BUILDING TRUST

PRODUCT DATA SHEET

# Sikafloor®-381

Epoxy resin coating with high chemical and mechanical resistance

SIKA NZ APPROVED CONTRACTOR ONLY

## DESCRIPTION

Sikafloor®-381 is a two part, low-emission, epoxy resin coating providing high chemical and mechanical resistance.

## USES

Sikafloor®-381 may only be used by experienced professionals.

The Product is used as a:
- Self smoothing and seal roller coating on concrete and cementitious screeds.

Please note:
- The Product may only be used for interior applications.

## CHARACTERISTICS / ADVANTAGES

- Good resistance to abrasion
- Decontamination ability
- Very good resistance to specific chemicals
- Very good mechanical resistance

## ENVIRONMENTAL INFORMATION

- Contributes towards satisfying Materials and Resources (MR) Credit: Building product disclosure and optimization — Environmental Product Declarations under LEED® v4
- Contributes towards satisfying Materials and Resources (MR) Credit: Building Product Disclosure and Optimization — Material Ingredients under LEED® v4
- Contributes towards satisfying Indoor Environmental Quality (EQ) Credit: Low-Emitting Materials under LEED® v4

## APPROVALS / STANDARDS

- Cleanroom Suitability Sikafloor®, Fraunhofer IPA, Report No. SI 1008-533
- CE marking and declaration of performance based on EN 13813:2002 Screed material and floor screeds — Screed material — Properties and requirements — Synthetic resin screed material
- CE marking and declaration of performance based on EN 1504-2:2004 Products and systems for the protection and repair of concrete structures — Surface protection systems for concrete — Coating

## PRODUCT INFORMATION

| | | |
|---|---|---|
| **Chemical Base** | Solvent free epoxy | |
| **Packaging** | Container Part A | 21.25 kg |
| | Container Part B | 3.75 kg |
| | Container Part A + Part B | 25 kg ready to mix units |
| | Refer to the current price list for available packaging variations. | |
| **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. | |

Refer to the current Safety Data Sheet for information on safe handling and storage.

**Appearance / Colour**

| | |
|---|---|
| Part A | coloured, liquid |
| Part B | transparent, liquid |
| Cured appearance | Gloss finish |

**Exposure to direct sunlight**
Note: When the product is exposed to direct sunlight, there may be some discolouration and colour variation. This has no influence on the function and performance of the coating.

**Density**

| | |
|---|---|
| Part A | ~ 1.77 kg/l |
| Part B | ~ 1.04 kg/l |
| Mixed Product | ~ 1.6 kg/l |

**Solid content by weight**
~100 %

**Solid content by volume**
~100 %

## TECHNICAL INFORMATION

| | | | |
|---|---|---|---|
| **Shore D Hardness** | Cured 7 days at 23 °C | ~ 82 | (EN ISO 868) |
| **Abrasion Resistance** | Cured 7 days at 23 °C | ~ 62 mg (CS10 / 1000 g / 1000 cycles) | (EN ISO 5470-1) |
| **Compressive Strength** | Cured 14 days at 23 °C | > 80 MPa | (EN 13892-2) |
| **Flexural Strength** | Cured 14 days at 23 °C | > 55 MPa | (EN 13892-2) |
| **Tensile Adhesion Strength** | > 1.5 MPa (failure in concrete) | | (EN 1542) |

**Service Temperature**

IMPORTANT
**Simultaneous mechanical and chemical strain**
While the Product is exposed to temperatures up to +60 °C, simultaneous mechanical or chemical strain may cause damage to the Product.
1. Do not expose the Product to chemical or mechanical strain at elevated temperatures

| | |
|---|---|
| Permanent | +50 °C |
| Short-term, maximum 12 hours | +80 °C |
| Short-term, maximum 7 days | +100 °C |

## APPLICATION INFORMATION

**Mixing Ratio**
Part A : Part B (by weight) 85 : 15 (by weight)

**Consumption**

| Function | Consumption |
|---|---|
| Wearing layer (filled) | 1.8 kg/m² per mm |
| Seal or Top coat for broadcast systems | ~ 0.75-0.85 kg/m² |

Note: Consumption data is theoretical and does not allow for any additional material due to surface porosity, surface profile, variations in level, wastage or any other variations. Apply product to a test area to calculate the exact consumption for the specific substrate conditions and proposed application equipment.

**Product Temperature**

| | |
|---|---|
| Minimum | +10 °C |
| Maximum | +30 °C |

**Ambient Air Temperature**

| | |
|---|---|
| Minimum | +10 °C |
| Maximum | +30 °C |

| | | |
|---|---|---|
| **Relative Air Humidity** | Maximum | 80 % r.h. |
| **Dew Point** | Beware of condensation. The substrate and uncured applied product must be at least +3 °C above dew point to reduce the risk of condensation or blooming on the surface of the applied product. Low temperatures and high humidity conditions increase the probability of blooming. | |
| **Substrate Temperature** | Minimum | +10 °C |
| | Maximum | +30 °C |
| **Substrate Moisture Content** | ≤ 4% pbw using Sikafloor®-150.<br>Test method: Sika®-Tramex meter, CM - measurement or Oven-dry-method.<br>No rising moisture according to ASTM (Polyethylene-sheet).<br>Osmosis caused by rising moisture or incorrect primer application is not covered by the product warranty.<br>Substrates above 4% but less than 6% pbw maybe primed using Sikafloor®-151,<br>Please note Sikafloor-151 offers no protection against rising moisture. | |

**Pot Life**

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

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

**Waiting Time / Overcoating**

Before applying non-solvented products on Sikafloor®-381 allow:

| Temperature | Minimum | Maximum |
|---|---|---|
| +10 °C | ~24 hours | ~3 days |
| +20 °C | ~18 hours | ~48 hours |
| +30 °C | ~12 hours | ~24 hours |

Note: 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 | ~6 days | ~7 days |
| +20 °C | ~18 hours | ~4 days | ~5 days |
| +30 °C | ~12 hours | ~2 days | ~3 days |

Note: Times apply when the last layer of the system has been applied. Times are affected by changing ambient conditions, particularly temperature and relative humidity.

