

Sikagard®-63 N

2-part epoxy protective coating

Product Description Sikagard®-63 N is a total solid (acc. test method of "Deutsche Bauchemie*"), two part epoxy resin coating.

* German Association of Construction Chemicals

Uses

- Abrasion resistant universal coating material designed for normal to highly aggressive chemical environments
- For use on concrete, cementitious mortars and rendering, epoxy mortars (including Sika®-EpoCem), steel and aluminium
- For protective lining of storage tanks, silos and bund areas
- Anti-corrosion coating in food and beverage processing plants, sewage works, agricultural, chemical and pharmaceutical plants, bottling plants etc.

Characteristics / Advantages

- Very good chemical and mechanical resistance
- Liquid proof (according to the products chemical resistance table)
- Easy application
- Solvent free

Product Data

Test

USGBC LEED Rating Sikagard®-63N conforms to the requirements of LEED EQ Credit 4.2: Low -Emitting Materials: Paints & Coatings
SCAQMD Method 304-91
VOC Content < 100g/l

Form

Appearance / Colours Resin - Part A: coloured, liquid
Hardener - Part B: transparent, liquid

Pebble grey (~ RAL 7032). Additional colour shades on request.

Under direct sun radiation there may be some discolouration and colour deviation; this has no influence to the function and performance of the coating.

Packaging Part A: 8.7 kg containers
Part B: 1.3 kg, containers
Part A+B: 10 kg ready to mix units

Storage

Storage Conditions/ Shelf-Life 12 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. Protect from direct sunlight.



Technical Data

Chemical Base	Epoxy resin
Density	Mixed resin: ~ 1.35 kg/l Density value at +23°C. (DIN EN ISO 2811-1)
Solid Content	~ 100% (by volume), ~ 100 % (by weight)
Thermal Expansion Coefficient	~ 75 x 10 ⁻⁶ per °K (temperature range: -10°C to +40°C)
Water Vapour Diffusion Coefficient (μH₂O)	μ H ₂ O = ~ 100.000

Mechanical / Physical Properties

Bond Strength	<i>Substrate:</i> Concrete: > 1.5 N/mm ² (failure in concrete) (DIN EN 13892-8) Steel (SA 2.5): ~ 24 N/mm ² (DIN EN 24624) Aluminum: ~ 16 N/mm ² (DIN EN 24624)
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Resistance

Chemical Resistance See separate chemical resistance list

Thermal Resistance

Exposure*	Dry heat
Permanent	+40°C
Short-term max. 7 d	+80°C
Short-term max. 12 h	+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.

System Information

System Structure

Roller coating:
Primer*: 1 x Sikafloor®-156
Coating: 2 - 3 x Sikagard®-63 N

*optional, only recommended for use on strongly absorbent surfaces.

Application Details

Consumption / Dosage

Coating System	Product	Consumption
On horizontal surfaces		
Primer	1 x Sikafloor®-156	approx. 0.35 kg/m ²
Roller coating	2 -3 x Sikagard®-63 N	0.3-0.5 kg/m ² per coat, dependent on substrate condition and required coating thickness
On vertical surfaces		
Primer	1 x Sikafloor®-156	approx 0.35 kg/m ²
Roller coating	2 -3 x Sikagard®-63 N	approx 0.15 kg/m ² per coat

Notes: For a theoretical dry film thickness of 100 microns (0.1 mm) approx. 0.15 kg/m² must be applied.

