BUILDING TRUST

PRODUCT DATA SHEET

Sika®-101h

Crystalline waterproofing system and moisture seal for mortar and concrete

DESCRIPTION

Sika®-101h is a cement based powder crystalline waterproofing system for concrete and mortar to prevent water infiltration or seepage of water in the area of low pressure of concrete structure or any cementitious substrate. Sika®-101h forms slurry consistency when mixed with water. When it is applied to the concrete substrate, it works as pore blocker and forms insoluble crystals inside water bearing capillaries and seals against further seepage of water.

USES

Sika®-101h is used as:
- Crystalline slurry coating
- Crystaline dry shake on concrete
- Crystalline integral waterproofing admixture for concrete or mortar

It is used for various waterproofing applications in:
- Reservoirs
- Sewage water and effluent treatment plant
- Tunnel and underground subways
- Foundations
- Swimming pools
- Underground parking structures
- Water tanks

CHARACTERISTICS / ADVANTAGES

- Migration of active components and crystalline formation to seal capillary network
- Easy to apply
- For positive and negative side waterproofing
- Helps in faster construction schedule
- Can seal hairline cracks
- Becomes an integral and homogenous part of the structure
- Good adhesion to concrete
- Water vapour permeable
- Application on concrete and repair mortars
- No added chloride
- Non-toxic

PRODUCT INFORMATION

Product declaration	Confirms to IS : 2645
Chemical base	Cement, crystalline compounds and other additives
Packaging	30 kg bag
Shelf life	6 months from date of production
Storage conditions	The Product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +40 °C. Protect from frost and humidity.
Appearance / Colour	Grey powder

TECHNICAL INFORMATION

Water penetration after capillary absorption	Very low penetration under 5 bar pressure NOTE: Crystalline compounds in Sika®-101h penetrates into the concrete up to complete capillary depth available, in the process forming crystals and multiplying to keep sealing the capillaries bottom upwards constantly reducing the ingress of water. This takes some time to happen as the process of migration of the crystal forming compounds depend on various other factors like, quality and grade of concrete, cover of concrete, porosity of concrete, presence of free lime, etc. Hence minimum of 28 days of exposure of the coating under normal site conditions after application is recommended.	(EN 12390-8)

APPLICATION INFORMATION

Mixing ratio

Application	Mixing ratio
Crystalline slurry coating	Water : Powder = 0.28 - 0.30 (by weight)
Crystalline dry shake	No mixing required
Crystalline integral waterproofing admixture	0.8–1.0 % (by weight of cement)

Fresh mortar density

~2.1 kg/L (water : powder = 0.29)

Consumption

Application	Consumption
Crystalline slurry coating	~1.2 kg/m² per coat, minimum 2 coats
Crystalline dry shake	~1.8 kg/m² per coat
Crystalline integral waterproofing admixture	~0.8 to 1.0 % by weight of cement

This figure is theoretical and does not allow for any additional material due to surface porosity, surface profile, variations in level or wastage etc.

Ambient air temperature

+10 °C min. / +40 °C max.

Substrate temperature

+10 °C min. / +40 °C max.

Open time

~40 min at +30 °C

BASIS OF PRODUCT DATA

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.

ECOLOGY, HEALTH AND SAFETY

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

EQUIPMENT

Substrate preparation
- Mechanical or very high pressure water blasting

Mixing
- Low speed (< 500 rpm) hand drill mixer
- Mixing container

Application
- Slurry brush
- Dry shake spreader / sieve

Curing
- Water spray equipment, moist geotextile membrane, polyethylene sheet

SUBSTRATE QUALITY / PRE-TREATMENT

All connections between the substrate and pipe entries, plant and equipment, light switches etc, must be sealed and made watertight before applying Sika®-101h. Any joints which are present in the structure must also be sealed and made watertight.
The concrete substrate shall be thoroughly clean, free from dust, loose material, surface contamination, cement laitance and material which reduce adhesion or prevent suction or wetting by the slurry coating. Surfaces should be prepared by acceptable preparation equipment to an open texture to achieve the required adhesion value for the waterproofing system.
Area of honeycomb concrete and other surface imper-

fections must be repaired with polymer modified mortars. Wet surface until saturated.

MIXING

As a Crystalline Coating
Add Sika®-101h to the requisite amount of water and stir with low speed single or double spindle mortar mixer at low speed (300-500 rpm) for 3-5 minutes until a lump free smooth brushable consistency is achieved.
As an Integral Waterproofing Admixture
Sika®-101h must be added to the concrete at the time of batching. The sequence of procedures for addition will vary according to the type of batch plant operation and equipment (for e.g. RMC dry batch operation, RMC central mix operation, site batching in 50 kg mixer, etc.). In all cases the objective should be to ensure complete dispersion of the powder in the mix.

APPLICATION

IMPORTANT
Do not apply on old rendered substrates.
IMPORTANT
Protect the fresh mortar from rain, strong winds and direct sunshine at least 24 hours.
IMPORTANT
When protecting with a plaster, clean surface using high speed water jet after approx. 28 days of application of final coating, followed by application of acrylic bonding agent, scratch coat of plaster and final protection plaster. Please contact Sika Technical Services team for further guidance.
IMPORTANT
When used as an admixture, in some cases little retardation is possible depending on the concrete mix design and the dosage rate of Sika®-101h. Please consultant Sika Technical Services Team for advice.

As Crystalline slurry coating:
1. Thoroughly saturate the prepared substrate before application with clean water to achieve a saturated surface dry (SSD) surface. Before application remove excess water, e.g. with a clean sponge.
2. Apply mixed material onto the prepared pre-wet substrate by suitable slurry brush by working the slurry well into the substrate and without the formation of voids.
3. A 2nd layer should be applied ‘wet on wet’ after allowing 1st layer to slightly stiffen to ensure full coverage of the surface and avoid ‘pin-holes’.

As Crystalline dry shake:
1. Spread uniformly the powder on saturated or green substrate according to consumption.

As Integral waterproofing admixture:
1. Add the powder at time of batching according to consumption.

CURING TREATMENT

Protect fresh mortar immediately from premature drying using an appropriate curing method, e.g. water spray, moist geotextile membrane, moist hessian cloth, moist gunny bags, polyethylene sheet, etc. Cure at least for 5 days after application. For full cure approx. 28 days is recommended.

CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use. Hardened material can only be mechanically removed.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

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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