BUILDING TRUST

PRODUCT DATA SHEET

# Sikafloor®-156

2-part epoxy primer, levelling mortar and mortar screed

## 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

Sikafloor®-156 may only be used by experienced professionals.

- For priming concrete substrates, cement screeds and epoxy mortars
- For normal to strong absorbent substrates
- Primer for all Sika Epoxy and PUR flooring systems
- 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
- For external use also

## APPROVALS / CERTIFICATES

**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

## PRODUCT INFORMATION

| | | | |
|---|---|---|---|
| **Composition** | Epoxy | | |
| **Packaging** | Part A: 1.875 kg, 7.5 kg and 18.75 kg containers<br>Part B: 0.625 kg, 2.5 kg and 6.25 kg containers<br>Part A+B: 2.5 kg and 10 kg unipacks/ 25 kg ready to mix unit<br><br>Bulk packaging:<br>Part A: 180 kg and 1000 kg drums<br>Part B: 60 kg, 180 kg and 1000 kg drums | | |
| **Appearance / Colour** | Part A | Resin | transparent, liquid |
| | Part B | Hardener | brownish, liquid |
| **Shelf life** | 24 months from date of production. | | |
| **Storage conditions** | Product should 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 | ~ 1.02 kg/l | |
| Mixed mortar | ~ 1.1 kg/l | |

All Density values at +23°C.

**Solid content**

Resin: ~ 100% (by volume) / ~ 100% (by weight)

## TECHNICAL INFORMATION

**Shore Hardness**

83 (7days / +23°C / 50% r.h.) DIN 53505 / ASTM D 2240

**Compressive Strength**

Mortar: ~ 55 N/mm² (30 days / +23°C / 50% r.h.) EN 196-1

Mortar screed: SR-156 mixed 1:10 with the suitable sand mixture, mentioned below.

**Tensile Strength in Flexure**

Mortar: ~ 15 N/mm² (30 days / +23°C / 50% r.h.) EN 196-1

Mortar screed: SR-156 mixed 1:10 with the suitable sand mixture, mentioned below.

**Tear Strength**

> 1.5 N/mm² (failure in concrete) EN 4624

**Temperature Resistance**

| Exoosure | 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 (i.e. during steam cleaning etc.).

*No simultaneous chemical and mechanical exposure

## SYSTEM INFORMATION

**System**

**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 |

**Epoxy 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 INFORMATION

**Mixing Ratio**

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

**Consumption**

| 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 |
| Epoxy 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.

**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**

| Temperatures | Time |
|---|---|
| +10°C | ~ 60 minutes |
| +20°C | ~ 30 minutes |
| +30°C | ~ 15 minutes |

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

**Curing Time**

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.

**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.

# APPLICATION INSTRUCTIONS

## SUBSTRATE QUALITY / PRE-TREATMENT

**Substrate quality:**
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 porefree 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.

## 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, the quartz sand or if required the Extender T must be mixed with part A and B for a further 2 minutes until a uniform mix has again 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 entrapment.

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

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 nec-essary, 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.

Epoxy 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 EQUIPMENT

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

## IMPORTANT CONSIDERATIONS

Do not apply Sikafloor-156 on substrates in which 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. 3 % 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.

## BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for the exact product data and uses.

## ECOLOGY, HEALTH AND SAFETY

**CE MARK:**
Please refer to Declaration of performance.

**HEALTH AND SAFETY INFORMATION:**
For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent Material Safety Data Sheet 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**) is 500 g/l (Limit 2010) for the ready to use product. The maximum content of Sikafloor-156 is < 500 g/l VOC for the ready to use product.

## LEGAL NOTES



**Sika Deutschland GmbH**
Kornwestheimer Straße 103 - 107
D - 70439 Stuttgart
Telefon: 0711/8009-0
Telefax: 0711/8009-0
E-Mail: info@de.sika.com
www.sika.de