BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor®-82 EpoCem®

Epoxy-cement hybrid for self-smoothing floor screeds (3 to 7 mm)

DESCRIPTION

Sikafloor®-82 EpoCem® is a three part, epoxy modified cementitious, fine textured mortar for self-smoothing floor screeds in layers of 3 to 7 mm. It allows the application of epoxy, polyurethane and PMMA resin floors over high moisture content substrates or green concrete.

USES

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

The Product is used as a:
- Temporary Moisture Barrier (TMB)
- Self smoothing wearing screed without aesthetic requirements
- Levelling screed under Sikafloor® resins and floor coverings
- Patching screed for horizontal concrete repairs

Please note:
- The Product may only be used for interior applications.
- The Product may only be used by experienced professionals.

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 to apply
- Good levelling properties
- Impermeable to liquids
- Vapour permeable
- Resistance to frost and de-icing salt
- Good resistance to chemicals
- Thermal expansion properties similar to concrete
- Good adhesion to green or hardened damp concrete
- Excellent early and final mechanical strengths
- High resistance to water and oils
- It is the ideal preparation for smooth surface finishes
- Will not corrode reinforcement steel

ENVIRONMENTAL INFORMATION

- Conforms with LEED v4 MR credit: Building product disclosure and optimization — Material ingredients (option 2)
- Conforms with LEED v4 MR credit: Building product disclosure and optimization — Environmental Product Declarations (option 1)
- Environmental Product Declaration (EPD) in accordance with EN 15804. EPD independently verified by Institut für Bauen und Umwelt e.V. (IBU)

APPROVALS / STANDARDS

- CE marking and declaration of performance based on EN 13813:2002 Screed material and floor screeds — Screed material — Properties and requirements — Cementitious screed material
- CE marking and declaration of performance based on EN 1504-3:2005 Products and systems for the protection and repair of concrete structures — Structural and non-structural repair

PRODUCT INFORMATION

Chemical Base

Epoxy modified cementitious mortar

Packaging

Container Part A	1.00 kg containers
Container Part B	2.50 kg containers
Container Part C	24 kg plastic bags
Part A + Part B + Part C	27.5 kg ready to mix unit

Refer to the current price list for available packaging variations.

Shelf Life

Part A and Part B	12 months from date of production
Part C	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 +30 °C. Always refer to packaging.
Refer to the current Safety Data Sheet for information on safe handling and storage.

Appearance / Colour

Part A	white liquid
Part B	transparent liquid
Part C	grey powder
Sikafloor®-82 EpoCem®	matt grey

Note: When the Product is exposed to direct sunlight, there may be some discolouration and colour variation. This has no influence on the function and performance of the Product.

Density

Resin	Density at +20 °C.	(EN 1015-6)
Part A	~1.05 kg/L	
Part B	~1.03 kg/L	
Resin mixed	~1.97 kg/L	

Resin and Aggregate	Density at +20 °C.	(EN 1015-6)
Sikafloor®-82 EpoCem®	~2.10 kg/L	

TECHNICAL INFORMATION

Compressive Strength

Time	Strength at + 23°C / 50 % r.h.	(EN 13892-2)
1 day	≥ 15 N/mm²	
28 days	≥ 45 N/mm²	

Tensile Strength in Flexure

Time	Strength at + 23°C / 50 % r.h.	(EN 13892-2)
1 day	≥ 2 N/mm²	
28 days	≥ 10 N/mm²	

Freeze Thaw De-Icing Salt Resistance

Resistance factor WFT-L 86% (High) (VSS-40464)

Carbonation Resistance

Carbonation resistance for 8 mm thickness: R ≈ 24.2 m

SYSTEM INFORMATION

Systems

Note: The system configuration as described must be fully complied with and may not be changed.
SUBSTRATE TYPES
- 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	Sikafloor®-155 WN or Sikafloor® EpoCem® Modul primer (Part A+B)
Screed	Sikafloor®-82 EpoCem®
Top coat	An appropriate product from the Sikafloor® or Sikagard® range

INTERLAYER PRIMING

Substrate	Sikafloor®-82 EpoCem®
Bonding bridge	Sikafloor®-155 WN or Sikafloor® EpoCem® Modul primer (Part A+B)

APPLICATION INFORMATION

Mixing Ratio

At temperatures between +12 °C to +25 °C:

Part A : Part B : Part C (by weight)	1 : 2.5 : 24 (by weight)
Part A + Part B : Part C	3.5 kg : 24 kg

At temperatures between +8 °C to +12 °C and +25 °C to +30 °C:
The amount of part C can be reduced to 23 kg in order to improve workability. Never reduce part C by more than this amount.

Part A : Part B : Part C (by weight)	1 : 2.5 : 23 (by weight)
Part A + Part B : Part C	3.5 kg : 23 kg

Note: 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	Sikafloor®-155 WN + 10 % water or Sikafloor® EpoCem® Modul (part A+B)	~0.3 - 0.5 kg/m²
Screed	Sikafloor®-82 EpoCem®	~2.25 kg/m²/mm ~6.75 kg/m² for a 3 mm thick application (minimum for T.M.B.)

