BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor®-82 Epocem HC

3-PART CEMENT AND EPOXY COMBINATION MORTAR FOR SELF-SMOOTHING FLOOR SCREEDS OF 3 TO 7 MM

DESCRIPTION

Sikafloor®-82 Epocem HC is a three part, epoxy modified cementitious, fine textured mortar for self-smoothing floor screeds in layers of 3 to 7 mm.

USES

Sikafloor®-82 Epocem HC may only be used by experienced professionals.

As a Temporary Moisture Barrier (TMB)
(3 - 7 mm thick) allowing the application of Epoxy, Polyurethane and PMMA* resin floors requiring dry substrates, over high moisture content substrates, even green concrete, for a lasting solution.
As a self-smoothing screed for:

- Levelling or patching horizontal concrete surfaces, in new work or repairs, in aggressive chemical environments
- Floor topping on non-ventilated damp substrates without particular aesthetic requirements
- Levelling layer under Epoxy, Polyurethane and PMMA* floor coatings / screeds, tiles, sheet floors, carpets or wooden floors
- Repair and maintenance of monolithic and vacuum concrete floors

CHARACTERISTICS / ADVANTAGES

- Can be over coated with resin based floors after 24 hours (+20 °C, 75% r.h.)
- Prevents osmotic blistering of resin based coatings over damp substrates
- Easy application
- Good levelling properties
- Impervious to liquids but permeable to water vapour
- Good chemical resistance
- Thermal expansion properties similar to concrete
- Excellent bond to green or hardened concrete whether damp or dry
- Excellent early and final mechanical strengths
- Excellent resistance to water and oils
- It is the ideal preparation for smooth surface finishes
- For internal use
- Contains no solvents
- Will not corrode reinforcement steel

PRODUCT INFORMATION

Chemical Base	Epoxy modified cementitious mortar.	
Packaging	Pre-batched 31 kg units.	
	Part A	1.14 kg plastic container
	Part B	2.86 kg plastic container
	Part C	27 kg plastic bags

Appearance / Colour

Part A-resin:	White liquid
Part B - hardener	Turbid yellowish liquid
Part C - filler:	Natural grey aggregate powder
Colour:	Light grey
Finish Colour:	Matt grey

Shelf Life

Part A, part B:	12 months
Part C:	9 months

Storage Conditions

The product must be stored in original, unopened and undamaged sealed packaging, in dry conditions at temperatures between +18 °C and +30 °C.

Part A, part B:	Protect from frost and direct sunlight
Part C:	Protect from humidity and direct sunlight

Density

Part A	~1.05 kg/l (at +20 °C)	(EN 1015-6)
Part B	~1.03 kg/l (at +20 °C)	
Mixed resin	~1.97 kg/l (at +20 °C)	
Mixed A+B+C:	~2.10 kg/l (at +20 °C)	

TECHNICAL INFORMATION

Abrasion Resistance

	H22/1000/1000 (at ± 27 °C / 75 % r.h.)	(ASTM D4060-01)
7 days	~2.3 gram	

Compressive Strength

	± 27 °C / 75 % r.h.	(ASTM C 579)
1 day	~20 N/mm²	
7 days	~40 N/mm²	
28 days	~45 N/mm²	

Tensile Strength in Flexure

	± 27 °C / 75 % r.h.	(ASTM C 580)
1 day	~4.0 N/mm²	
7 days	~8.0 N/mm²	
28 days	~11.0 N/mm²	

Tensile Adhesion Strength

7 days	~1.5 N/mm² (concrete failure)	(ASTM D 7234)

Mixing Ratio

Part A : part B : part C - packing size : 1.14 : 2.86 : 27 kg

Flooring Screed:

At temperatures between +18 °C to +25 °C:
1 : 2.5 : 23.7 (by weight)
Parts (A+B) : C = 4 kg : 27 kg
The amount of part C can be reduced to 26 kg in order to improve workability.

Please note:

Never reduce part C by more than this amount.
1 : 2.5 : 22.8 (by weight)
Parts (A+B) : C = 4 kg : 26 kg
For this application, to achieve a good bond of the mortar to the substrate, SikaTop®-Armatec®-110 EpoCem® must be used as a primer. Apply the mortar wet on wet to the primer.

Consumption

Primer	SikaRepair® EpoCem Modul HC or Sikafloor-80 EpoCem® Primer (~0.3 kg/m²)
Self smoothing screed:	Sikafloor®-82 Epocem HC ~2.25 kg/m²/mm ~6.75 kg/m² for a 3 mm thick application (minimum for T.M.B.).

These figures are theoretical and do not allow for any additional material due to surface porosity, surface profile, variations in level or wastage, etc.

Layer Thickness

3.0 mm minimum / 7.0 mm maximum
If Sikafloor®-82 Epocem HC is used as a Temporary Moisture Barrier (TMB), a minimum of 3 mm must be applied.

