BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor®-701

2-PART LOW VOC EPOXY PRIMER, LEVELLING MORTAR AND MORTAR SCREED

DESCRIPTION

Sikafloor®-701 is a two part low viscous epoxy resin with low VOC emissions designed for cleanroom environments. Total solid epoxy composition according to the test method Deutsche Bauchemie e.V. (German Association for construction chemicals)

USES

Sikafloor®-701 may only be used by experienced professionals.

- For priming concrete substrates, cement screeds and epoxy mortars
- For normal to strongly absorbent surfaces
- Primer for Sika floorings system according to Minergie

CHARACTERISTICS / ADVANTAGES

- VOC free
- Bisphenol A and benzyl alcohol free
- Low viscosity
- Good penetration ability
- High bond strength
- Easy application

SUSTAINABILITY

- Conformity with LEED v2009 IEQc 4.2: Low-Emitting Materials - Paints and Coatings
- VOC Emission certificate according to AgBB und DIBt approval requirements (AgBB – Committee for Health-related Evaluation of Building Products, DiBt – German Institute for Building Technology), Eurofins report No. G16842D
- Class A+ according to French Regulation on VOC emissions, Eurofins report No. G16842E

APPROVALS / CERTIFICATES

- “Products and systems for the protection and repair of concrete structures–Test method – Compatibility on wet concrete when exposed to the effects of humidity from the rear” according to the DIN EN 13578:2004. Proof statement P 9078-3
- Outgassing emission certificate Sikafloor-701: CSM Statement of Qualification – ISO 14644-8, class-9.6 / tested - Report No. SI 1209-615.

PRODUCT INFORMATION

Chemical base	Epoxy	
Packaging	Part A	7.5 kg containers
	Part B	2.5 kg containers
	Part A+B	10 kg ready to mix units
Appearance / Colour	Resin - part A	transparent, liquid
	Hardener - part B	brownish, liquid
Shelf life	24 months from date of production	

Storage conditions	The packaging must be stored properly in original, unopened and undamaged sealed packaging, in dry conditions at temperatures between +5 °C and +30 °C.		
Density	Part A	~1.10 kg/l	(DIN EN ISO 2811-1)
	Part B	~1.01 kg/l	
	Mixed Resin	~1.08 kg/l	
	All density values at +23 °C		
Solid content by weight	~100 %		
Solid content by volume	~100 %		
Volatile organic compound (VOC) content	≤ 0.1 mg/m³ (28 days, sum of SVOC) Eurofins Emission tested according to the AgBB-scheme and guidelines of the DiBt (AgBB – Committee for Health-related Evaluation of Building Products, DiBt – German Institute for Building Technology). Sampling, testing and evaluation were performed according to ISO-16000, Report No. G16842D.		

TECHNICAL INFORMATION

Compressive Strength	~76 N/mm² (Mortar, 23 °C / 50 % RH)		(EN 13892-2)
Tensile Adhesion Strength	> 1.5 N/mm² (failure in concrete)		(ISO 4624)
Thermal Resistance	**Exposure***	**Dry heat**	
	Permanent	+50 °C	
	Short-term max. 7 d	+80 °C	
	Short-term moist/wet heat* up to +80 °C where exposure is only occasional (steam cleaning etc.). *No simultaneous chemical and mechanical exposure.		

SYSTEMS

Systems

Primer:	
Low / medium porosity concrete	1–2 × Sikafloor®-701
Levelling mortar fine (surface roughness < 1 mm):	
Primer	1 × Sikafloor®-701
Levelling mortar	1 × Sikafloor®-701 + quartz sand (0.1–0.3 mm) + Extender T
Levelling mortar medium (surface roughness up to 2 mm):	
Primer	1 × Sikafloor®-701
Levelling mortar	1 × Sikafloor®-701 + quartz sand (0.1–0.3 mm) + Extender T
Epoxy Screed (15–20 mm layer thickness) / Repair Mortar:	
Primer	1 × Sikafloor®-701
Bonding bridge	1 × Sikafloor®-701 + suitable sand mixture
Screed	1 × Sikafloor®-701 + suitable sand mixture

Typically the following sand mixtures proved to be suitable (grain size distribution for layer thicknesses of 15–20 mm):
25 pbw quartz sand 0.1–0.5 mm
25 pbw quartz sand 0.4–0.7 mm
25 pbw quartz sand 0.7–1.2 mm
25 pbw quartz sand 2–4 mm
Note: The largest grain size should be a maximum 1/3 of the finished layer thickness. Dependent on the grain shape and application temperatures, the aggregates and the most suitable mix should be selected. Other Systems configurations are provided in the corresponding product data sheets.

APPLICATION INFORMATION

Mixing Ratio

Part A : part B = 75 : 25 (by weight)

Consumption

Coating System	Product	Consumption
Primer	1–2 × Sikafloor®-701	1–2 × 0.3–0.5 kg/m²
Levelling mortar fine (surface roughness < 1 mm)	1 pbw Sikafloor®-701 + 0.5 pbw quartz sand (0.1–0.3 mm) + 0.015 pbw Extender T	1.4 kg/m²/mm
Levelling mortar medium (surface roughness up to 2 mm)	1 pbw Sikafloor®-701 + 1 pbw quartz sand (0.1–0.3 mm) + 0.015 pbw Extender T	1.4 kg/m²/mm
Bonding Bridge	1–2 × Sikafloor®-701	1–2 × 0.3–0.5 kg/m²
Mortar Screed (15–20 mm layer thickness) / Repair Mortar	1 pbw Sikafloor®-701 + 10 pbw quartz sand	2.2 kg/m²/mm

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

Ambient Air Temperature

+10 °C min. / +30 °C max.

