

Sikafloor[®] -81 EpoCem

Self smoothing epoxy-cement floor topping & temporary moisture barrier

Construction

Description	Sikafloor-81 EpoCem is a 3-component epoxy modified cementitious self smoothing floor topping and temporary moisture barrier.
Uses	<p>As a temporary moisture barrier (2 mm thick) for epoxy and polyurethane floors.</p> <p>As self-levelling topping of 1.5-3mm thickness for:</p> <ul style="list-style-type: none"> • Levelling or patching concrete surfaces, both unfinished and after grinding or scabbling. • Coloured EpoCem floors on non ventilated damp substrates with low aesthetic considerations (ask for technical assistance) • Floor toppings beneath epoxy protective coatings. • Self levelling toppings that are to be covered with polymer floor coatings, carpets or wooden parquet. • Repair and maintenance of vacuum concrete floors. <p>Extended with quartz sand, can be used as a patching and repair mortar for :</p> <ul style="list-style-type: none"> • Surfaces that are to be coated with epoxy resins. <p>Designed for use on cementitious, mineral-based substrates.</p>
Advantages	<ul style="list-style-type: none"> • Waterproof yet permeable to water vapour, allows the substrate to "breathe". • Excellent adhesion to dry or damp substrates. • Temporary moisture barrier (7-10 days). • Self smoothing – good flowability. • Easy to apply to sound prepared surfaces. • Solvent free and virtually odourless. • Ideal surface preparation with the minimum of delay for the subsequent application of other appropriate Sika epoxy products. • High abrasion resistance. • Free of chloride. • Similar modulus of elasticity and coefficient of thermal expansion to concrete. • Good adhesion after long-term water immersion. • Excellent mechanical strength. • Excellent resistance to water and oils. • Will not corrode reinforcing steel.
Storage and Shelf Life	Stored in the original sealed containers within the temperature range of +5°C and +35°C this product will keep for a minimum of 12 (twelve) months.
Instructions for Use	
Surface Preparation	<p>Surfaces must be sound, level, clean and free from oils, grease or surface contaminants. All loose materials and surface laitance must be removed. For larger areas shot blasting, high pressure water blasting or scabbling is recommended. On small areas needle gunning or bush hammering can be effective. The tensile strength of the substrate should be at least 1.5 MPa.</p> <p>Substrates should be dry or surface dry (there should be no visible or standing water)</p>
Mixing	<p>Shake Component A (white liquid) briefly and pour into Component B (plastic container) and shake vigorously for 30 seconds. Pour the mixture (A+B) into a 25-30 litre pail and add Component C. Mix thoroughly for at least 3 minutes using a low speed electrically driven paddle/stirrer until a smooth homogenous consistency is achieved.</p> <p>Workability may be adjusted by slightly varying the C-component content (see mixing ratio).</p>



Priming	Prime substrate with the neat binder (Component A+B) using a brush or roller. Avoid puddling. Highly porous substrates should be sealed with a coat of Sikagard-720 EpoCem and left to dry for 24 hours before topping mix is applied.										
Application	<p>Apply the mixed Sikafloor-81 EpoCem within 3 hours of priming (i.e. while the priming coat is still tacky), using a notched flooring trowel or spreader (steel or rubber) to obtain even coverage. Work immediately with a spiked roller to ensure uniform thickness and remove entrapped air.</p> <p>A light sprinkling of Sikadur 508 quartz sand (graded 0.1-0.3mm) will prevent the screed from drying out too rapidly. Do not apply excess sand in this instance.</p> <p>A non-slip surface finish can be obtained by broadcasting the freshly laid mortar to excess with Sikadur 506 quartz sand (graded 0.1-0.5mm). Excess sand is removed following curing of the Sikafloor-81 EpoCem and the surface can be left as is or overcoated with a roll-on epoxy resin.</p>										
Extended Mortar Mix	<p>To make good surface irregularities and holes deeper than 3mm, the standard Sikafloor-81 EpoCem mix may be extended with dry quartz sand. The following mix may be used as a guide:</p> <table border="0"> <tr> <td>Sikafloor-81 EpoCem Parts A+B+C</td> <td>21 kg</td> </tr> <tr> <td>Quartz Sand (0.5-0.7 mm)</td> <td>10-15 kg</td> </tr> <tr> <td>Quartz Sand (0.8-1.2 mm)</td> <td>10-12 kg</td> </tr> <tr> <td>TOTAL</td> <td>41-48 kg</td> </tr> </table>			Sikafloor-81 EpoCem Parts A+B+C	21 kg	Quartz Sand (0.5-0.7 mm)	10-15 kg	Quartz Sand (0.8-1.2 mm)	10-12 kg	TOTAL	41-48 kg
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Cleaning	Clean all tools with water immediately after use. Once cured Sikafloor-81 EpoCem can only be removed mechanically.										
Form	Part A:	White liquid									
	Part B:	Grey liquid									
	Part C:	Grey powder									
	Mixed:	Thixotropic flowable mortar									
Colour	Concrete grey when mixed										
Density	2.0 kg/litre approx. (mixed)										
Mix ratio (by mass)	Component A: 1 Component B: 2.74 Component C: 15-16 (<i>depending on desired consistency</i>)										
Rate of reaction (75% relative humidity)		10°C	20°C	30°C							
	Pot Life (21 kg mix)		approx. 20 mins								
	Maximum open time for working down with a spiked roller	20 mins	10 mins	5 mins							
	Curing times										
	Walkable on after:	24 hours	15 hours	12 hours							
	Light mechanical loading after:	3 days	2 days	1 day							
	Overcoat with epoxy resin after:	3 days	1 day	1 day							
	Fully cured after:	14 days	7 days	5 days							
Consumption	Priming coat (A+B):	200-300 g/m depending on condition of substrate									
	Sikafloor-81 EpoCem:	4.5 kg/m ² for a thickness of approx. 2 mm									

