

# Sikafloor®-161 (NZ)

2-part epoxy primer, levelling mortar, intermediate layer and mortar screed

Construction

<b>Positioning Description</b>	Sikafloor-161 is an economic, two part, low viscosity epoxy resin. 'Total solid epoxy composition acc. to the test method Deutsche Bauchemie e.V.(German Association for construction chemicals)'
--------------------------------	--

<b>Uses</b>	<ul style="list-style-type: none"> <li>• For priming concrete substrates, cement screeds and epoxy mortars</li> <li>• For low to medium absorbent substrates</li> <li>• Primer for the Sikafloor-263 SL and Sikafloor-264 economic flooring systems</li> <li>• Binder for levelling mortars and mortar screeds</li> <li>• Intermediate layer underneath Sikafloor-263 SL and Sikafloor-264</li> </ul>
-------------	---

<b>Advantages</b>	<ul style="list-style-type: none"> <li>• Low viscosity</li> <li>• Good penetration</li> <li>• Excellent bond strength even on water saturated concrete</li> <li>• Easy application</li> <li>• Short waiting times</li> <li>• Multi-purpose</li> </ul>
-------------------	---

<b>Approved / Standards</b>	Proof statement to determine the compatibility of coating and water saturated concrete Report-No. P 5688 Polymer Institute, Germany, May 2009 ISEGA Certificate of Conformity 31964 U 11
-----------------------------	---

## Product Data

<b>Appearance/Colours:</b>	Resin	Part A	brownish-transparent liquid
	Hardener	Part B	transparent liquid

<b>Packaging</b>	New size:	Current size:
	Part A 23.7kg	Part A 14.35g
	Part B 6.3kg	Part B 3.81kg
	Part A+B 30kg	Part A+B 18.16kg ready to mix units

<b>Storage &amp; Shelf Life:</b>	Twenty Four (24) months from date of production if stored properly in original, unopened and undamaged sealed packaging, in dry conditions at temperatures between +5° and +30°
----------------------------------	---

## Technical Data

<b>Chemical base:</b>	Epoxy	
<b>Density:</b>	Part A	~ 1.6kg/l
	Part B	~ 1.0kg/l
	Mixed Resin	~ 1.4kg/l
	(All density values at +23°C)	
<b>Solids content:</b>	~ 100% (by volume) / ~ 100% (by weight)	DIN EN ISO 2811-1

## Mechanical / Physical Properties

<b>Compressive strength:</b>	Mortar screed*: ~ 45N/mm <sup>2</sup> (28 days / +23°C / 50% r.h.)	(EN 113892-2)
	*Mortar screed: SR-161 mixed 1:10 with SR-280 filler	

<b>Flexural strength:</b>	Mortar screed: ~ 15N/mm <sup>2</sup> (28 days / +23°C / 50% r.h.)	(EN 13892-2)
---------------------------	---	--------------

<b>Bond strength:</b>	>1.5N/mm <sup>2</sup> (failure in concrete)	(ISO 4624)
-----------------------	---	------------

<b>Shore 'D' hardness:</b>	76 (7 days / +23°C)	(DIN 53505)
----------------------------	---------------------	-------------

<b>Thermal resistance</b>	<b>Exposure*</b>	<b>Dry heat</b>
	Permanent	+50°C
	Short-term max. 7d	+80°C
	Short-term max. 12h	+100°C

Short-term moist/wet heat\* up to +80°C where exposure is only occasional (steam cleaning, etc.).

\* No simultaneous chemical and mechanical exposure and only in combination with Sikafloor systems as a broadcast system with approx. 3 - 4mm thickness



<b>USGBC, LEED Rating</b>	Sikafloor-161 conforms to the requirement of LEED EQ Credit4.2: Low-Emitting Material: Paint & Coatings SCAQMD Method 304-91 VOC Content < 100g/l
---------------------------	--

## System Information

### System Structure

#### Primer

Low/medium porosity concrete: 1-2 x Sikafloor-161  
High porosity concrete: 2 x Sikafloor-161

#### Levelling mortar fine (surface roughness < 1mm)

Primer: 1-2 x Sikafloor-161  
Levelling mortar: 1 x Sikafloor-161 + Sika Aggregate 508 + Extender T

#### Levelling mortar medium (surface roughness up to 2mm)

Primer: 1-2 x Sikafloor-161  
Levelling mortar: 1 x Sikafloor-161 + Sika Aggregate 508 + Extender T

#### Intermediate Layer (self-smoothing 1.5 to 3mm)

Primer: 1 x Sikafloor-161  
Levelling mortar: 1 x Sikafloor-161 Sika Aggregate 508

#### Epoxy screed (15 – 20 mm layer thickness) / repair mortar

Primer: 1-2 x Sikafloor-161  
Bonding bridge: 1 x Sikafloor-161  
Screed: 1 x Sikafloor-161 + Sika Aggregate 506