Relative Air Humidity

80 % r.h. max.

Dew Point

Beware of condensation!
The substrate and uncured floor must be at least 3 °C above dew point to reduce
the risk of condensation or blooming on the floor finish.
Note: Low temperatures and high humidity conditions increase the probability of blooming.

Substrate Temperature	+10 °C min. / +30 °C max.
Substrate Moisture Content	< 4 % pbw moisture content. Test method: Sika®-Tramex meter, CM - measurement or Oven-dry-method. No rising moisture according to ASTM (Polyethylene-sheet).

Pot Life

Temperature	Time
+10 °C	~60 minutes
+20 °C	~30 minutes
+30 °C	~15 minutes

Curing Time

Before applying solvent free products on Sikafloor®-701 allow:

Substrate temperature	Minimum	Maximum
+10 °C	60 hours	4 days
+20 °C	24 hours	2 days
+30 °C	16 hours	24 hours

Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

- Concrete substrates 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 must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings and surface treatments, etc.
- On critical substrates, e.g a strong absorbent cementitious surface, the application of a trial area is highly recommended, in order to ensure a pore free surface, after priming.
- 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 blowholes 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.
- The concrete or screed substrate has to be primed or levelled in order to achieve an even surface.
- High spots must be removed by e.g. grinding.
- All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by brush and/or vacuum.

MIXING

Prior to mixing, stir part A mechanically. When all of part B has been added to part A, mix continuously for 3 minutes until a uniform mix has been achieved.
When parts A and B have been mixed, add the quartz sand and if required the Extender T and mix for a further 2 minutes until a uniform mix has been achieved.
To ensure thorough mixing pour materials into another container and mix again to achieve a consistent mix.
Over mixing must be avoided to minimise air entrainment.

Mixing Tools

Sikafloor®-701 must be thoroughly mixed using a low speed electric stirrer (300 - 400 rpm) or other suitable equipment.
For the preparation of mortars use a forced action mixer of rotating pan, paddle or trough type. Do not use free fall mixers.

APPLICATION

Prior to application, confirm substrate moisture content, relative humidity and dew point.
If substrate moisture content is more than 4 % pbw, Sikafloor® EpoCem® may be applied as a temporary moisture barrier (T.M.B.) system.

Primer

Make sure that a continuous, pore free coat covers the substrate. If necessary, apply two priming coats. Apply Sikafloor®-701 by brush, roller or squeegee.
Preferred application is by using a squeegee and then backrolling crosswise.

Levelling mortar

Rough surfaces need to be levelled first. Apply the levelling mortar by squeegee/trowel to the required thickness.

Bonding bridge

Apply Sikafloor®-701 by brush, roller or squeegee.
Preferred application is by using a squeegee and then backrolling crosswise.

Mortar screed / repair mortar

Apply the mortar screed evenly on the still “tacky” bonding bridge, using levelling battens and screed rails as necessary. After a short waiting time compact and smoothen the mortar with a trowel or Teflon coated power float (usually 20 - 90 rpm).

CLEANING OF TOOLS

Removal of fresh remnants from tools and application equipment can be carried out using Thinner C immediately after use. Hardened / cured material can only be

mechanically removed.

FURTHER DOCUMENTS

Substrate quality & Preparation
Please refer to Sika Method Statement: “EVALUATION AND PREPARATION OF SURFACES FOR FLOORING SYSTEMS”.
Application instructions
Please refer to Sika Method Statement: “MIXING & APPLICATION OF FLOORING SYSTEMS”.

LIMITATIONS

- Do not apply Sikafloor®-701 on substrates with rising moisture.
- Freshly applied Sikafloor®-701 should be protected from damp, condensation and water for at least 24 hours.
- Sikafloor®-701 mortar screed is not suitable for frequent or permanent contact with water unless sealed.
- Practical trials should be carried out for mortar mixes to assess suitable aggregate grain size distribution.
- For external applications, apply on a falling temperature. If applied during rising temperatures “pin holing” may occur from rising air.
- These pinholes can be closed after a soft grinding by applying a scratch coat of Sikafloor®-701 mixed with approx. 4 % of Extender T.
- The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking.
- Under certain conditions, underfloor heating or high ambient temperatures combined with high point loading, may lead to imprints in the resin.
- If heating is required do not use gas, oil, paraffin or other fossil fuel heaters, these produce large quantities of both CO_2 and H_2O water vapour, which may adversely affect the finish. For heating use only electric powered warm air blower systems.

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.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.

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.

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.

DIRECTIVE 2004/42/CE - LIMITATION OF EMISSIONS OF VOC

According to the EU Directive 2004/42/CE, the maximum allowed content of VOC (product category IIA / j type sb) is 500 g/l (Limits 2010) for the ready to use product.
The maximum content of Sikafloor®-701 is < 500 g/l VOC for the ready to use product.

LEGAL NOTES

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