Mechanical Strengths	Compressive Strength			
	10°C/75% r.h.	23°C/50% r.h.	30°C/40% r.h.	
	1 day	1.5 MPa	10 MPa	33 MPa
	7 days	36	50	58
	28 days	50	60	66
	Adhesive Strength			
	1 day	Not measurable		
	7 days	100% concrete failure		
	28 days	100% concrete failure		
Modulus of elasticity	15 GPa (30 days @ +20°C and -20°C)			
Co-efficient of thermal expansion	9.6 x 10 ⁻⁵ per °C (from -10°C to +40°C)			
Limitations on application	Layer thickness: min. 1.5 mm max. 3.0 mm (holes of 30-50 mm diameter; thickness max. 10mm) Minimum substrate temperature: +8°C Maximum substrate temperature, with mixing ration of: A+B+C = 4:17 +25°C A+B+C = 4:16 +30°C Maximum room temperature +30°C Maximum real air-humidity: 80% It is prohibited to add any water to the mix. If Sikafloor-81 EpoCem is used as a temporary moisture barrier, the whole area must be coated at a minimum thickness of 2mm.			
Packaging	A 21kg kit in a plastic pail containing: Part A: 1.07kg plastic bottle Part B: 2.93 kg plastic bottle Part C: 17kg plastic bag of powder			
Important Notes	<ul style="list-style-type: none"> • ON NO ACCOUNT SHOULD WATER BE ADDED TO THE MIX. • Curing: Sikafloor-81 EpoCem can be exposed to extreme weather conditions – rain, snow, cold, etc. after 6 hours following correct application. • Sikafloor-81 EpoCem should not be used to bridge “live” cracks, joints etc. • The amount of Sikafloor-81 EpoCem Part C added to the liquid component of Part A and Part B can be adjusted if necessary to improve the final surface finish of the system. • Sikafloor-81 EpoCem is overcoatable with solvent free and low solvent containing products after the curing times given. A more extended curing period is necessary with high solvent products. Consult our Technical Department for further information. • Do not apply Sikafloor-81 EpoCem to substrates with rising temperature, or substrates that will rise in temperature within six (6) hours 			
Handling Precautions	Sika products are generally harmless provided that certain precautions normally taken when handling chemicals are observed. The materials must not, for instance, be allowed to come into contact with foodstuffs or food utensils, and measures should also be taken to prevent the uncured materials coming in contact with the skin, since people with particularly sensitive skin may be affected. The use of protective clothing, goggles and rubber gloves is required. The skin should be thoroughly cleaned at the end of each working period by washing with soap and warm water. A full Material Safety Data Sheet is available from Sika on request.			

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Important Notification

The information, and, in particular, the recommendations relating to the application and end-use of Sika's 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 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 proprietary rights of third parties must be observed. All orders are accepted subject of our terms and conditions of sale. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.

PLEASE CONSULT OUR TECHNICAL DEPARTMENT FOR FURTHER INFORMATION.



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