In practice the following sand mixtures proved to be suitable (grain size distribution for layer thicknesses of 15 - 20mm):

25pbw quartz sand 0.1 - 0.5mm  
25pbw quartz sand 0.4 - 0.7mm  
25pbw quartz sand 0.7 - 1.2mm  
25pbw quartz sand 2 - 4mm

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 Details

### Consumption/Dosage

Coating System	Product	Consumption
Priming	1 - 2 x Sikafloor-161	1 - 2 x 0.35 - 0.55kg/m <sup>2</sup>
Levelling mortar fine (surface roughness <1mm)	1pbw Sikafloor-161 + 0.5pbw Sika Aggregate 508 + 0.015pbw Extender T	1.7kg/m <sup>2</sup> /mm
Levelling mortar medium (surface roughness up to 2mm)	1pbw Sikafloor-161 + 1pbw Sika Aggregate 508 + 0.015pbw Extender T	1.9kg/m <sup>2</sup> /mm
Intermediate layer (self smoothing 1.5 to 3mm)	1pbw Sikafloor-161 + Sika Aggregate 508  + optional broadcast Sika Aggregate 501	1.9kg/m <sup>2</sup> /mm  ~ 4.0kg/m <sup>2</sup>
Bonding bridge	1 - 2 Sikafloor-161	1 - 2 x 0.3 - 0.5kg/m <sup>2</sup> a
Epoxy screed (15 - 20mm layer thickness) / Repair Mortar	1 pbw Sikafloor-161+ 8 pbw quartz sand	2.2kg/m <sup>2</sup> /mm

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

### Substrate Quality

- Concrete substrates must be sound and of sufficient compressive strength (minimum 25 N/mm<sup>2</sup>) with a minimum pull off strength of 1.5 N/mm<sup>2</sup>.
- 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.



## Surface Preparation

- Concrete substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and achieve a profiled open textured surface.
- Weak concrete must be removed and surface defects such as blowholes and voids must be fully exposed.
- Repairs to 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 up in order to achieve an even surface.
- High spots can 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.

## Application Conditions

**Substrate Temperature:** +10°C min. / +30°C max.

**Ambient Temperature:** +10°C min. / +30°C max.

**Substrate Moisture:**

**Content:**

< 6% pbw moisture content using the Sika Tramex meter (at the time of application).

Please note that the moisture content must be < 4 % pbw when using the CM-measurement or Oven-dry-method.

Test method: Sika Tramex meter, CM-measurement or Oven-dry method.

No rising moisture according to ASTM (Polyethylene sheet).

If moisture content is > 4% pbw Sikafloor EpoCem may be applied as a T.M.B (Temporary Moisture Barrier) system.

**Relative Air Humidity:** 80% r.h. max.

**Dew Point:**

Beware of condensation! The substrate and uncured floor must be at least 3°C above the 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.

## Application Instructions

**Mixing**

- Part A : Part B = 79 : 21 (by weight)

**Mixing Time**

- Prior to mixing, stir Part A mechanically. When all of Part B has been added to Part A, continuously mix for 3 minutes until a uniform mix has been achieved.
- When Parts A and B have been mixed, add the quartz sand and if required the Extender T and mix for a further 2 minutes until a uniform mix has 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 entrainment.

**Mixing Tools**

- Sikafloor-161 must be mechanically mixed using an electric power 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 Method/Tools** Prior to application, confirm substrate moisture content, r.h. and dew point.

### *Primer*

Make sure that a continuous, pore free coat covers the substrate. If necessary, apply two priming coats. Apply Sikafloor-161 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.

### *Intermediate Layer*

Sikafloor-161 is poured, spread evenly by means of a serrated trowel. Roll immediately in two directions with spiked roller to ensure even thickness and if required broadcast with quartz sand, after about 15 minutes (at +20°C) but before 30 minutes (at +20°C), at first lightly and then to excess.

### *Bonding Bridge*

Apply Sikafloor-161 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 - 90rpm).



