

PRODUCT DATA SHEET

Sikagard[®]-720 EpoCem[®] ID

3-PART CEMENT AND SYNTHETIC EPOXY COMBINATION MICRO DAMPROOF AND MOISTURE BARRIER MORTAR FOR SURFACE SEALING

DESCRIPTION

Sikagard[®]-720 EpoCem[®] ID is a three part, epoxy modified cementitious, thixotropic, fine textured mortar for levelling and finishing of concrete or mortar surfaces.

USES

- As a levelling layer over concrete and mortars in 0.5–3 mm on vertical or horizontal surfaces.
- Application in new works or damaged concrete, in aggressive chemical environments
- Application over high moisture content substrates, even green concrete
- As a Temporary Moisture Barrier (TMB) (min. 2 mm thick) allowing the application of Epoxy, Polyurethane and PMMA* resin coatings requiring dry substrates, for a lasting solution.
- As a pore sealer for the reprofiling, smoothing and levelling of concrete surfaces

* See Notes on Application / Limitations

CHARACTERISTICS / ADVANTAGES

- Improved chemical resistance compared to PCC mortar
- Excellent protection of concrete in aggressive environments
- Impervious to liquids but permeable to water vapour
- Excellent bond to green or hardened concrete whether damp or dry
- Fast overcoating of Sika[®] resin based finish products
- Ideal preparation for smooth surface finishes
- For internal or external use
- Contains no solvents
- Can be applied by hand or mechanically
- Suitable to resist negative water pressure

APPROVALS / STANDARDS

- Meet requirements according to JC/T 984
- Qualification tests in accordance with Swiss Standard SIA 162/5, Ref. A-29'212-1E, dated September 26th, 2005 by LPM AG, Beinwil am See, Switzerland
- Surface protection system for concrete, method coating, according to EN 1504-2:2004, provided with the CE marking
- Structural and non structural repair product for concrete according to EN 1504-3:2005, provided with the CE marking

PRODUCT INFORMATION

Chemical Base	Epoxy modified cementitious mortar	
Packaging	Pre-dosed 21 kg sets.	
	Part A	1.14 kg plastic container
	Part B	2.86 kg plastic container
	Part C	17 kg ready to mix units

Shelf Life	Part A, Part B	12 months
	Part C	approx. 9 months
	From date of production if stored in original, unopened and undamaged sealed packaging.	
Storage Conditions	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions. Part A, part B: Protect from frost Part C: Protect from humidity	
Appearance / Colour	Part A-resin	white liquid
	Part B-hardener	transparent yellow liquid
	Part C-filler	aggregate powder
	Finish Colour	matt grey
Density	2.0 kg/L (at +20° C)	

TECHNICAL INFORMATION

Compressive Strength	> 45 N/mm ² (28 days / +20 °C / 50 % r.h.) (Class R4 as per EN 1504-3)	(EN196-1)
Tensile Strength in Flexure	> 5 N/mm ² (28 days / +20 °C / 50 % r.h.)	(EN196-1)
Coefficient of Thermal Expansion	~ 13 × 10 ⁻⁶ 1/K	
Service Temperature	-30 °C min. / +80 °C max. for continuous exposure	
Diffusion Resistance to Carbon Dioxide	μ _{CO2} ~ 5400	(EN 1062-6)
Sulfate Resistance	High Sulphate Resistance	(ASTM C 1012)

SYSTEM INFORMATION

System Structure	The system configuration as described must be fully complied with and may not be changed. Vertical or horizontal pore filling, repair and levelling:	
	Layer thickness	0.5 – 2 mm
	Primer	Sikafloor® EpoCem® Modul
	Render	Sikagard®-720 EpoCem® ID
	Top coating	Suitable product from the Sikafloor® and Sikagard® range can be used as soon as the surface humidity of Sikagard®-720 EpoCem® ID has reached 4%

APPLICATION INFORMATION

Consumption	~2.0 kg/m ² for 1 mm layer thickness. This figure is theoretical and does not include for any additional material required due to surface porosity, surface profile, variations in level or wastage, etc.	
Layer Thickness	min. 0.5 mm, max. 3 mm	
Ambient Air Temperature	+10 °C min. / +35 °C max.	
Mixing Ratio	Comp.A : Comp.B : Comp.C - packaging size: 1.14 : 2.86 : 17 kg Mixing ratio: 1 : 2.5 : 14 - 15 (by weight)	
Substrate Temperature	+10 °C min. / +35 °C max.	
Pot Life	~30 min (+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.

