

Sikafloor®-400 N Elastic

1-part PUR highly elastic coating

Construction

Positioning Description Sikafloor-400 N Elastic is a one part, highly elastic, solvent containing, UV resistant, coloured, moisture curing polyurethane resin coating.

Uses

- Smooth or slip resistant, UV resistant, waterproof, crack-bridging coating for concrete and cementitious screed substrates
- For light to medium mechanical exposure
- For balconies, terraces, footbridges, stairways etc.
- As the top coat in the Sika Ground Water Protection System (I N) for Bund Containment Areas

Advantages

- Highly elastic
- Crack-bridging
- Waterproof
- UV resistant, non-yellowing
- Weather resistant
- Abrasion resistant with normal use
- Slip resistant surfaces are possible

Tests, Approvals / Standards Approval for "Ground Water Protection System", Z-59.12-4, DIBt, Germany, Jun. 2008.

Product Data

Appearance / Colours Coloured liquid, Light Grey RAL 7035 (Also a limited range of RAL colours available. Refer to the Sika Technical Department.)

Packaging 18 kg units

Storage & Shelf Life Six (6) 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 PUR

Density ~ 1.6kg/l (Density value at +23°C.) (DIN EN ISO 2811-1)

Solid Content ~ 77% (by volume) / ~ 88% (by weight)

Mechanical / Physical Properties

Elongation at Break At +23°C: ~ 320% (7days / +23°C) (DIN 53504)
At -20°C: ~ 70% (7days / +23°C)

Abrasion Resistance 30mg (CS 10/1000/1000) (8 days / +23°C) (DIN 53 109 (Taber Abrader Test))

Chemical Resistance Resistant to many chemicals. Please ask for a detailed chemical resistance table. Attention: Wine, coffee, some leaves and flower petals etc. may cause surface discolouration but this will have no effect on the product performance and durability. Please use SikaGlaze PU for improved cleanability and resistance to contamination.

Thermal Resistance	Exposure*	Dry heat
	Permanent	+50°C
	Short-term max. 7 d	+80°C
	Short-term max. 8 h	+100°C

*No simultaneous chemical and mechanical exposure.

System Information

System Structure

System for light wear (layer thickness: 0.3 - 0.5mm):
Primer: 1 x Sikafloor-400 N Elastic diluted with 10 wt.-% Sika Thinner C
Seal Coat: 1 x Sikafloor-400 N Elastic

System for medium wear (layer thickness: 0.7 - 1.2mm):
Primer: 1 x Sikafloor-156
Coating: 1 x Sikafloor-400 N Elastic

System for medium wear + Surface Design (layer thickness: 0.9 - 1.4mm):
Primer: 1 x Sikafloor-156
Coating: 1 x Sikafloor-400 N Elastic lightly broadcast with coloured Chips
Matt seal coat: 1 x SikaGlaze PU



System for high wear (layer thickness: 1.5 - 2.0mm):

Primer: 1-2 x Sikafloor-156 / -161 broadcast to excess with quartz sand
0.3 - 0.8mm

Seal coat: 1 x Sikafloor-400 N Elastic

System for high wear + Surface Design (layer thickness: 1.5 - 2.0mm):

Primer: 1-2 x Sikafloor-156 / -161

Coating: 1 x Sikafloor-400 N Elastic, broadcast to excess with
Coloured quartz sand 0.3 - 0.8 mm

Matt seal coat: 1-2 x SikaGlaze PU

Coving / Skirtings (> 4% slope):

Coating: Sikafloor-400 N Elastic + 1.5 - 2 wt.-% Extender T

Top coat of the Sika Ground Water Protection System

(similar to certified system I N)(layer thickness: ~1.0mm):

Primer: 1-2 x Sikafloor-156

Coating: 1 x Sikafloor-400 N Elastic

Note: The system configurations as described must be fully complied with and may not be changed. Please also refer to notes under "Chemical Resistance".

