Only to be applied by a Sika Approved Applicator

Construction

Sikafloor® 91

Heavy duty epoxy resin floor screed

Positioning

Description

A three component, solvent free, epoxy resin based patching mortar and screed for industrial floors subject to heavy traffic. Sikafloor® 91 is a trowel finished screed applied in layers between 5 - 40mm thick.

Uses

Sikafloor® 91 is particularly suitable for use on concrete substrates where high impact and mechanical resistance is required in the following areas:

- Food preparation areas
- Dairy manufacturing and processing plants
- Pulp and paper industry
- Chemical processing areas
- Garages and engineering workshops
- Warehouses, loading bays, ramps

Advantages

- Solvent free, non tainting
- Excellent resistance to abrasion
- Excellent adhesion to cement based substrates
- Range of colours available
- Impermeable to liquids
- High impact resistance
- Good chemical resistance
- Good non-slip properties
- Suitable as a screed between 5 - 40mm thick per application

Product Data

Form:

Epoxy resin liquid containing natural aggregates.

Packaging:

Sikafloor® 91:

- Packing Component A + B = 200kg units
- Component C (Sika aggregate 506) = 25kg bags

Sikafloor® 94:

- Component A + B = 1litre, 2.78litre, 30litre units

Storage & Shelf Life:

Approximately twelve (12) months in unopened original containers when stored in dry conditions between 5°C and 35°C.

Technical Data

Density:

Parts A + B 1.10kg/litre approx.
Parts A +B +C 2.1kg/litre approx.

Thermal resistance:

Dry heat = up to 150 °C temporary exposure.
Warm water = up to 60°C temporary exposure.

Chemical resistance:

Good resistance to a wide range of chemicals, see chart at back.

Application temp:

Minimum = 5°C. Maximum = 30°C.

Compressive strength:

90MPa approximately

Flexural strength:

35MPa approximately

Adhesive strength:

> 3MPa approximately on dry primed concrete.

Tensile-strength

1.5MPa (approx. at 14 days)

Co-efficient of thermal expansion

Approx. 2 x 10^{-5} per °C

Coating System:

Step 1 = Primer application - Sikafloor® 94
Step 2 = Components A + B + C
Step 3 = Top sealer coat application – Sikafloor® 94

Mixing ratio:

- Primer as per Sikafloor® 94 data sheet.
- Body coat

Part A	2.66kg
Part B	1.34kg
Comp C (Sika Aggregate 506)	20kg
Total	*24kg*

- Sealer coat as per Sikafloor® 94 data sheet.

Coverage rates: Primer and sealer as per Sikafloor® 94 data sheet. Body coat approx 2.1kg/m²/mm of thickness depending on condition of the substrate.

Curing time:

	10°C	20°C	30°C
Re-coatable	35 hrs	18 hrs	12 hrs
Light traffic	48 hrs	24 hrs	24 hrs
Full chemical resistance	8 days	5 days	3 days

Application Conditions

Surface Preparation

- The substrate must be sound, dry (max. moisture content 6%), free from dust, dirt and any surface contaminants such as oil, grease, fats, chemicals, paints, curing membranes, etc. Surface damage or holes should be repaired with the appropriate Sikadur® or EpoCem® epoxy mortar.
- All surfaces should be primed with Sikafloor 94 Primer (refer separate data sheet for further information) prior to the application of Sikafloor® 91.
- Substrates with a moisture content above 6% should be sealed with Sikagard® 720 EpoCem® or Sikafloor® 81 EpoCem®. This will allow the application of Sikafloor® 91 to proceed on damp surfaces. Refer to separate data sheets for further information on EpoCem products. Cement based surfaces (other than those covered with EpoCem) should be at least 3 - 4 weeks old and should be prepared by shot/sand blasting, acid etching, high pressure water blasting, etc to remove cement laitance.
- Sikafloor® 91 is a screeded mortar product and as such will reprofile irregular substrates, so reprofiling of surface defects should not be necessary prior to the application of the Sikafloor® 91 screed.

Mixing

- A forced action pan mixer is recommended due to the large volumes generally used and the heavy nature of the material. However, smaller volumes can be mechanically mixed in a 20 - 30 litre bucket using a Sika mixing paddle attached to a low speed electric drill (max. 500 rpm).
- Empty a measured amount of Sika Aggregate 506 into the mixer and mix for a few minutes.
- Thoroughly mix Component A (resin), add the pigment pack if applicable and continue mixing until a uniform colour is achieved. Add component B (hardener) to Component A at the correct ratio and mix until fully blended.
- Pour the mixed resin and hardener without delay on to the Sika Aggregate 506 in the mixer and mix until a uniform, crumbling consistency is obtained.

Note: Before any mixing commences all components should be individually weighed out to the correct mixing ratio.

Application

- Place the Sikafloor® 91 mixture on to the tacky, primed substrate. Rake to a uniform thickness with a rake or screed. Screed to the required level with steel, aluminium or wooden screed bars and tamp until consolidated.
- Trowel to a sealed resin rich surface with a steel trowel. Keep the steel trowel clean by regularly wiping with a cloth wetted with Sika Thinner C.