<b>Cleaning of Tools</b>	Clean all tools and application equipment immediately after use with <b>Sika Thinner C</b> . Hardened or cured material can only be removed mechanically.			
<b>Pot life</b>	<i>Temperature</i>	<i>Time</i>		
	+10°C	~ 50 minutes		
	+20°C	~ 25 minutes		
	+30°C	~ 15 minutes		
<b>Waiting Time / Overcoatability</b>	Before applying solvent free products on Sikafloor-161 allow:			
	<i>Substrate Temperature</i>	<i>Minimum</i>	<i>Maximum</i>	
	+10°C	24 hours	4 days	
	+20°C	12 hours	2 days	
	+30°C	8 hours	24 hours	
	Before applying solvent containing products on Sikafloor-161 allow:			
	<i>Substrate Temperature</i>	<i>Minimum</i>	<i>Maximum</i>	
	+10°C	36 hours	6 days	
	+20°C	24 hours	4 days	
	+30°C	16 hours	2 days	
	Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.			
<b>Notes on Application / Limitations</b>	<ul style="list-style-type: none"> <li>Do not apply Sikafloor-161 on substrates with rising moisture.</li> <li>Freshly applied Sikafloor-161 should be protected from damp, condensation and water for at least 24 hours.</li> <li>Sikafloor-161 mortar screed is not suitable for frequent or permanent contact with water unless sealed.</li> <li>Practical trials should be carried out for mortar mixes to assess suitable aggregate grain size distribution.</li> <li>For external applications, apply while the temperature is falling. If applied during rising temperatures "pin holing" may occur from rising air.</li> </ul> <p>These pinholes can be closed after a soft grinding by applying a scratch coat of Sikafloor-161 mixed with approx. 3% of Extender T.</p> <p>Construction joints require pre-treatment. Treat as follows:</p> <p><i>Static Cracks</i> Prefill and level with Sikadur or Sikafloor epoxy resin.</p> <p><i>Dynamic Cracks</i> To be assessed. If necessary apply a stripe coat of elastomeric material or design as a movement joint.</p> <p>The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking.</p> <p>Under certain conditions, underfloor heating or high ambient temperatures combined with high point loading, may lead to imprints in the resin.</p> <p>If heating is required do not use gas, oil, paraffin or other fossil fuel heaters, these produce large quantities of both CO<sub>2</sub> and H<sub>2</sub>O water vapour, which may adversely affect the finish. For heating use only electric powered warm air blower systems.</p>			
<b>Curing Details</b>	<i>Temperature</i>	<i>Foot Traffic</i>	<i>Light Traffic</i>	<i>Full Cure</i>
<b>Applied Product Ready for Use</b>	+10°C	~ 24 hours	~ 6 days	~ 10 days
	+20°C	~ 12 hours	~ 4 days	~ 7 days
	+30°C	~ 8 hours	~ 2 days	~ 5 days
	<b>Note:</b> Time are approximate and will be affected by changing ambient conditions.			
<b>Notes</b>	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.			
<b>Local Restriction</b>	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 product uses.			



## Health & Safety Information



For further information refer to the Sika Safety Data Sheet which is available on [www.sika.co.nz](http://www.sika.co.nz), or on request. If in doubt always follow the directions given on the pack or label.

## 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.**

The resin floor systems as well as 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 New Zealand		
07 <sup>1)</sup>		07 <sup>1)</sup>
EN 13813 SR-B1,5-AR1-IR 4		EN 13 813 SR-B1,5
Resin screed/coating for indoors in buildings (systems as per Product Data Sheet)		Primer (systems as per Product Data Sheet)
Reaction to fire:	E <sub>fl</sub> <sup>2)</sup>	NPD <sup>3)</sup>
Release of corrosive substances (Synthetic Resin Screed):	SR	SR
Water permeability:	NPD <sup>3)</sup>	NPD
Abrasion Resistance:	AR1 <sup>4)</sup>	NPD
Bond strength:	B 1,5	B 1,5
Impact Resistance:	IR 4	NPD
Sound insulation:	NPD	NPD
Sound absorption:	NPD	NPD
Thermal resistance:	NPD	NPD
Chemical resistance:	NPD	NPD

<sup>1)</sup> Last two digits of the year in which the marking was affixed.

<sup>2)</sup> Min. classification, please refer to the individual test certificate..

<sup>3)</sup> No performance determined.


<sup>4)</sup> 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 New Zealand	
08 <sup>1)</sup>	
0921-CPD-2017	
EN 1504-2	
Surface Protection Product Coating <sup>2)</sup>	
Abrasion resistance (Taber test):	< 3000mg
Permeability to CO <sub>2</sub> :	S <sub>D</sub> > 50m
Permeability to water vapour:	Class III
Capillary absorption and permeability to water:	w < 0.1kg/m <sup>2</sup> x h <sup>0.5</sup>
Resistance to severe chemical attack: <sup>3)</sup>	Class II
Impact resistance:	Class II
Adhesion strength by pull-off test:	≥ 2.0N/mm <sup>2</sup>
Fire Classification: <sup>4)</sup>	E <sub>fl</sub>

<sup>1)</sup> Last two digits of the year in which the marking was affixed.

<sup>2)</sup> Tested as a part of a system build-up with Sikafloor®-263 SL.

<sup>3)</sup> Please refer to the Sikafloor® Chemical Resistance Chart.

<sup>4)</sup> 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**) 500g/l (Limit 2010) for the ready to use product.

The maximum content of **Sikafloor-161** 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.



**Sika (NZ) Limited**  
PO Box 19192, Auckland 1746, NZ  
0800 745 269 | www.sika.co.nz

**Innovation & Consistency** | since 1910