

Product Data Sheet
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Sikafloor®-3 QuartzTop ZA

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Coloured mineral dry shake floor hardener

Product Description	Sikafloor®-3 QuartzTop ZA is a one part, pre-blended, coloured mineral dry shake hardener for concrete comprising of cement, specially selected quartz mineral aggregates, admixtures and pigments.
Uses	<ul style="list-style-type: none">■ Sikafloor®-3 QuartzTop ZA provides a hard wearing, mineral dry shake topping for monolithic floors. When sprinkled and trowelled into fresh wet concrete floors, it forms a coloured, wear resistant smooth surface■ Typical uses are in warehouses, factories, shopping malls, public areas, restaurants and museums
Characteristics / Advantages	<ul style="list-style-type: none">■ Good wear resistance rating■ Impact resistance■ Cost effective surface hardener■ Dust proof■ Easy cleaning■ Increased resistance to oils and grease■ Quality assured factory blending■ Wide range of colours■ Suppresses superficial fibres in concrete
Tests	
Approval / Standards	Conforms to the requirements of BS 8204, EN 206/1, ACI 304.1R 96 and TR 34. UK Aston University, Report N°: AL/AR 290598, dated 29.05.98. GEOCISA Ref. P-02/01637 dated Jan. 9, 2003.
Product Data	
Form	
Appearance / Colours	Powder Natural (concrete grey). Other colours upon request.
Packaging	25 kg bags
Storage	
Storage Conditions / Shelf-Life	12 months from date of production if stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5°C and +30°C.



Technical Data

Chemical Base	Natural mineral aggregates graded and mixed with cement, admixtures and pigments.
Density	~ 1.5 ± 0.1 kg/l (bulk density)
Layer Thickness	~ 2.5 to 3.0 mm at the recommended coverage of ~ 5.0 kg/m ²

Mechanical / Physical Properties

Abrasion Resistance	Class "AR2" High abrasion resistance (Less than 0.2 mm wear depth)	(EN 13892-4 and BS 8204 Part 2)
	At least 4950 mg Taber Abrader H-22 / 1000 gr / 1000 cycles	(UNE 48.250-92 / ASTM D-4060)

System Information

System Structure	Use products mentioned below as indicated in their respective Product Data Sheets.	
	Substrate:	Fresh concrete slab (See Substrate Quality below)
	Dryshake:	Manual or machine application of Sikafloor®-3 QuartzTop ZA Levelling of surface by means of power trowel or laser screed. Final smoothing with power trowel.
	Curing compound:	Application of any of the products in the Sikafloor® ProSeal range.

Application Details

Consumption	~ 5 kg/m ² . This figure does not allow for surface profile and wastage.
Substrate Quality	<p>The concrete deliveries must be of consistent quality.</p> <p>A concrete slump in the range 75 to 110 mm will normally give best results.</p> <p>The slab must be of good quality concrete with a minimum water/cement ratio consistent with the production of a fully compacted slab.</p> <p>The compressive strength must be a minimum of 25 N/mm².</p> <p>Use of Sikament® or Sika Viscocrete® super plasticisers is advised to ensure the optimum quality of concrete and where fibres are used, their optimum dispersion within the mix.</p> <p>Air Entrained Concrete is not a suitable substrate for the application of dry shake hardeners.</p>

Application Conditions / Limitations

Substrate Temperature	+5°C min. / +35°C max.
Ambient Temperature	+5°C min. / +35°C max.
Relative Air Humidity	30% r.h. min. / 98% r.h. max.

Application Instructions

Application Method / Tools

(i) Mechanical Application - Automatic spreader in conjunction with a laser screed:

Spread Sikafloor®-3 QuartzTop ZA evenly onto the concrete immediately after screeding at 5 kg/m² in one application.

(ii) - Manual application:

Dependent on the conditions, remove the surface bleed water or allow it to evaporate. Sprinkle Sikafloor®-3 QuartzTop ZA onto the screeded concrete evenly in 2 stages (first stage: 3 kg/m²; second stage: 2 kg/m²).

Care must be taken to apply the product without creating ripples etc. in the concrete surface. Overall application rate 5 kg/m². Casting Sikafloor®-3 QuartzTop ZA powder carelessly or further than 2 metres from point of casting will reduce the consistency of finish.