Cleaning

- Clean all tools and equipment immediately after use with Sika Thinner C. Cured Sikafloor 91 can only be removed mechanically.

Important Notes

- Do not apply to damp surfaces (> 6% moisture content). Substrates with a moisture content above 6% should be sealed with Sikagard® 720 EpoCem® or Sikafloor® 81 EpoCem. This will allow the application of Sikafloor® 91 to proceed on a damp surface. Refer to separate data sheets for further information on EpoCem products.
- If there is no damp proof membrane (that complies with the New Zealand Building Code Acceptable Solution E2/AS1) between the ground and the concrete floor slab, a 2mm thick layer of Sikagard 720 EpoCem or Sikafloor® 81 EpoCem® is required beneath the proposed Sikafloor® 91 system. Failure to provide the EpoCem layer could result in osmosis blistering for which Sika (NZ) Ltd or its applicators cannot be held responsible.
- Concrete substrates should have a minimum compressive strength of 25 MPa and minimum pull off strength of 1.5 MPa.
- The temperature which Sikafloor® 91 is stored during the 24 hours before mixing will govern its pot life when mixed.
- Do not apply Sikafloor® 91 to cement based mortars that are polymer modified.
- Freshly applied coatings should be protected from dampness, condensation and water for at least 24 hours. Coatings must not be applied unless the substrate temperature is at least 3°C above the measured dew point.
- During application and curing in confined spaces, ensure that adequate ventilation is provided.
- If you are in any doubt about the use or application of this product, or further information is required please contact our Sika Technical Department.

Health & Safety Instructions

Protective Measures

- To avoid rare allergic reactions, we recommend the use of protective gloves. Change soiled work clothes and wash hands before breaks and after finishing work.
- Local regulations as well as health and safety advice on packaging labels must be observed.
- For further information refer to the Sika Material Safety Data Sheet which is available on request.
- If in doubt always follow the directions given on the pack or label.

Transportation Class: Sikafloor® 91 Comp B is considered hazardous for transportation, Class 8, UN No 1760, Haz Chem 2R, Packing Group III.

Chemical Resistance Table for Sikafloor® 91

Test Medium	Test Temp °C	Store Time and Evaluation 1 day	1 mth	3 mths	6 mths	9 mths	12 mths
Water	20/40	A	A	A	A	A	A
Brine (salt water) 20%	20/40	A	A	A	A	A	A
Cement Water	20/40	A	A	A	A	A	A
Detergents	20/40	A	A	A	A	A	A
Caustic Soda 30%	20	A	A	A	A	A	A
Bleach Solution	20	A	A	B	C	C	-
Fuel Oil - heavy	20	A	A	A	A	A	A
Fuel Oil - medium	20	A	A	A	A	A	A
Kerosene	20	A	A	B	B	B	B
Petrol	20	A	B	B	B	B	B
Iso Octane	20	A	A	A	A	A	A
Ethyl Alcohol	20	B	C	-	-	-	-
Toluene	20	C	-	-	-	-	-
Hydrochloric Acid 10%	20	A	B	B	C	-	-
Sulphuric Acid 10%	20	A	A	B	C	-	-
Acetic Acid 5%	20	B	C	-	-	-	-
Citric Acid 10%	20	A	B	C	-	-	-
Sewage/waste water	20/40	A	A	A	A	A	A
Liquid silage	20/40	A	A	A	A	A	A

Key: A = Suitable for permanent immersion
B = Suitable for temporary resistance
C = Not suitable

Important

- Where other chemicals, mixtures of chemicals or elevated temperatures are expected, please consult our Technical Department.
- All specimens were fully immersed for the duration of the test. Experiments were carried out under controlled laboratory conditions and are for guidance only.

Note: In all cases of spillage, chemical to be removed as quickly as possible and the surface washed down with water.

Important Notes

- Residues of material must be removed according to local regulations. Fully cured material can be disposed of as household waste under agreement with the responsible local authorities.
- Detailed health and safety information as well as detailed precautionary measures e.g. physical, toxicological and ecological data can be obtained from the safety data sheet.

Legal Notes

Construction

Project Reference
TASTI PRODUCTS


Coving

Requirement:
A large processing room in the extensions of the existing Tasti Products factory required a hard wearing, easily cleaned and maintained floor coating with good abrasion and slip resistance. Due to a restricted timeframe, a temporary moisture barrier was required to allow that application of the coating over a substrate with a moisture content over 6%.

Solution:
A 5-6mm epoxy floor screed of Sikafloor® 91 (along with 100mm x 100mm coves) was applied with a non-slip finish over the 1134m² area. Floor construction joints were filled and sealed with Sikaflex®-11FC.

Products Used:

Sikafloor®-81 EpoCem	
Sikafloor® 94	Solvent free epoxy primer and sealer
Sikafloor® 91	Heavy duty epoxy resin floor screed
Sikaflex®-11FC	One component polyurethane joint sealant and adhesive

Reference: AKL321

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