

PRODUCT DATA SHEET

Sikafloor®-151

EPOXY PRIMER, LEVELLING MORTAR AND MORTAR SCREED

PRODUCT DESCRIPTION

Sikafloor®-151 is a 2-part, low viscosity, multipurpose, epoxy resin which can be used as an epoxy primer, levelling mortar and mortar screed

USES

Sikafloor®-151 may only be used by experienced professionals.

- Priming concrete substrates, cement screeds and epoxy mortars
- For low to medium absorbent substrates
- Primer for the Sikafloor®-263 SL N and Sikafloor®-264 N flooring systems
- Binder for levelling mortars and mortar screeds
- Intermediate layer underneath Sikafloor®-263 SL N and Sikafloor®-264 N

CHARACTERISTICS / ADVANTAGES

- Low viscosity
- Good penetration
- Good bond strength
- Easy application
- Short waiting times
- Multi-purpose

ENVIRONMENTAL INFORMATION

- Conformity with LEED v4 EQc 2: Low-Emitting Materials.
- Conformity with LEED v4 MRc 2 (Option 1): Building Product Disclosure and Optimization – Environmental Product Declarations.
- Conformity with LEED v4 MRc 4 (Option 2): Building Product Disclosure and Optimization - Material Ingredients.

APPROVALS / STANDARDS

- CE Marking and Declaration of Performance to EN 1504-2 - Surface protection product for concrete - Coating
- CE Marking and Declaration of Performance to EN 13813 - Resin screed material for internal use in buildings
- Bond Behavior DIN EN 13578, Sikafloor®-151 + Sikafloor®-264 N, kiwa, Test report No. P 12091-2 E

PRODUCT INFORMATION

Chemical Base	Epoxy	
Packaging	Part A	25.5 kg
	Part B	4.5 kg
	Part A+B	30 kg ready to mix units
Refer to current price list for packaging variations		

Appearance / Colour	Resin - Part A	Brownish-transparent, liquid	
	Hardener - Part B	Transparent, liquid	
Shelf Life	24 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.		
Density	Part A	1.6 kg/l	(DIN EN ISO 2811-1)
	Part B	0.99 kg/l	
	Mixed Resin	1.47 kg/l	
	All density values at +23°C.		
Solid content by weight	~100 %		
Solid content by volume	~100 %		

TECHNICAL INFORMATION

Shore D Hardness	~80 (7 days / +23 °C / 50 % r.h.)	(DIN 53505)
Tensile Adhesion Strength	> 1.5 N/mm ² (failure in concrete)	(ISO 4624)

SYSTEM INFORMATION

Systems	Primer	
	Low / medium porosity concrete	1–2 × Sikafloor®-151
	Levelling mortar fine (Surface roughness < 1 mm)	
	Primer	1–2 × Sikafloor®-151
	Levelling mortar	1 × Sikafloor®-151 + quartz sand (0.06–0.3 mm)
	Levelling mortar medium (Surface roughness up to 2 mm)	
	Primer	1–2 × Sikafloor®-151
	Levelling mortar	1 × Sikafloor®-151 + quartz sand (0.06–0.3 mm)
	Intermediate layer (Self-smoothing 1,5 to 3 mm)	
	Primer	1 × Sikafloor®-151
	Levelling mortar	1 × Sikafloor®-151 + quartz sand (0.06–0.3 mm)
	Epoxy screed / repair mortar (15–20 mm layer thickness per layer)	
	Primer	1–2 × Sikafloor®-151
	Bonding bridge	1 × Sikafloor®-151
	Screed / repair mortar	1 × Sikafloor®-151 + suitable sand mixture

The following sand mixtures are indicative mix design quantities that must be confirmed by pre-trials.

