

PRODUCT DATA SHEET

Sikafloor®-294 EPU

Epoxy polyurethane self-smoothing flooring resin

DESCRIPTION

Sikafloor®-294 EPU is a 2-part, clear epoxy polyurethane, self-smoothing flooring resin for topping applications.

USES

Sikafloor®-294 EPU may only be used by experienced professionals.

Industrial self-smoothing flooring resin on cementitious substrates for:

- Normal up to medium heavy wear
- Assembly halls
- Warehouses
- Workshops
- Garages
- Aircraft hangars
- Interior use only

CHARACTERISTICS / ADVANTAGES

- Seamless
- Good chemical and mechanical resistance
- Easy application
- Liquid proof
- Gloss finish
- Easily cleaned and maintained
- Can be filled with quartz sand to produce a self-smoothing flooring
- Low maintenance
- Wide range of ~RAL colours (consult Sika® representative)

PRODUCT INFORMATION

Chemical base	Epoxy polyurethane	
Packaging	Part A+B+Colour Component pre-batched	8.0 kg set
	Part A (Neutral base)	5.0 kg container
	Part B (Hardener)	2.5 kg container
	Colour Component *	0.5 kg container
	* Supplied separately.	
Appearance / Colour	Part A (Neutral base)	Liquid / Translucent
	Part B (Hardener)	Liquid / Light yellow
	Colour component *	Paste / Various colour shades

* Colour component: Sikafloor® Colour Component is available separately in a number of colour shades. Please consult with Sika representative for more details.

IMPORTANT

Applied colours selected from colour charts will be approximate.

IMPORTANT

Colour deviations may occur due to filling with quartz sand.

IMPORTANT

For colour matching, apply colour sample and confirm selected colour under real lighting conditions.

IMPORTANT

Colour uniformity cannot be completely guaranteed from batch to batch. Do not mix batch numbers in a single area.

IMPORTANT

When product is exposed to direct UV exposure (sun, lamp, skylight, etc.), there may be some discolouration and colour variation, this has no influence on the function and performance of the floor finish. Use of clear UV resistant top coat may not prevent discoloration of underlying coatings.

Shelf life	12 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 +10 °C and +30 °C.	
Density	~1.7 kg/L (Part A+B+Colour Component+Sika® Quartz)	(EN ISO 2811-1)

TECHNICAL INFORMATION

Shore D hardness	~75 (7 days, +23 °C)	(ASTM D2240)
Abrasion resistance	~0.055mg/Cycle	(ASMT C 501-84)
Compressive strength	~75 MPa (28 days, +23 °C)	(ASTM C 579-93)
Flexural strength	~30 MPa (28 days, +23 °C)	(BS 6319 Pt.3)
Tensile strength	~20 MPa (28 days, +23 °C)	(BS 6319 Pt.4)
Tensile adhesion strength	> 1.5 N/mm ² (failure in concrete)	(EN 1542)
Chemical resistance	Resistant to many chemicals. Contact Sika Technical Services for specific information.	

APPLICATION INFORMATION

Mixing ratio	System	Ratio
	1.0 mm self-smoothing topping	A : B : C : D = 5 : 2.5 : 13 : 0.5
	2.0 mm self-smoothing topping	A : B : C : D = 5 : 2.5 : 13 : 0.5
A = Clear resin, B = Hardener, C = Quartz filler, D = Colour paste		

Consumption**1.0 mm self-smoothing topping:**

Layer	Product	Consumption
Primer	Sikafloor®-167 Primer / Sikafloor®-161 HC	~0.2–0.35 kg/m ²
Topping	Sikafloor®-294 EPU + Sika® Quartz 06 IN + Sikafloor® Colour Component	~1.7 kg/m ²

2.0 mm self-smoothing topping:

Layer	Product	Consumption
Primer	Sikafloor®-167 Primer / Sikafloor®-161 HC	~0.2–0.35 kg/m ²
Topping	Sikafloor®-294 EPU + Sika® Quartz 06 IN + Sikafloor® Colour Component	~3.4 kg/m ²

These figures are theoretical and do not allow for any additional material due to surface porosity, surface profile, variations in level and wastage etc.

Ambient air temperature	+10 °C min. / +35 °C max.
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Relative air humidity	80 % max.
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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. Low temperatures and high humidity conditions increase the probability of blooming.
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Substrate temperature	+10 °C min. / +35 °C max.
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Substrate moisture content	≤ 4 % parts by weight The following test methods can be used: Sika®-Tramex meter, CM-measurement or Oven-dry-method. No rising moisture according to ASTM (Polyethylene-sheet).
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Pot life	Temperature	Pot life (100 g mass)
	+20 °C	~40 min
	+30 °C	~35 min

Waiting time / Overcoating	Before applying Sikafloor®-294 EPU on Sikafloor®-167 Primer / Sikafloor®-161 HC allow:
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Substrate temperature	Minimum	Maximum
+20 °C	8 hours	2 days
+30 °C	6 hours	1 day

Before applying Sikafloor®-294 EPU on Sikafloor®-294 EPU allow:

Substrate temperature	Minimum	Maximum
+20 °C	24 hours	2 days
+30 °C	16 hours	2 days