## 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.

## FURTHER DOCUMENTS

Refer to the following method statements:
- Sika Method Statement — Sikafloor® and Sikagard® evaluation and preparation of surfaces
- Sika Method Statement — Sikafloor® mixing and application

## 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.

# APPLICATION INSTRUCTIONS

## EQUIPMENT

MIXING EQUIPMENT
- Electric double paddle mixer (>700 W, 300 to 400 rpm)

APPLICATION EQUIPMENT
- Trowels, including serrated
- Short pile roller
- Squeegee

## SUBSTRATE QUALITY

IMPORTANT
**Incorrect treatment of cracks**
The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking.
TREATMENT OF JOINTS AND CRACKS
Construction joints and existing static surface cracks in substrate require pre-treating before full layer application. Use Sikadur® or Sikafloor® resins.
SUBSTRATE CONDITION
Cementitious substrates (concrete / screed) must be structurally sound and of sufficient compressive strength (minimum 25 MPa) with a minimum tensile strength of 1.5 MPa.
Substrates must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings, laitance, surface treatments and loose friable material.

## SUBSTRATE PREPARATION

MECHANICAL SUBSTRATE PREPARATION
IMPORTANT
**Exposing blow holes and voids**
When mechanically preparing the surface, make sure to fully expose blow holes and voids.
1. Remove weak cementitious substrates.
2. Prepare cementitious substrates mechanically using abrasive blast cleaning or planing / scarifying equipment to remove cement laitance.
3. Before applying thin layer resins, remove high spots by grinding.
4. Use industrial vacuuming equipment to remove all dust, loose and friable material from the application surface before applying the Product.
5. Use products from the Sikafloor®, Sikadur® and Sikagard® range of materials to level the surface or fill cracks, blow holes and voids.

Contact Sika® Technical Services for additional information on products for levelling and repairing defects.
SUBSTRATE PREPARATION OF NON-CEMENTITIOUS SUBSTRATES
For information on substrate preparation of non-cementitious substrates, contact Sika technical services.

## MIXING

COATING MIXING PROCEDURE
1. Mix Part A until the coloured pigment is dispersed and a uniform colour is achieved (pigmented resin) or until a uniform milky colour is achieved (transparent resin).
2. Add Part B (hardener) to Part A.
3. IMPORTANT Do not mix excessively. Mix Part A + B continuously for ~3 minutes until a uniformly coloured mix is achieved.
4. To ensure thorough mixing, pour materials into another container and mix again to achieve a smooth and uniform mix.
5. 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.

SELF-SMOOTHING WEARING LAYER MIXING PROCEDURE
1. Mix Part A (resin) until the coloured pigment is dispersed and a uniform colour is achieved.
2. Add Part B (hardener) to Part A.
3. While mixing Parts A + B, gradually add the required filler or aggregates.
4. IMPORTANT Do not mix excessivley. Mix for a further 2 minutes until a uniform mix is achieved.
5. To ensure thorough mixing, pour materials into another container and mix again to achieve a smooth and uniform mix.
6. 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.

## APPLICATION

IMPORTANT
**Protect from moisture**
After application, protect the Product from damp, condensation and direct water contact for at least 24 hours.
IMPORTANT
**Temporary moisture barrier**
If the substrate moisture content measured with the Sika®-Tramex meter, CM - measurement or Oven-dry-method ≤ 4% pbw using Sikafloor®-150, or ≤ 6% pbw using Sikafloor®-151 - apply a temporary moisture barrier consisting of Sikafloor® EpoCem®.
1. Contact Sika technical services for more information.

IMPORTANT
**No application on rising moisture**
Do not apply on substrates with rising moisture. Osmosis caused by rising moisture or incorrect primer application is not covered by the product warranty.
IMPORTANT
**Ensuring consistent colour matching**
For consistent colour matching, make sure the Product in each area is applied from the same control batch numbers.
SEAL COAT FOR BROADCAST SURFACES
1. Pour the mixed Product onto the substrate. **Note:** The consumption is specified in Application Information.
2. Spread the Product evenly over the surface with a squeegee.
3. Back roll the surface in two directions at right angles with a fleece roller. **Note:** Maintain a "wet edge" during application to achieve a seamless finish.

SLIP-RESISTANT BROADCAST LAYER
1. Pour the mixed Product onto the prepared substrate.
2. Apply the Product evenly over the surface with a trowel.
3. Back roll the surface in two directions at right angles with a spike roller.

4. Allow the product to cure for 15 minutes. **Note:** Times are temperature dependant. Times given are for +20 °C.
5. Broadcast the surface with quartz sand or silicon carbide, lightly at first, then to excess. **Note:** The aggregate is dependant on the system build-up. Refer to the relevant System Data Sheet.
6. Allow the surface to become tack free.
7. Remove all loose sand with industrial vacuuming equipment.

SELF-SMOOTHING WEARING LAYER APPLICATION

1. Pour the mixed Product onto the substrate. **Note:** The consumption is specified in Application Information.
2. Apply the Product evenly over the surface with a serrated trowel.
3. Back roll the surface in two directions at right angles with a spike roller. **Note:** Maintain a "wet edge" during application to achieve a seamless finish.

### CLEANING OF TOOLS

Clean all tools and application equipment with Sika® 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.

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