BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor®-161

Epoxy Primer, Levelling Mortar, Intermediate Layer and Mortar Screed

DESCRIPTION

Sikafloor®-161 is a 2-part, low viscosity, multipurpose, epoxy resin which can be used as an epoxy primer, levelling mortar, intermediate layer and mortar screed. Internal and external use.

USES

Sikafloor®-161 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 and Sikafloor®-264 economic flooring systems
- Binder for levelling mortars and mortar screeds
- Intermediate layer underneath Sikafloor®-263 SL and Sikafloor®-264

CHARACTERISTICS / ADVANTAGES

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

ENVIRONMENTAL INFORMATION

- Conformity with LEED v4 EQc 2: Low-Emitting Materials

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
- Coating Compatibility DIN EN 13578, Sikafloor®-161 / -264, Polymer Institut, Test report No. P 6239

PRODUCT INFORMATION

Chemical Base	Epoxy		
Packaging	Part A	20.54 kg container	
	Part B	5.46 kg container	
	Part A+B	26 kg ready to mix unit	
	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 protect from direct sunlight and frost. Always refer to packaging.		
Density	Part A	~1.6 kg/l	(DIN EN ISO 2811-1)
	Part B	~1.0 kg/l	
	Mixed Resin	~1.4 kg/l	
	All density values at +23 °C		
Solid Content by Weight	~100 %		
Solid Content by Volume	~100 %		

TECHNICAL INFORMATION

Shore D Hardness	~76 (7 days / +23 °C)	(DIN 53 505)
Compressive Strength	> 45 N/mm² (mortar screed, 28 days / +23 °C / 50 % r.h.) Mortar screed: Sikafloor®-161 mixed 1:10 with Sikafloor®-280 filler	(EN13892-2)
Tensile Strength in Flexure	~15 N/mm² (mortar screed, 28 days / +23 °C / 50 % r.h.)	(EN13892-2)
Tensile Adhesion Strength	> 1.5 N/mm² (failure in concrete)	(ISO 4624)

Thermal Resistance

Exposure*	Dry heat
Permanent	+50 °C
Short-term max. 7 days	+80 °C
Short-term max. 12 hours	+100 °C

Short-term moist/wet heat* up to +80 °C where exposure is only occasional (steam cleaning etc.).

*No simultaneous chemical and mechanical exposure and only in combination with Sikafloor® systems as a broadcast system with approx. 3–4 mm thickness.

APPLICATION INFORMATION

Mixing Ratio

Part A : Part B = 79 : 21 (by weight)

Consumption

Coating System	Product	Consumption
Priming	1–2 x Sikafloor®-161	1–2 × 0.35–0.55 kg/m²
Levelling mortar fine (surface roughness < 1 mm)	1 pbw Sikafloor®-161 + 0.5 pbw quartz sand (0.1–0.3 mm)	1.7 kg/m²/mm
Levelling mortar medium (surface roughness up to 2 mm)	1 pbw Sikafloor®-161 + 1 pbw quartz sand (0.1–0.3 mm)	1.9 kg/m²/mm)
Intermediate layer (self-smoothing 1.5 to 3 mm)	1 pbw Sikafloor®-161 + 1 pbw quartz sand (0.1–0.3 mm)	1.9 kg/m²/mm
	+ optional broadcast quartz sand 0.4–0.7 mm	~4.0 kg/m²
Bonding bridge	1–2 × Sikafloor®-161	1–2 × 0.3–0.5 kg/m²
Epoxy screed / Repair Mortar (15–20 mm layer thickness)	1 pbw Sikafloor®-161 + 8 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 % r.h. 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

≤ 6 % pbw moisture content using the Sika® - Tramex meter (at the time of application).

Note the moisture content must be ≤ 4 % pbw when using the CM measurement or Oven-dry-method. 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-solvent based products on Sikafloor®-161 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 solvent based products on Sikafloor®-161 allow:

Substrate temperature	Minimum	Maximum
+10 °C	36 hours	6 days
+20 °C	24 hours	4 days
+30 °C	16 hours	2 days

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

SYSTEM INFORMATION

Systems

Primer

Low / medium porosity concrete	1–2 × Sikafloor®-161

Levelling mortar fine
(surface roughness < 1 mm)

Primer	1–2 × Sikafloor®-161
Levelling mortar	1 × Sikafloor®-161 + quartz sand (0.1–0.3 mm)

Levelling mortar medium
(surface roughness up to 2 mm)

Primer	1–2 × Sikafloor®-161
Levelling mortar	1 × Sikafloor®-161 + quartz sand (0.1–0.3 mm)

Intermediate layer
(self-smoothing 1,5 to 3 mm)

Primer	1 × Sikafloor®-161
Levelling mortar	1 × Sikafloor®-161 + quartz sand (0.1–0.3 mm)

Epoxy screed / repair mortar
(15–20 mm layer thickness)

Primer	1–2 × Sikafloor®-161
Bonding bridge	1 × Sikafloor®-161
Screed	1 × Sikafloor®-161 + 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 0.1–0.5 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 must be a maximum 1/3 of the finished layer thickness. Dependent on the grain shape, application temperatures, aggregates and the most suitable mix must be selected and confirmed by pre-trials.

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.

LIMITATIONS

- After application, Sikafloor®-161 must be protected from damp, condensation and direct water contact (rain) for 24 hours.
- Construction joints and existing static surface cracks in substrate require pre-treating with a stripe coat by prefilling and levelling to seal against loss of material through the joint or cracks before full layer application. Use Sikadur® or Sikafloor® resins.
- The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking on the surface.
- If temporary 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.
- Discard any material over the pot life recommendations.
- Do not apply on substrates with rising moisture.
- Sikafloor®-161 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®-161 mixed with ~3 % of Extender T.

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 Material Safety Data Sheet (MSDS) containing physical, ecological, toxicological and other safety-related data.

VOC DATA

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®-161 is < 500 g/l VOC for the ready to use product.

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®-161.
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. Using a double paddle (axis) electric stirrer (>700W), 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 installation 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®-161 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®-161 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®-161 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.

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 HONGKONG LTD.
Rm.1507-12, Blk A, New Trade Plaza,
6 On Ping Street, Shatin, N.T., H.K.
Phone: +852 26868108
Fax: +852 26453671
Mail: marketing@hk.sika.com
Website: www.sika.com.hk