Note: Consumption data is theoretical and does not allow for any additional material due to surface porosity, surface profile, variations in level, wastage or any other variations. Apply product to a test area to calculate the exact consumption for the specific substrate conditions and proposed application equipment.

Layer Thickness

Maximum	7 mm
Minimum	3 mm

Note: If the Product is used as a Temporary Moisture Barrier (TMB), a minimum of 3 mm must be applied.

Product Temperature

Maximum	+30 °C
Minimum	+8 °C

Ambient Air Temperature

Maximum	+30 °C
Minimum	+8 °C

Relative Air Humidity	Maximum	80 %
	Minimum	20 %
Substrate Temperature	Maximum	+30 °C
	Minimum	+8 °C
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 / 75 % r.h.	Time
+10 °C	~ 50 minutes
+20 °C	~ 25 minutes
+30 °C	~ 12 minutes

Curing Time

Once Sikafloor®-82 EpoCem® is tack free it is possible to apply vapour permeable seal coats.
For the application of vapour tight coatings on Sikafloor®-82 EpoCem®, 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

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.

FURTHER DOCUMENTS

- Sika® Method Statement: Evaluation and preparation of surfaces for flooring systems

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

EQUIPMENT

MIXING EQUIPMENT
- Electric double paddle mixer (> 700 W, 300 to 400 rpm)

1. Alternatively pan type revolving or forced action mixers can be used..

APPLICATION EQUIPMENT
- Smoothing trowel
- Spiked roller

SUBSTRATE QUALITY

IMPORTANT
Incorrect treatment of cracks
The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking.
TREATMENT OF JOINTS AND CRACKS
Construction joints and existing static surface cracks in substrate require pre-treating before full layer application. Use Sikadur® or Sikafloor® resins.
SUBSTRATE CONDITION
Cementitious substrates (concrete / screed) must be structurally sound and of sufficient compressive strength (minimum 25 N/mm²) with a minimum tensile strength of 1.5 N/mm².

SUBSTRATE PREPARATION

MECHANICAL SUBSTRATE PREPARATION
IMPORTANT
Exposing blow holes and voids
When mechanically preparing the surface, make sure to fully expose blow holes and voids.

1. Remove weak cementitious substrates.
2. Prepare cementitious substrates mechanically using abrasive blast cleaning or planing / scarifying equipment to remove cement laitance.
3. Before applying thin layer resins, remove high spots by grinding.
4. Use industrial vacuuming equipment to remove all dust, loose and friable material from the application surface before applying the Product.
5. Use products from the Sikafloor®, Sikadur® and Sikagard® range of materials to level the surface or fill cracks, blow holes and voids.

Contact Sika® Technical Services for additional information on products for levelling and repairing defects.

SUBSTRATE PREPARATION OF NON-CEMENTITIOUS SUBSTRATES
For information on substrate preparation of non-cementitious substrates, contact Sika technical services.

MIXING

IMPORTANT
Addition of water
Do not add water to the mix or for finishing as this will affect the performance, surface finish and cause discolouration.
IMPORTANT
Unsuitable mixing equipment
Do not use free fall mixers.
IMPORTANT
Avoid over-mixing to minimise air entrainment.
1. Mix Part A (resin) for ~10 seconds with an electric double paddle mixer (300–400 rpm, > 700 W).
2. Add Part B (hardener) to Part A.
3. Mix for a further 2 minutes until a uniform mix is achieved.
4. While mixing Parts A + B, gradually add the Part C.
5. Mix continuously for 3 minutes, until a uniform mix is achieved.
6. To ensure thorough mixing, pour materials into another container and mix again to achieve a smooth and uniform mix.
7. During the final mixing stage, scrape down the sides and bottom of the mixing container with a flat or straight edge trowel at least once to ensure complete mixing.

APPLICATION

IMPORTANT
Strictly follow installation procedures
Strictly follow installation procedures as defined in Method Statements, application manuals and working instructions which must always be adjusted to the actual site conditions.
IMPORTANT
Protect from moisture
After application, protect the Product from damp, condensation and direct water contact for at least 24 hours.
IMPORTANT
Ventilation in confined spaces
Always ensure good ventilation when applying the Product in a confined space.
IMPORTANT
Pin holes
If the Product is applied on porous substrates during rising temperatures, pin holes may form from rising air.
1. Apply the Product during falling temperatures.

IMPORTANT
Do not use curing compounds
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.
IMPORTANT
Protect fresh Product from direct sunlight and draughts
To reduce the risk of cracking, protect freshly applied product from high ambient temperatures, direct sunlight and draughts.
1. Pour the mixed Product onto the substrate. Note: The consumption is specified in Application Information.
2. Apply the Product evenly over the surface with a trowel.
3. Back roll the surface in two directions at right angles with a spike roller. Note: Maintain a "wet edge" during application to achieve a seamless finish.

Overcoating with PMMA
Note: When overlaying with PMMA screeds, the Product surface must be fully broadcast with clean and dry quartz sand.
Moisture barrier
Note: The TMB effect is limited in time without additional preparation. Always verify the surface moisture content if more than 5 days have passed since application.

CLEANING OF TOOLS

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

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.

Sika South Africa (Pty) Ltd
9 Hocking Place,
Westmead, 3608
South Africa
Phone +27 31 792 6500
www.sika.co.za