Application Details Consumption / Dosage

Coating System	Product	Consumption
Primer	Sikafloor-400 N Elastic + 10 wt.-% Thinner C	0.4 - 0.6kg/m ²
Seal coat for light wear	Sikafloor-400 N Elastic	0.4 - 0.8kg/m ²
System for medium wear	Sikafloor-400 N Elastic	0.9 - 1.5kg/m ²
System for medium wear + Surface design	Sikafloor-400 N Elastic + colour chips	0.9 - 1.5kg/m ² 0.03 - 0.07kg/m ²
Seal coat:	SikaGlaze PU	~ 0.25kg/m ²
System for high wear	Sikafloor-156 Broadcast with Sika Aggregate 500, 501, 505, 508	1 or 2 coats at 0.4 - 0.6kg/m ² 4 - 6kg/m ²
Seal coat:	Sikafloor-400 N Elastic	0.9 - 1.5kg/m ²
System for high wear + Surface design	Sikafloor-156 Sikafloor-400 N Elastic, broadcast with Sika Coloured Aggregate 0.3 - 0.8mm	1 or 2 coats at 0.3 - 0.5kg/m ² 0.9 - 1.5kg/m ² 0.4 - 0.6kg/m ²
Seal coat:	SikaGlaze PU	~ 0.25g/m ²
System for Ground Water Protection	Sikafloor-400 N Elastic	0.9 - 1.5kg/m ²
UV-protection on Sikalastic- membranes (no roofs)	Sikafloor-400 N Elastic	0.4 - 0.8kg/m ²
Coving / Skirtings (> 4% slope)	Sikafloor-400 N Elastic + 1.5 - 2.0 wt.-% Extender T	1.0 - 1.2kg/m ²

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

- The concrete substrate must be sound and of sufficient compressive strength (minimum 25N/mm²) with a minimum pull off strength of 1.5N/mm².
- The substrate must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings and surface treatments, etc.
- If in doubt apply a test area first.

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. 35% min. (below +20°C: 45% min.)
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.

Application Instructions

Mixing Time	<ul style="list-style-type: none">• Prior to use stir Sikafloor-400 N Elastic mechanically for 3 minutes.• If required, Thinner C or Extender T should be added into the Sikafloor-400 N Elastic until a uniform mix has been achieved.• Over mixing must be avoided to minimise air entrainment.
Mixing Tools	Sikafloor-400 N Elastic must be thoroughly mixed using a low speed electric stirrer (300 - 400 rpm) or other suitable equipment.
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. <i>Primer:</i> Ensure that a continuous, pore free coat covers the substrate. If necessary, apply two priming coats. Apply Sikafloor-156 or Sikafloor-400 N Elastic with 10 wt.-% Thinner C by brush, roller or squeegee. <i>Coating:</i> Sikafloor-400 N Elastic is poured and spread evenly with a trowel.
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	The material in opened containers should be applied immediately. With open containers surface film formation will happen within 1-2 hours. High temperatures and high air humidity will accelerate curing significantly.

Waiting Time / Overcoat

Before applying Sikafloor-400 N Elastic 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

Before applying Sikafloor-400 N Elastic on Sikafloor-400 N Elastic allow:

Substrate temperature	Minimum	Maximum
+10°C	36 hours	5 days
+20°C	24 hours	3 days
+30°C	16 hours	2 days

¹⁾ Assuming that all dirt has been removed and contamination is avoided.

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



Notes on Application / Limitations

- Do not apply Sikafloor-400 N Elastic on substrates with rising moisture.
- Freshly applied Sikafloor-400 N Elastic must be protected from damp, condensation and water for at least 24 hours.
- Avoid puddles on the surface with the primer.
- Prior to overcoating with Sikafloor-400 N Elastic, the priming coats must have cured tack-free.
- Do not use for interior applications.
- Always apply during falling temperatures. If applied during rising temperatures “pin holing” may occur from rising air.
- Do not thin Sikafloor -400N Elastic with Sika Thinner C or any other non-approved solvent/thinner other than as described on the Product Data Sheet.
- Recommended Supplier of Tools: PPW-Polyplan-Werkzeuge GmbH, Phone: +49 40/5597260, www.polyplan.com.
- The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking.
- For exact colour matching, ensure the Sikafloor-400 N Elastic in each area is applied from the same control batch numbers.
- 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 CO₂ and H₂O 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 (r.h. 50%)	Rain resistant	Foot traffic	Full cure
+10°C	~ 15 hours	~ 1 - 2 days*	~ 7 - 14 days*
+20°C	~ 5 hours	~ 6 - 24 hours*	~ 5 - 9 days*
+30°C	~ 3 hours	~ 4 - 18 hours*	~ 3 - 5 days*

