

Product Data Sheet
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Identification no:
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Sikafloor®-Level®-5N

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Polymer modified cementitious self smoothing sub-floor screed

Construction

Product Description

Sikafloor®-Level®-5N is a one part polymer modified, self-smoothing sub-floor cementitious screed for manual or pump application.

Uses

- Sikafloor®-Level®-5N can be applied to achieve rapid flat, economic substrate levelling between 0.5-10 mm prior to the application of the final floor finish
- Light to medium traffic indoor areas in commercial buildings, domestic and public buildings such as hospitals, schools, etc.

Characteristics / Advantages

- Self smoothing and highly fluid
- Can be applied over old tile adhesive, quarry tiles, sand and cement screeds with suitable primer system
- Excellent underlay for resin flooring, tiles, sheet systems, carpet, wood and laminate floors, which can be laid within 24 hours
- Rapid drying
- 4 hour walk on time (+20°C)
- Protein free
- Low odour. Very low VOC emissions.
- Non hazardous and environmentally friendly.

Tests

Approval / Standards

All values indicated are internal test results according to EN-196
Conforms to the requirements of EN 13813: 2002 C30, F5, AR2 mortar

Product Data

Form

Appearance / Colours

Powder
Standard grey

Packaging

20 kg unit



Storage

Storage Conditions / Shelf Life 6 months from date of production if stored properly in original, unopened and undamaged packaging in dry conditions at temperatures between +5°C and +30°C.

Technical Data

Chemical Base Polymer modified Portland cement

Density 2.05 kg/l (wet mixed)
1.23 kg/l (dry bulk)

Layer Thickness 0.5 mm min. / 10 mm max.

Mechanical / Physical Properties

Compressive Strength > 15 N/mm² (after 24 hours / +20°C) EN 196-1
> 30 N/mm² (after 28 days / +20°C) EN 196-1

Flexural Tensile Strength > 7.5 N/mm² (after 28 days / +20°C) EN 196-1

Bond Strength > 1.5 N/mm² (after 28 days / +20°C) NF - P - 18.852

System Information

System Structure

Final Top Surface	Substrate Priming System	Screed Layer	Multi-layer Bonding Primer	Topping
Open for water vapour diffusion	Sikafloor-155W (~ 0,3 kg/m ²) fully blinded with quartz sand (0.6-1.2 mm or 0.4 -0.7 mm) Sand consumption : more than 2 kg/m ²	Sikafloor®-Level®-5N	Sikaguard 552W Aquaprimer (0.1-0.2 l/m ²) (wet on wet)	Vapour permeable system i.e. Sikafloor®-2530W
Sealed with an impervious system (resin/sheet/tile) (Where a DPM is already existing)	Sikafloor-156 (~ 0,3 kg/m ²) fully blinded with quartz (0.6-1.2 mm or 0.4 -0.7 mm) Sand consumption : more than 2 kg/m ²			Sikafloor® Primer + Sikafloor® Resin System ----- Conventional Flooring Carpet/Wood/ Sheet/Tile System

Application Details

Consumption ~ 1.52 kg/m²/mm

This figure is theoretical and does not include for any additional material required 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 (min. 25 N/mm²) with a minimum pull off strength of 1.5 N/mm².

The surface must be clean, dry and free of all contaminants e.g. dirt, oils, grease, coatings and surface treatments etc.

If in doubt apply a test area first.