Ambient Air Temperature

+8 °C min. / +30 °C max.

Relative Air Humidity

20% min. / 80% max.

Substrate Temperature

+8 °C min. / +30 °C max.

Substrate Moisture Content

Can be applied on green or damp concrete, without any standing water. Although the product can be applied onto green concrete surfaces (> 24 hours), it is advised to allow at least 3 days for early shrinkage of concrete to occur in order to prevent concrete shrinkage cracks from appearing on the screed surface.

Pot Life

Temperature / R.H 75%	Time
+10 °C	~50 minutes
+20 °C	~25 minutes
+30 °C	~12 minutes

31 kg units

Curing Time

Once Sikafloor®-82 Epocem HC is tack free it is possible to apply vapour permeable seal coats.
For the application of vapour tight coatings on Sikafloor®-82 Epocem HC, allow the surface moisture to fall below 4%, not earlier than:

Substrate Temperature	Waiting Time
+10 °C	~3 days
+20 °C	~1 day
+30 °C	~1 day

SYSTEM INFORMATION

Systems

The system configuration as described must be fully complied with and may not be changed.
Primer indicated below is suitable for each of these substrates:
Green concrete (as soon as mechanical preparation is possible)
Damp concrete (> 14 days old)
Damp aged concrete (rising moisture)
Levelling screed for high substrate roughness: Layer thickness: 3 - 7 mm
Primer: SikaRepair® EpoCem Modul HC or Sikafloor-80 EpoCem® Primer
Screed: Sikafloor®-82 Epocem HC
Top coat: Suitable product from the Sikafloor® and Sikagard® range
Interlayer priming for Sikafloor®-81 EpoCem New HC / Sikafloor®-82 Epocem HC **:**
Bonding bridge: SikaRepair® EpoCem Modul HC or Sikafloor-80 EpoCem® Primer

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.

IMPORTANT CONSIDERATIONS

- If Sikafloor®-82 Epocem HC is used as TMB (Temporary Moisture Barrier), a minimum layer of 3 mm must be applied. (~ 6.75 kg/m²)
- Always ensure good ventilation when using Sikafloor®-82 Epocem HC in a confined space, to remove excess moisture.
- Freshly applied Sikafloor®-82 Epocem HC must be protected from damp, condensation and water for at least 24 hours.
- Prevent premature drying by protecting from strong wind and do not expose to direct sun light while fresh.
- Apply primer and Sikafloor®-82 Epocem HC on a falling temperature. If applied during rising temperatures “pin holing” can occur.
- Applications under extreme conditions (high temperature and low humidity) which can cause fast drying of the product must be avoided as the product does not allow the use of curing compounds.
- Under no circumstances add water to the mix.
- Colour variations can occur on unsealed Sikafloor®-82 Epocem HC through exposure to direct sun light. This however, will not influence the mechanical properties.
- When overlaying with PMMA screeds, the surface of Sikafloor®-82 Epocem HC must be fully broadcast with sand 0.4 - 0.7 mm.
- The TMB effect in Sikafloor® -EpoCem® is limited in time, without additional preparation.
- Always verify the surface moisture content if more than 5-7 days have passed since application.

Non-moving construction joints require pre-treatment with a stripe coat of primer and Sikafloor®-82 Epocem HC. 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.

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 Safety Data Sheet (SDS) 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 part A (white liquid) briefly until homogenous, then pour into container of part B and shake vigorously again for at least 30 seconds. When dosing out of drums, stir and homogenise first.
Pour the mixed binder mixture (A+B) into a suitable mixing container (capacity of about 30 litres) and gradually add part C to the mixer while stirring with a power mixer. Mix thoroughly for 3 minutes until a uniform mix has been achieved with no lumps.
Mix only full units of A+B+C components. Do not mix smaller amounts. Do not add water.
When dosing with additional aggregates, add them after adding part C to the mix. Mix thoroughly for 3 minutes until a uniform mix has been achieved.

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 recommended. Free fall mixers must not be used.

APPLICATION

Place mixed Sikafloor®-82 Epocem HC onto the primed substrate and spread evenly to the required thickness uniformly with a rubber or metal trowel or spatula to and immediately roll with a spike roller to remove entrapped air and obtain an even thickness layer.
Workability can be adjusted by varying slightly the amount of Part C.
See Mixing above
Do not use additional water, which would disturb the surface finish and cause discolouration.
A seamless finish can be achieved if a “wet” edge is maintained during application.

CLEANING OF TOOLS

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

MAINTENANCE

Due to the texture of its surface, Sikafloor®-82 Epocem HC is not suited to be used as wearing layer where easy staining can occur. A seal coat of the Sikafloor® range with suitable cleaning capabilities is advisable.
Remove dirt using a brush and/or vacuum. Do not use wet cleaning methods until product is fully cured.
Do not use abrasive methods or cleaners.

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.

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