Construction

Sikafloor®-156

2-part epoxy primer, levelling mortar and mortar screed

Product Description

Sikafloor®-156 is a two part, low viscosity epoxy resin.

"Total solid epoxy composition acc. to the test method Deutsche Bauchemie e.V. (German Association for construction chemicals)"

Uses

- For priming concrete substrates, cement screeds and epoxy mortars
- For normal to strongly absorbent surfaces
- Primer for all Sika Epoxy and PUR floorings
- Binder for levelling mortars and mortar screeds
- For internal and external use

Characteristics / Advantages

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

Test

Approval / Standards

Epoxy primer , levelling mortar and mortar screed according to EN 1504-2: 2004 and EN 13813:2002, DoP 02 08 01 02 007 0 00001 2017, certified by Factory Production Control Body No. 0921, certificate 2017, and provided with the CE-mark

Product Data

Form

Appearance /Colours

Resin - part A:	transparent, liquid
Hardener - part B:	brownish, liquid

Packaging

Part A:	1.875 kg, 7.5 kg and 18.75 kg containers
Part B:	0.625 kg, 2.5 kg and 6.25 kg containers
Part A+B:	2.5 kg and 10 kg unipacks
	25 kg ready to mix units

Storage

Storage Conditions/ Shelf-Life

24 months from date of production if stored properly in original, unopened and undamaged sealed packaging, in dry conditions at temperatures between +5°C and +30°C.

Technical Data

Chemical Base	Epoxy	
Density	Part A: ~ 1.10 kg/l Part B: ~ 1.02 kg/l Mixed Resin: ~ 1.1 kg/l All density values at +23°C	(DIN EN ISO 2811-1)
Solid Content	~ 100% (by volume) / ~ 100% (by weight)	

Mechanical / Physical Properties

Compressive Strength	Mortar: ~ 55 N/mm² (30 days / +23°C / 50% r.h.) Mortar screed: SR-156 mixed 1:10 with the suitable sand mixture, mentioned below.	(EN 196-1)
Flexural Strength	Mortar: ~ 15 N/mm² (30 days / +23°C / 50% r.h.) Mortar screed: SR-156 mixed 1:10 with the suitable sand mixture, mentioned below.	(EN 196-1)
Bond Strength	> 1.5 N/mm^2 (failure in concrete)	(EN 4624)
Shore D Hardness	83 (7days / +23°C / 50% r.h.)	(DIN 53505)

Resistance

Thermal Resistance

Exposure*	Dry heat
Permanent	+50°C
Short-term max. 7 d	+80°C
Short-term max. 12 h	+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.

USGBC LEED Rating	Sikafloor®-156 conforms to the requirements of LEED EQ Credit 4.2: Low-Emitting Materials: Paints & Coatings SCAQMD Method 304-91 VOC Content < 100 g/l

System Information

System Structure

Primer:
Low/medium porosity concrete: 1 x Sikafloor®-156
High porosity concrete: 2 x Sikafloor®-156

Levelling mortar fine (surface roughness < 1 mm):
Primer: 1 x Sikafloor®-156
Levelling mortar: 1 x Sikafloor®-156 + quartz sand (0.1 - 0.3 mm) + Extender T

Levelling mortar medium (surface roughness up to 2 mm):
Primer: 1 x Sikafloor®-156
Levelling mortar: 1 x Sikafloor®-156 + quartz sand (0.1 - 0.3 mm) + Extender T

Mortar Screed (15 - 20 mm layer thickness) / Repair Mortar:
Primer: 1 x Sikafloor®-156
Bonding bridge: 1 x Sikafloor®-156
Screed: 1 x Sikafloor®-156 + suitable sand mixture

In practice 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.

Application Details

Consumption / Dosage

Coating System	Product	Consumption
Primer	1- 2 x Sikafloor®-156	1- 2 x 0.3 - 0.5 kg/m²
Levelling mortar fine (surface roughness < 1 mm)	1 pbw Sikafloor®-156 + 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®-156 + 1 pbw quartz sand (0.1 - 0.3 mm) + 0.015 pbw Extender T	1.6 kg/m²/mm
Bonding Bridge	1- 2 x Sikafloor®-156	1- 2 x 0.3 - 0.5 kg/m²
Mortar Screed (15 - 20 mm layer thickness) / Repair Mortar	1 pbw Sikafloor-156 + 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 etc.

Substrate Quality	Concrete substrates must be sound and of sufficient compressive strength (minimum 25 N/mm^2) with a minimum pull off strength of 1.5 N/mm^2. 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..
Substrate Preparation	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.

Application Conditions / Limitations

Substrate Temperature	+10°C min. / +30°C max.
Ambient 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).
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.

Application Instructions

Mixing

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

Mixing Time

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®-156 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. Free fall mixers should not be used.

Application Method / Tools

Prior to application, confirm substrate moisture content, r.h. and dew point.

If > 4% pbw moisture content, Sikafloor® EpoCem® may be applied as a T.M.B. (temporary moisture barrier) system.

Primer:
Make sure that a continuous, pore free coat covers the substrate. If necessary, apply two priming coats. Apply Sikafloor®-156 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®-156 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

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

Potlife

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

Waiting Time / Overcoating

Before applying solvent free products on Sikafloor®-156 allow:

Substrate temperature	Minimum	Maximum
+10°C	24 hours	4 days
+20°C	12 hours	2 days
+30°C	6 hours	1 day

Before applying solvent containing products on Sikafloor®-156 allow:

Substrate temperature	Minimum	Maximum
+10°C	36 hours	6 days
+20°C	24 hours	4 days
+30°C	12 hours	2 days

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

Notes on Application / Limitations

Do not apply Sikafloor®-156 on substrates with rising moisture.

Freshly applied Sikafloor®-156 should be protected from damp, condensation and water for at least 24 hours.

Sikafloor®-156 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-156 mixed with approx. 4 % of Extender T.

Tools
Recommended supplier of tools:
PPW-Polyplan-Werkzeuge GmbH, Phone: +49 40/5597260, www.polyplan.com

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.

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.

Curing Details

Applied Product ready for use

Temperature	Foot traffic	Light traffic	Full cure
+10°C	~ 24 hours	~ 5 days	~ 10 days
+20°C	~ 12 hours	~ 3 days	~ 7 days
+30°C	~ 6 hours	~ 2 days	~ 5 days

Note: Times are approximate and will be effected by changing ambient conditions.

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.

Health and Safety Information

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 containing physical, ecological, toxicological and other safety-related data.

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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.

EU Regulation 2004/42	According to the EU-Directive 2004/42, the maximum allowed content of VOC (Product category IIA / **j** type **sb**) is 500 g/l (Limit 2010) for the ready to use product.
VOC - Decopaint Directive	The maximum content of **Sikafloor®-156** is < 500 g/l VOC for the ready to use product.

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