LIMITATIONS

- Always ensure good ventilation when using Sikagard®-720 EpoCem® ID in a confined space, to remove excess moisture.
- Freshly applied Sikagard®-720 EpoCem® ID must be protected from damp, condensation and water for at least 24 hours.
- For external applications, apply primer and Sikagard®-720 EpoCem® ID on a falling temperature. If applied during rising temperatures “pin holing” can occur.
- Non moving construction joints require pre-treatment with a stripe coat of primer and Sikagard®-720 EpoCem® ID. Treat as follows:

Static cracks	Prefill and level with Sikadur® or Sikafloor® epoxy resin.
Dynamic cracks (> 0.4mm)	To be assessed on site and if necessary apply a stripe coat of elastomeric material or design as a movement joint.

- The incorrect assessment and treatment of cracks can lead to a reduced service life and reflective cracking.
- Colour variations can occur on unsealed Sikagard®-720 EpoCem® ID through exposure to direct sun light. However, this will not influence the mechanical properties.
- When overlaying with PMMA screeds, the surface of Sikagard®-720 EpoCem® ID must be fully broadcast with sand 0.4–0.7 mm.
- The TMB effect in EpoCem® is limited in time, without additional preparation.
- Always verify the surface moisture content if more than 5–7 days have passed since application.
- Actual performance of Sikagard®-720 EpoCem® ID (Mechanical properties, such as bond strength, compressive strength and all other related data / waterproofing ability, in terms of under positive and negative pressure or water tightness and other related factors) is depending on ambient factors and site conditions. On-site mockup/ trial is recommended prior to the application.

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet (MSDS) containing physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

The concrete substrate must be sound and of sufficient compressive strength (minimum 25 N/mm²) with a minimum pull off strength of 1.5 N/mm².

The substrate can be damp but must be free of standing water and free of all contaminants such as oil, grease, coatings and surface treatments etc.

If in doubt, apply a test area first.

Concrete substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and achieve an open textured surface.

Weak concrete must be removed and surface defects such as blow holes and voids must be fully exposed.

Repairs to the substrate, filling of blowholes/voids and surface levelling must be carried out using appropriate products from the Sikafloor®, Sikadur® and Sikagard® range of materials.

All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by brush or vacuum.

MIXING

Prior to mixing, shake comp.A (white liquid) briefly until homogenous, then pour into the container of comp.B and mix well for at least 30 seconds.

Pour the mixed binder (A+B) into a suitable mixing container (capacity of about 30 liters) and gradually add comp.C while stirring with a power mixer. Mix thoroughly for 3 minutes until a uniform mix has been achieved, with no lumps.

Mixing Tools

Mix using a slow speed electric mixer (300 - 400 rpm) with helical paddle or other suitable equipment. For mixing 2–3 bags at once, single or counter rotating double mortar (basket type) and forced action (pan type) mixers are also suitable. Free fall mixers must not be used.

APPLICATION

Place mixed Sikagard®-720 EpoCem® ID onto the matt damp substrate and spread evenly to the required thickness with a trowel or spatula. If necessary, it may be finished with a moist neoprene sponge or brush.

Apply 1-2 layer of primer on the substrate.

It is not permitted to use additional water, which would disturb the surface finish and cause discoloration.

CLEANING OF TOOLS

Mixing and application tools must be cleaned with water. Hardened material can only be mechanically removed.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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Product Data Sheet
Sikagard®-720 EpoCem® ID
July 2024, Version 02.03
020302050070000010

Sikagard-720EpoCemID-en-HK-(07-2024)-2-3.pdf