Compaction:

The first application must be worked into the slab followed immediately by the application of the second stage quantity of Sikafloor®-3 QuartzTop ZA.

Notes:

- Never add water to the surface where the dry shake has been applied.
- Sikafloor®-3 QuartzTop ZA results in the slab surface becoming stiff more quickly than usual. Careful trimming must take place along the edges where adjoining slabs are to be poured.
- Final finishing to close pores and remove undulations can be achieved either by hand or powered trowel.

Cleaning of Tools

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

Application Time

Application time for dry shake products is influenced by every variable which affects the placing of concrete, and can therefore vary substantially, depending on the prevailing conditions.

For mechanical application with automatic spreader and laser screed, the spreading can start almost immediately after the concrete has been levelled to allow for the hydration of the dry shake. Compaction with the trowel can start as soon as the weight of the power trowels is supported by the concrete.

For manual application, the dry shake must be spread once the concrete can be stepped on, without leaving a print deeper than 3 - 5 mm.

Periodical checking of the condition and development of the concrete will determine the correct time frame for each stage and sequence of application.

Notes on Application / Limitations

The application of the dry shake powder must not be carried out in strong wind or in dry conditions.

Do not use concrete where some cement has been replaced by fly ash, as this makes the mix sticky and less workable.

Variations in concrete characteristics such as water content and cement may lead to slight colour variations.

Dry shake hardeners give a finish to concrete with some colour variation across the floor due to the natural variability of the concrete onto which they are applied.

To ensure optimum of colour consistency, it is essential that the floor laying operation is as clean and protected from the environment as possible.

Colour variation during the drying out period is normal for this system and is to be expected.

Every effort must be made to ensure an even application of Sikafloor®-3 QuartzTop ZA. Correct timing and trowelling techniques are essential.

At low relative humidities (below 40%), efflorescence can appear on the surface.

At high relative humidities (above 80%), bleeding, slower curing and hardening can occur and extended finishing operations be required.

Slip resistance can be enhanced through chemical ageing. Refer to the Method Statement for Application for details.

Curing Details

Curing Treatment

Cure and seal Sikafloor®-3 QuartzTop ZA immediately after finishing using any of the products in the Sikafloor® ProSeal range. (Refer to separate Product Data Sheet). Apply by roller or fine mist spray. Disperse any excess pools using a roller.

Joints:

After finishing operations and completing saw cuts, clean off any residual saw lubricant / slurry without delay. Joints can be filled with Sikaflex® PRO-3WF or another appropriate Sikaflex® sealant in accordance with the floor design requirements.

Applied Product ready for use

Substrate temperature	+10°C	+20°C	+30°C
Foot traffic	~ 18 hours	~ 12 hours	~ 8 hours
Fully serviceable	~ 10 days	~ 7 days	~ 5 days

The above values are dependant upon the concrete reaching its design strength for serviceability and will be affected by changing ambient conditions, particularly temperature and relative humidity.

Cleaning / Maintenance

Methods

To maintain the appearance of the floor after application, Sikafloor®-3 QuartzTop ZA 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.

Qualitative presumptions

To ensure a quality result of the floor system, co-operation between the investor, the designer, and the contractor is necessary. Each of them must perform the following tasks:

INVESTOR:

Provide the correct traffic type specification
Special loading requirements (assembly of technology)
Mechanical, chemical or thermal influence specification (vibration, pulse, point loading etc.)

DESIGNER:

Static design of the slab with consideration of:
Mechanical properties of the sub base (geological prospecting)
Type of loading
Expansion joints
Choice of suitable floor topping

CONTRACTOR:

Checking of the quality of sub base and concrete:

- Insisting on good practises of concrete casting (quality of shuttering, vibrating, placing of reinforcement, flatness...)
 - Careful ensuring of clean working area
 - Even distribution of powder (preparation of the right amount of dry shake bags for the proper floor area)
 - Correct start time of every technological operation
 - Experience in power trowelling
 - Careful manual work on details (edges, corners, columns etc.)
 - Providing floor substrate protection against fast water loss from the fresh laid concrete slab with dry shake.
 - Right choice and execution of joints, attention to details – adherence to designer's directions.
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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 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.



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