Grain size distribution for layer thicknesses of 15–20 mm, parts by weight (pbw):

25 pbw quartz sand 0.06–0.3 mm

25 pbw quartz sand 0.3–0.8 mm

25 pbw quartz sand 0.6–1.2 mm

25 pbw quartz sand 2–4 mm

Note: The largest grain size must be a maximum 1/3 of the finished layer thickness. Dependent on the grain shape and application temperatures,

the sand and the most suitable mix must be selected and confirmed by pre-trials.

APPLICATION INFORMATION

Mixing Ratio	Part A : Part B = 85 : 15 (by weight)			
Consumption	Floor System	Product	Consumption	
	Priming	1–2 x Sikafloor®-151	1–2 × 0.35–0.55 kg/m²	
	Levelling mortar fine (surface roughness < 1 mm)	1 pbw Sikafloor®-151 + 0,5 pbw quartz sand (0.06–0.3 mm)	1.7 kg/m²/mm	
	Levelling mortar medium (surface roughness up to 2 mm)	1 pbw Sikafloor®-151 + 1 pbw quartz sand (0.06–0.3 mm)	1.9 kg/m²/mm	
	Intermediate layer (self-smoothing 1.5 to 3 mm)	1 pbw Sikafloor®-151 + 1 pbw quartz sand (0.06–0.3 mm) + optional broadcast quartz sand 0.3–0.8 mm	1.9 kg/m²/mm ~4.0 kg/m²	
	Bonding bridge	1–2 × Sikafloor®-151	1–2 × 0.3–0.5 kg/m²	
	Epoxy screed (15–20 mm layer thickness) / Repair mortar	1 pbw Sikafloor®-151 + 6 pbw quartz sand	2.2 kg/m²/mm	
	These figures are theoretical and do not allow for any additional material required due to surface porosity, surface profile, variations in level or wastage etc.			
	Ambient Air Temperature	+10 °C min. / +30 °C max.		
	Relative Air Humidity	80 % max		
Dew Point	Beware of condensation. The substrate and uncured applied floor material must be at least +3 °C above dew point to reduce the risk of condensation or blooming on the floor finish. Low temperatures and high humidity conditions increase the probability of blooming.			
Substrate Temperature	+10 °C min. / +30 °C max.			
Substrate Moisture Content	≤ 5 % parts by weight. 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	~50 minutes		
	+20 °C	~25 minutes		
	+30 °C	~15 minutes		
Curing Time	Before applying non-solvented products on Sikafloor®-151 allow:			
	Substrate temperature	Minimum	Maximum	
	+10 °C	24 hours	4 days	
	+20 °C	12 hours	2 days	
	+30 °C	8 hours	24 hours	
	Before applying solvented products on Sikafloor®-151 allow:			
	Substrate temperature	Minimum	Maximum	
	+10 °C	60 hours	6 days	
	+20 °C	36 hours	4 days	
	+30 °C	28 hours	2 days	
Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.				

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

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.

Substrates must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings, laitance, surface treatments and loose friable material.

Cementitious substrates must be prepared mechanically using suitable abrasive blast cleaning or planing / scarifying equipment to remove cement laitance and achieve an open textured gripping surface profile suitable for the product thickness.

High spots can be removed by grinding.

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

Repairs to the substrate, filling of cracks, blowholes/voids and surface levelling must be carried out using appropriate products from the Sikafloor®, Sikadur® and Sikagard® range of materials. Products must be cured before applying Sikafloor®-151.

All dust, loose and friable material must be completely removed from all surfaces before application of the product and associated system products, preferably by vacuum extraction equipment.

MIXING

Prior to mixing all parts, mix separately part A (resin) using a low speed single paddle electric stirrer (300–400 rpm). Add part B (hardener) to part A and mix part A + B continuously for 3 minutes until a uniform mix has been achieved. When parts A and B have been mixed. Using a double paddle (axis) electric stirrer (>700 W), pan type revolving or forced action mixer or other suitable equipment (free fall mixers must not be used). If required, gradually add the appropriate granulometry of dried quartz sand and if required Extender T. 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 smooth consistent mix. Excessive mixing must be avoided to minimise air entrainment. 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. Mix full units only. Mixing time for A+B+quartz sand = 5 minutes.