*Strongly influenced by layer thickness

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

Cleaning / Maintenance

Methods

To maintain the appearance of the floor after application, Sikafloor-400 N Elastic 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. Please refer to “Cleaning & Maintenance Recommendations for Sika Floor Installations” for detailed instructions.

Notes

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.

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 Safety Data Sheet which is available on request.
- If in doubt always follow the directions given on the pack or label.

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.




CE Labelling

The harmonized European Standard EN 13 813 „Screed material and floor screeds - Screed materials - Properties and requirements“ specifies requirements for screed materials for use in floor construction internally.

Structural screeds or coatings, i.e. those that contribute to the load bearing capacity of the structure, are excluded from this standard.

Resin floor systems as well as cementitious screeds fall under this specification. They have to be CE-labelled as per Annex ZA. 3, Table ZA.1.5 and 3.3 and fulfil the requirements of the given mandate of the Construction Products Directive (89/106):

	
Sika (NZ) Ltd 85-91 Patiki Road Avondale, auckland 1026 New Zealand	
04 1)	
EN 13813 SR-B1,5-AR1-IR 4	
Resin screed/coating for indoors in buildings (systems as per Product Data Sheet)	
Reaction to fire:	Efl 2)
Release of corrosive substances (Synthetic Resin Screed):	SR
Water permeability:	NPD 3)
Abrasion Resistance:	AR1 4)
Bond strength:	B 1,5
Impact Resistance:	IR 4
Sound insulation:	NPD
Sound absorption:	NPD
Thermal resistance:	NPD
Chemical resistance:	NPD

¹⁾ Last two digits of the year in which the marking was affixed.

²⁾ In Germany, DIN 4102 still applies. Passed class B2.

³⁾ No performance determined.

⁴⁾ Not broadcast with sand.




CE Labelling

The harmonized European Standard EN 1504-2 „Products and systems for the protection and repair of concrete structures – Definitions, requirements, quality control and evaluation of conformity – Part 2 : Surface protection systems for concrete” gives specifications for products and systems used as methods for the various principles presented under EN 1504-9.

Products which fall under this specification have to be CE-labelled as per Annex ZA. 1, Tables ZA.1a to ZA 1g according to the scope and relevant clauses there indicated, and fulfil the requirements of the given mandate of the Construction Products Directive (89/106):

Here below indicated are the minimum performance requirements set by the standard. For the specific performance results of the product to the particular tests, please see the actual values above in the PDS.

	
0921	
Sika (NZ) Ltd 85-91 Patiki Road Avondale, auckland 1026 New Zealand	
08 ¹⁾	
0921-CPD-2017	
EN 1504-2	
Surface Protection Product Coating ²⁾	
Abrasion resistance (Taber test):	< 3000 mg
Permeability to CO ₂ :	S _D > 50 m
Permeability to water vapour:	Class II
Capillary absorption and permeability to water:	w < 0.1kg/m ² x h ^{0.5}
Resistance to severe chemical attack: ³⁾	Class II
Adhesion strength by pull-off test:	≥ 2.0 N/mm ²
Fire Classification: ⁴⁾	E _{fl}

¹⁾ Last two digits of the year in which the marking was affixed.

²⁾ Tested as a part of a system build-up with Sikafloor-161 / Sikafloor-410.

³⁾ Please refer to the Sikafloor Chemical Resistance Chart.

⁴⁾ Min. classification, please refer to the individual test certificate.

EU Regulation 2004/42 VOC - Decopaint Directive

According to the EU-Directive 2004/42, the maximum allowed content of VOC (Product category IIA / j type sb) is 500g/l (Limits 2010) for the ready to use product.

The maximum content of Sikafloor-400 N Elastic is < 500g/l VOC for the ready to use product.

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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