls with, a lightweight, cement-based renovation plaster can reduce the formation of condensation.

If SikaTop®-581 Seal is used to waterproof fish tanks or swimming pools, it should be washed down after curing is complete with salt water and rinsed with clean water. Repeat the rinsing until the required pH conditions are obtained. Failure to do this and to monitor the pH of the water until stable can lead to the death of fish.

ECOLOGY, HEALTH AND SAFETY

REGULATION (EC) NO 1907/2006 - REACH

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

Substrates to be treated must be completely clean, structurally sound and mechanically keyed. All surface coatings, defective renders, foreign matter, formwork treatments and other contaminants that may affect the bond adversely should be removed.

SUBSTRATE PREPARATION

Substrates should be prepared by abrasive blasting, high-pressure water treatment or mechanically abrading the surface to achieve the required key.

All mortar joints to be flush pointed.

Repair with Sika-4A and/or SikaTop®-586 Seal as required.

All wall/floor intersections to be prepared by cutting a 20mm-by-20mm chase along the junctions and filling with Sika-4A, finishing in an angle fillet to “round out” the junction.

Water infiltration through the substrate to be treated should be either diverted by drainage or concentrated at weepholes, which will be plugged with Sika-4A after the application of the final coat of SikaTop®-581 Seal. Basements in areas containing high levels of soil or ground water sulphates may require a pre-treatment render. Consult the technical department for details.

MIXING

LIQUID CONTENT

SikaTop®-581 Seal mixed with SikaLatex®-600 (diluted 1 part SikaLatex®-600 to 3 Parts clean water): 4.8 – 5.6 litres of liquid per 25 kg bag.

SikaTop®-581 Seal mixed with water: 4.8 – 6.1 litres per 25 kg bag.

The quantity may vary slightly depending upon the ambient conditions. In all instances, it is important that the material is mixed to the correct consistency. In applications where the SikaTop®-581 Seal is expected to be in contact with hydrocarbons (such as diesel oil, petrol etc.) potable water only should be used as the mixing liquid.

MECHANICAL MIXING

Blend the powder into the mixing liquid. Use a suitable mixing paddle in a slow speed drill (400 - 600rpm).

CONSISTENCY

Do not exceed the maximum liquid requirement.

The material should be mixed for approximately 2 minutes until a thick, creamy, lump-free consistency is obtained that will just support the weight of a stiff bristle brush.

Mixed material must be used within 45 minutes from the completion of mixing, or less under hot weather conditions. Do not re-temper the mix.

APPLICATION

First coat

Apply a first coat of SikaTop®-581 Seal at a minimum thickness of 1 mm by brush or broom. Work the mix firmly onto the pre-dampened, prepared substrate by brush or broom. After completing 2 or 3m², strike off with the brush or broom in one direction for a neat appearance and to provide a mechanical key for the second coat.

Care must be taken not to spread the material too thinly. When the material begins to drag or “ball”, do not add more water, but dampen the substrate again.

Allow at least an overnight cure before applying a second coat. Apply the second coat when the first coat is sound enough to receive it without damage.

Second coat

Dampen the first coat and remove excess moisture. Brush or broom the second coat of SikaTop®-581 Seal at a minimum thickness of 1mm, onto the substrate (as above) and finish at right angles to the previous coat.

To aid proper coverage the second coat should be a different colour, for example, white on grey.

If the second coat is to be the final finish, it may be finished with a brush or sponge float to give a uniform surface.

Spray Application

Use an all-in-one mixing and spraying machine or separate spraying machine and all associated ancillary equipment to suit application volumes.

When applying by spray use a 3-4mm nozzle at a pressure of 3.6 - 5.0 bar (50-70lb/in²).

Layers up to 2 mm can be achieved by spray in a single coat but afterwards should be brushed to give a uniform surface if required.

FINISHING

If a cementitious plaster or render such as SikaTop®-586 Seal is to be applied, then finish the SikaTop®-581 Seal with horizontal brush strokes to give more grip.

In most situations, these can be applied the next day.

If this is likely to be delayed for some time, then the SikaTop®-581 Seal should be sand dashed immediately after application to aid adhesion.

Never use a gypsum-based plaster to cover SikaTop®-581 Seal in a tanking application. If a “skim coat finish” is required over SikaTop®-586 Seal, a cement based fairing coat. See separate datasheet for information on SikaTop®-586 Seal.

APPLICATION METHOD / TOOLS

Note: Do not apply SikaTop®-581 Seal to frozen substrates or if the ambient temperature is below 3°C or expected to drop below 3°C within 24 hours.

Always apply to a pre-dampened substrate. High-suction substrates will require more dampening than dense substrates. Ensure there is no free-standing water on the substrate prior to application. The nominal thickness per coat must be between 1.0 and 1.5mm.

Layers up to 2 mm can be built up by spray.

SikaTop®-581 Seal can be applied by *brush, broom or spray.

* A suitable brush will be 6” (150mm) in width and have a short pile comprising stiff nylon bristles of 3” (80mm) in length.

CURING TREATMENT

Damp cure for 24 hours after which time the SikaTop®-581 Seal must be allowed to air dry.

In cold, humid, or unventilated areas it may be necessary to leave the application for a longer curing period or to introduce forced air movement.

NEVER use dehumidifiers during curing periods.

CLEANING OF TOOLS

Tools, equipment and spillages should be cleaned immediately with clean water.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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