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

Substrate Quality	<p>The concrete substrate must be sound and of sufficient compressive strength (minimum 25 N/mm²) with a minimum pull off strength of 1.5 N/mm².</p> <p>The substrate must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings and surface treatments, etc.</p> <p>If in doubt apply a test area first.</p>
Substrate Preparation	<p>Concrete substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and achieve an open textured surface.</p> <p>Weak concrete must be removed and surface defects such as blowholes and voids must be fully exposed.</p> <p>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.</p> <p>The concrete or screed substrate has to be primed or levelled in order to achieve an even surface.</p> <p>High spots must be removed by e.g. grinding.</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>Steel surfaces must be prepared by blast cleaning to Sa 2 ½ (ISO 8501-1) or SSPC-SP 10. All weld splatter has to be removed totally, joints and welds must be grinded in accordance with EN 14879-1. An average surface profile R_z ≥ 50µm must be achieved, the substrate has to be free from contaminants detrimental to adhesion, preferably by high pressure water jetting prior of blast cleaning.</p> <p>Aluminium surfaces must be prepared by sweep-blasting. An average surface profile R_z ≥ 50µm must be achieved, the substrate has to be free from contaminants detrimental to adhesion, preferably by high pressure water jetting prior of sweep blasting</p>

Application Conditions / Limitations

Substrate Temperature	+10°C min. / +30 °C max.
Ambient Temperature	+10C min. / +30 °C max.
Substrate Moisture Content	<p>≤ 4% pbw moisture content.</p> <p>Test method: Sika®-Tramex meter, CM - measurement or Oven-dry-method.</p> <p>No rising moisture according to ASTM (Polyethylene-sheet).</p>
Relative Air Humidity	80% r.h. max.
Dew Point	<p>Beware of condensation!</p> <p>The substrate and uncured coating must be at least 3°C above dew point to reduce the risk of condensation or blooming on the coating surface.</p> <p>Note: Low temperatures and high humidity conditions increase the probability of blooming.</p>

Application Instructions

Mixing	Part A : part B = 87 : 13 (by weight)
Mixing Time	<p>Prior to mixing, stir part A mechanically. When all of part B has been added to part A, mix continuously for 2 minutes until a uniform mix has been achieved.</p> <p>To ensure thorough mixing pour the material into another container and mix again to achieve a consistent mix.</p> <p>Over mixing must be avoided to minimise air entrapment.</p> <p>After mixing allow the material to stand for 3 minutes.</p>
Mixing Tools	Sikagard®-63 N 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% moisture content, Sikafloor® EpoCem® Mortars or Sikagard®-720 EpoCem should be applied as a T.M.B. (temporary moisture barrier) system.

Coating:

Sikagard®-63 N, can be applied with a stiff brush or a short piled, solvent resistant roller.

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

Temperatures	Time
+10°C	~ 30 minutes
+20°C	~ 20 minutes
+30°C	~ 10 minutes

Waiting Time / Overcoating

Before applying Sikagard®-63 N on Sikafloor®-156:

Substrate Temperature	Minimum	Maximum
+10°C	24 hours	4 days
+20°C	12 hours	2 days
+30°C	6 hours	1 day

Before applying Sikagard®-63 N on Sikagard®-63 N

Substrate Temperature	Minimum	Maximum
+10°C	9 hours	3 days
+20°C	5 hours	2 days
+30°C	4 hours	1 day

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

Notes on Application / Limitations

Do not apply Sikagard®-63 N on substrates with rising moisture.

Freshly applied Sikagard®-63 N must be protected from damp, condensation and water for at least 24 hours.

If > 4% moisture content, Sikafloor® EpoCem® may be applied as a T.M.B. (temporary moisture barrier) system.

Avoid puddles on the surface with the primer.

Sag resistance: <150 µm (wet film thickness).

The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking.

For exact colour matching, ensure Sikagard®-63 N is applied from the same control batch numbers.

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

Tools

Recommended Supplier of Tools:

PPW-Polyplan-Werkzeuge GmbH, Phone: +49 40/5597260, www.polyplan.com.

Curing Details

Applied Product ready for use

Temperature	Foot Traffic	Full cure
+10°C	~ 24 hours	~ 15 days
+20°C	~ 18 hours	~ 9 days
+30°C	~ 12 hours	~ 7 days

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

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.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users shall 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.

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 140 g/l (limit 2010) for the ready to use product. The maximum content of **Sikagard® 63 N** is < 140 g/l VOC for the ready to use product.



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