Substrate Preparation / Priming	<p>Concrete substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and achieve a profiled open textured surface.</p> <p>Weak concrete must be removed and surface defects such as blow holes and voids must be fully exposed.</p> <p>Repairs to the substrate, filling of blowholes/voids must be carried out using appropriate products from the SikaTop[®], Sika[®] MonoTop[®], Sikafloor[®], Sikadur[®] and Sikagard[®] range of materials.</p> <p>All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by brush and/or vacuum.</p> <p>Ensure that an effective damp proof membrane is in place before installation of Sikafloor[®]-Level[®]-5N.</p> <p>Prime the substrate using the appropriate primer (see system table) and broadcast quartz sand, ensuring full blinding of the wet primer, without any bald spots. Remove any excess or loose sand from the surface when cured.</p>										
Application Conditions / Limitations	<table border="1"> <tr> <td data-bbox="311 698 582 734">Substrate Temperature</td> <td data-bbox="622 698 1527 734">+10°C min. / +30°C max.</td> </tr> <tr> <td data-bbox="311 745 582 781">Ambient Temperature</td> <td data-bbox="622 745 1527 781">+10°C min. / +30°C max.</td> </tr> <tr> <td data-bbox="311 792 582 981">Substrate Humidity</td> <td data-bbox="622 792 1527 981"> <p>Test method: Sika-Tramex meter or CM-measurement.</p> <p>No rising moisture according to ASTM (Polyethylene-sheet test)</p> <p>< 4% pbw if priming with Sikafloor[®]-156</p> <p>< 6% pbw if priming with Sikafloor[®]-155W</p> <p>For further information please consult the Product Data Sheet of the primer used.</p> </td> </tr> <tr> <td data-bbox="311 992 582 1028">Relative Air Humidity</td> <td data-bbox="622 992 1527 1028">~ 80% max.</td> </tr> <tr> <td data-bbox="311 1039 582 1137">Dew Point</td> <td data-bbox="622 1039 1527 1137"> <p>Beware of condensation!</p> <p>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.</p> </td> </tr> </table>	Substrate Temperature	+10°C min. / +30°C max.	Ambient Temperature	+10°C min. / +30°C max.	Substrate Humidity	<p>Test method: Sika-Tramex meter or CM-measurement.</p> <p>No rising moisture according to ASTM (Polyethylene-sheet test)</p> <p>< 4% pbw if priming with Sikafloor[®]-156</p> <p>< 6% pbw if priming with Sikafloor[®]-155W</p> <p>For further information please consult the Product Data Sheet of the primer used.</p>	Relative Air Humidity	~ 80% max.	Dew Point	<p>Beware of condensation!</p> <p>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.</p>
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Application Instructions	<p>Mixing (Ratio / Dosage) <i>Hand application</i></p> <p>Add the dry powder (20 kg) slowly to a suitable container with 5.2 litres of clean water. Using a low speed electric drill with a mixing paddle and mix until a smooth, lump free, uniform consistency is achieved. The water addition must be 5.2 l per 20 kg of material (26%).</p> <p>Leave material to stand in the container until the majority of air bubbles have dispersed.</p> <p><i>Pump application</i></p> <p>With a conventional floor screed dual stage mixer and pump, control the water dosage to achieve the following flow, measuring the final average diameter on a flat clean dry flow table</p> <p>Flow – 210 ± 10mm (@ 5.2 litres per 20kg)</p> <p>Flowcone – Internal diameter 45mm, height 68mm</p>										
Mixing Time	Mix thoroughly for a minimum of 3 minutes for hand application.										
Mixing Tools	<p>Use a low speed electric stirrer (300-400 rpm) for hand application.</p> <p>A dual stage mixer and pump or continuous mixer pump can be used for machine application</p>										
Application Method / Tools	<p>Place the mixed material by hand or pump onto the primed surface and apply by trowel or pin screed rake to the required thickness. Thoroughly spike roll in two directions to remove any entrapped air. It is not essential to use a spiked roller if subsequently applied floor finishes do not require a pin hole free finish. i.e. carpet, tiles etc.</p> <p>Any residual trowel marks can be removed when the screed is dry by rubbing the surface with a carborundum stone or similar abrasive.</p>										

Cleaning of Tools

Clean all tools and application equipment with water immediately after use. Hardened / cured material can only be mechanically removed.

Potlife

Temperature	Time
+10 °C	45 minutes
+20 °C	30 minutes
+30 °C	15 minutes

Waiting Time / Overcoatability

Before applying the following coatings, allow:

Product type	Waiting time
Water based materials	4 hours
Solvent free materials	24 hours
Solvent containing materials	36 hours

Times are approximate at +20 °C and 50% r.h. and will be affected by changing substrate and ambient conditions, particularly temperature and relative humidity.

Notes on Application / Limitations

Freshly applied Sikafloor®-Level®-5N must be protected from condensation and water for at least 24 hours.

Do not exceed the recommended water dosage.

Temperatures below +20 °C extend the drying times.

Temperature variations will affect the pot life. Application at temperatures above +20 °C will have reduced pot life and working time.

Sikafloor®-Level® 5N does not provide an aesthetic finish or a wearing surface. Product must always be overcoated.

Do not use Sikafloor®-Level®-5N in areas where it can be exposed to dampness, such as underground floors without effective damp proof membrane, or outdoors without suitable watertight overcoating or protection.

Make sure the primer is fully blinded with aggregate and no "bald patches" remain.

Not suitable for slopes or inclines > 0.5%.

Protect from direct sunlight, hot or strong winds and extremes of temperature to avoid cracking or crazing.

When overcoating with Sikafloor® resins, additional mechanical preparation may be required to remove any laitance which may have formed during application.

When overcoating Sikafloor®-Level®-5N ensure the moisture content has achieved the required value for the coating product, as times will vary with application thickness and ambient humidity. (Refer to the top coat product data sheet)

In all circumstances proper sealing of all construction and expansion joints using e.g. Sikaflex® Pro 3WF must be ensured to prevent any ingress of water.

Curing Details**Applied Product ready for use**

Temperature	Foot traffic	Light use	Fully serviceable
+10°C	~ 8 hours	~ 48 hours	~ 96 hours
+20°C	~ 4 hours	~ 24 hours	~ 48 hours
+30°C	~ 2 hours	~ 12 hours	~ 24 hours

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

Value Base

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.

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.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

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.

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 Limited Watchmead Welwyn Garden City Hertfordshire AL7 1BQ United Kingdom	
05 ¹⁾	
EN 13813 CT – C30 – F5 – AR2	
Cementitious screed material for indoors in buildings (systems as per Product Data Sheet)	
Reaction to fire:	A2 _(fl)
Release of corrosive substances (Cementitious Screed):	CT
Water permeability:	NPD ²⁾
Water vapour permeability	NPD
Compressive strength	C30
Flexural strength	F5
Abrasion:	AR2
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⁾ No performance determined



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