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
	+20 °C	~24 hours	~4 days	~7 days
	+30 °C	~18 hours	~2 days	~5 days

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

SYSTEM INFORMATION

Systems

1.0 mm self-smoothing topping:

Primer	Sikafloor®-167 Primer / Sikafloor®-161 HC
Wearing course	Sikafloor®-294 EPU + Sikafloor® Colour Component + Sika® Quartz-06 IN

2.0 mm self-smoothing topping:

Primer	Sikafloor®-167 Primer / Sikafloor®-161 HC
Wearing course	Sikafloor®-294 EPU + Sikafloor® Colour Component + Sika® Quartz-06 IN

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.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

EQUIPMENT

MIXING EQUIPMENT

- Electric single paddle mixer (300 to 400 rpm)
- Electric double paddle mixer (> 700 W)

APPLICATION EQUIPMENT

- Flat, round edge steel trowel
- Spiked roller
- Trowels, including serrated
- Pin leveller

SUBSTRATE QUALITY

IMPORTANT

Incorrect treatment of cracks

The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking. Construction joints and existing static surface cracks in substrate require pre-treating before full layer application. Use Sikadur® or Sikafloor® resins.

- 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.

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 can be carried out using appropriate products from the Sikafloor®, Sikadur® and Sikagard® range of materials.
- High spots must be removed by 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

IMPORTANT

Mix full units only

1. Mix Part A (resin) for ~10 seconds and add Colour component and mix well.
2. Add Part B (hardener) to coloured Part A and mix for 2 minutes.
3. While mixing Parts A + B, gradually add Sika® Quartz-06 IN (filler) using an electric double paddle mixer (> 700 W) or other similar equipment (free fall mixers must not be used).
4. **IMPORTANT** Do not mix excessively. 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. Mixing time for A+B+Sika® Quartz-06 IN = ~4.0 minutes.

APPLICATION

IMPORTANT

Temporary heating

If temporary heating is required, do not use gas, oil, paraffin or other fossil fuel heaters. These produce large quantities of both carbon dioxide and water vapour, which may adversely affect the finish.

1. For heating, use only electric powered warm air blower systems.

IMPORTANT

Performing pre-trials

Pre-trials/mock-up applications must be performed and procedures agreed with all parties before full project application.

IMPORTANT

Temporary moisture barrier

If the substrate moisture content measured with the CM-method is > 4 % by weight, apply a temporary moisture barrier consisting of Sikafloor® EpoCem®.

1. Contact Sika technical services for more information.

IMPORTANT

Indentations

Under certain conditions, underfloor heating or high ambient temperatures combined with high point loading may lead to indentations in the resin.

IMPORTANT

Protect from moisture

After application, protect the Product from damp, condensation and direct water contact for at least 24 hours.

IMPORTANT

Usage of aggregates

Any aggregate used with Sikafloor® systems must be non-reactive and oven-dried. For best results, use Sika aggregates.

IMPORTANT

Pin holes

If applied on porous substrates during rising temperatures pin holes may occur from rising air.

1. Apply during falling temperatures.

IMPORTANT

Thin coatings

Do not use for roller / textured coatings, or thin sealer coats. Use appropriate products from Sikafloor® MultiDur range.

IMPORTANT

Alkali silica reaction

Do not apply Sikafloor®-294 EPU to concrete substrate containing aggregates susceptible to ASR (Alkali Silica Reaction) due to risk of natural alkali redistribution below the Sikafloor®-294 EPU after application.

1. If concrete substrate has or is suspected to have ASR (Alkali Silica Reaction) present, do not proceed. Consult with design professional prior to use.

IMPORTANT

Changes in air flow

Beware of air flow and changes in air flow. This may lead to introduction of dust, debris, and particles, etc. resulting in surface imperfections and other defects.

PRIMER

1. Pour mixed Sikafloor®-167 Primer / Sikafloor®-161 HC primer onto the prepared substrate
2. Apply by brush, roller or squeegee (most preferred) and then back roll in two directions at right angles to each other.
3. Ensure a continuous, pore free coat covers the substrate. If necessary, apply two priming coats.
4. **IMPORTANT** Confirm waiting / overcoating time has been achieved before applying subsequent products. Refer to individual Product Data Sheet.

LEVELLING

1. Rough surfaces must be levelled first using Sikafloor®-296 / Sikafloor®-161 HC levelling mortar.
2. **IMPORTANT** Confirm waiting / overcoating time has been achieved before applying subsequent products. Refer to individual Product Data Sheet.

SMOOTH WEARING LAYER

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. To achieve a smooth finish, smooth the surface with the flat side of a trowel.
4. Back roll the surface in two directions at right angles with a steel spike roller.

Note: A seamless finish can be achieved if a 'wet' edge is maintained during application.

CLEANING OF TOOLS

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

MAINTENANCE

CLEANING

To maintain the appearance of the floor after application, Sikafloor®-294 EPU must have all spillages removed immediately and must be regularly cleaned using rotary brush, mechanical scrubbers, scrubber dryer, high pressure washer, wash and vacuum techniques etc. using suitable detergents and waxes. Refer to Sika Method Statement: Sikafloor®-Cleaning Regime.

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 exact product data and uses.

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.

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Product Data Sheet

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