APPLICATION

Strictly follow application procedures as defined in method statements, application manuals and working instructions which must always be adjusted to the actual site conditions.

Prior to application, confirm substrate moisture content, relative air humidity, dew point, substrate, air and product temperatures. If moisture content > 4 % parts by weight, Sikafloor® EpoCem® may be applied as a Temporary Moisture Barrier (T.M.B.) system.

Primer

Pour mixed Sikafloor®-151 onto the prepared substrate and apply by brush, roller or squeegee then back roller in two directions at right angles to each other. Ensure a continuous, pore free coat covers the substrate. If necessary, apply two priming coats. Confirm primer waiting /overcoating time has been achieved before applying subsequent products. Refer to individual primer Product Data Sheet.

Levelling mortar

Apply the levelling mortar by squeegee/trowel to the required thickness.

Intermediate layer

Pour mixed Sikafloor®-151 onto the prepared substrate and spread evenly using a serrated trowel to the required thickness. Roll immediately in two directions at right angles to each other with a spiked roller to ensure even thickness and if required broadcast with quartz sand. Broadcast between ≥ 15 minutes minimum, ≤ 30 minutes maximum (at +20 °C), lightly at first and then to excess.

Bonding bridge

Pour mixed Sikafloor®-151 onto the prepared substrate and apply by brush, roller or squeegee. For epoxy screed, back roller in two directions at right angles to each other. Ensure a continuous, pore free coat covers the substrate. If necessary, apply two priming coats.

Epoxy screed / repair mortar

Apply the repair or screed mortar onto the “tacky” bonding bridge. For the screed, use levelling battens and screed rails as necessary. After a short waiting time, compact and smoothen the mortar with a trowel. For the screed, a teflon coated power float (~20–90 rpm) is recommended.

CLEANING OF TOOLS

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

FURTHER DOCUMENTS

- Sika Information Manual: Evaluation and Preparation of Surfaces for Flooring Systems
- Sika Information Manual: Mixing & Application of Flooring Systems
- Sika Information Manual: Sikafloor®-Cleaning Regime

LIMITATIONS

- After application, Sikafloor®-151 must be protected from damp, condensation and direct water contact (rain) for 24 hours.
- If temporary heating is required, do not use gas, oil, paraffin or other fossil fuel heaters, these produce large quantities of both CO₂ and H₂O water vapour, which may adversely affect the finish. For heating use only electric powered warm air blower systems.
- Discard any material over the pot life recommendations.
- Do not apply on substrates with rising moisture.
- Sikafloor®-151 mortar screed is not suitable for frequent or permanent contact with water unless sealed.

- Pre-trials must 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 light grinding by applying a scratch coat of Sikafloor®-151 mixed with ~3 % of Sika® Extender T.

Construction joints require pre-treatment. Treat as follows:

- Static Cracks: prefill and level with Sikadur® or Sikafloor® epoxy resin
- Dynamic cracks: to be assessed and if necessary apply a stripe coat of elastomeric material or design as a movement joint

The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking.

VALUE BASE

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, the maximum allowed content of VOC (Product category IIA / j type sb) 500 g/l (Limit 2010) for the ready to use product. The maximum content of Sikafloor®-151 is < 500 g/l VOC for the ready to use product.

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.

SIKA LIMITED

Watchmead
Welwyn Garden City
Hertfordshire, AL7 1BQ
Tel: 01707 394444
Web: www.sika.co.uk
Twitter: @SikaLimited

SIKA IRELAND LIMITED

Ballymun Industrial Estate
Ballymun
Dublin 11, Ireland
Tel: +353 1 862 0709
Web: www.sika.ie
Twitter: @SikaIreland



Product Data Sheet

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