

PRODUCT DATA SHEET

Sikafloor® ArmorTop

METALLIC DRY SHAKE FLOOR HARDENER

PRODUCT DESCRIPTION

Sikafloor® ArmorTop is a one part, preblended, coloured metallic dry shake hardener for concrete comprising of cement, hard metallic aggregates, special admixtures and pigments.

USES

Sikafloor® ArmorTop may only be used by experienced professionals.

Sikafloor® ArmorTop provides a non-staining, very hard wearing, metallic dry shake topping for monolithic floors. When sprinkled and trowelled into fresh wet concrete floors, it forms a coloured, very highly wear resistant smooth and dense surface.

Typical uses are in warehouses, heavy duty surfaces or loading bays, prestige areas such as galleries or platforms, high durability requirement distribution centres, manufacturing facilities, transport terminals, power stations, etc.

CHARACTERISTICS / ADVANTAGES

- Highest wear resistance rating
- Excellent impact resistance
- Non staining, non corroding
- Cost effective, long life floor
- Maintenance free
- Slip resistant surface possible
- Dust proof
- Available in a wide range of colours

APPROVALS / STANDARDS

Conforms to the requirements of BS 8204, EN 206/1, ACI 304.1R 96 and TR 34.
UK Aston University, Report N^o: AL/AR 170298, dated 17.02 98.

PRODUCT INFORMATION

Chemical Base	Natural source of selected crushed and graded special metallic aggregates mixed with cement, pigments and admixtures.
Packaging	25 kg bags
Appearance / Colour	Powder. Natural (concrete grey). Other colours upon request.
Shelf Life	9 months from date of production
Storage Conditions	Store in dry conditions at temperatures between +5 °C and +30 °C.
Bulk Density	~ 2.5 kg/l (bulk density)

TECHNICAL INFORMATION

Abrasion Resistance	Class "Special" Severe abrasion resistance, (Less than < 0.05 mm wear depth)	(BS 8204 Part 2)
Reaction to Fire	Classified A1(fl) as indicated by Commission Decision 96/603/EC, as amended.	(EN 13501-1)

SYSTEM INFORMATION

System Structure	Substrate	Fresh concrete slab (See Substrate Quality below)
	Dry Shake	Manual or machine application of Sikafloor® ArmorTop. Levelling of surface by means of power trowel or laser screed. Final smoothing with power trowel. Curing compound
	Curing Compound	Application of any of the solvent based products in the Sikafloor® ProSeal range.

Use products mentioned below as indicated in their respective Product Data Sheets.

APPLICATION INFORMATION

Consumption	~ 5 - 7 kg/m ² . This figure does not allow for, surface profile and loss or wastage.			
Layer Thickness	~ 2.5 to 3.0 mm at the recommended coverage of ~ 5.0 - 7.0 kg/m ²			
Ambient Air Temperature	+5 °C min. / +35 °C max.			
Relative Air Humidity	30 % r.h. min. / 98 % r.h. max.			
Substrate Temperature	+5 °C min. / +35 °C max.			
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 dependent upon the concrete reaching its design strength for serviceability and will be affected by changing ambient conditions, particularly temperature and relative humidity.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

The concrete deliveries must be of consistent quality. A concrete slump in the range 75 to 110 mm will normally give best results. The slab must be of good quality concrete with a minimum water/cement ratio, consistent with the production of a fully compacted slab. The compressive strength must be a minimum of 25 N/mm².

The use of Sikament® or Sika Viscocrete® super plasticisers is advised to ensure the optimum quality of the concrete and where fibres are used, ensure their optimum dispersion within the mix.

Air Entrained Concrete is not a suitable substrate for the application of dryshake hardeners.

APPLICATION

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

Spread Sikafloor® ArmorTop evenly onto the concrete immediately after screeding at ~ 5 - 7 kg/m² in one application.

Manual application:

Dependent on the conditions, remove the surface "bleed" water or allow it to evaporate. Sprinkle Sikafloor® ArmorTop onto the screeded concrete evenly in 2 stages (first stage: ~ 3 - 4 kg/m²; second stage: ~ 2 - 3 kg/m²).

Care must be taken to apply the product without creating ripples etc. in the concrete surface. Overall application rate ~ 5 - 7 kg/m².

Casting Sikafloor® ArmorTop 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® ArmorTop

Notes:

- Never add water to the surface where the dryshake has been applied.
- Sikafloor® ArmorTop 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 trowels.

Application Time

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

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

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

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

CURING TREATMENT

Cure and seal Sikafloor® ArmorTop immediately after finishing using any of the solvent based products in the Sikafloor® ProSeal range. (Refer to separate Product Data Sheets).

Apply by roller or fine low pressure mist spray. Disperse any excess ‘pools’ using a roller.

Joints:

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

CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use.

Hardened / cured material can only be mechanically removed.

MAINTENANCE

CLEANING

To maintain the appearance of the floor after application, Sikafloor® ArmorTop must have all spillages removed immediately and must be regularly cleaned using rotary brushes, mechanical scrubbers, scrubber dryers, high pressure washers, wash and vacuum techniques, etc., using suitable detergents and waxes.

LIMITATIONS

- The application of the dry shake powder must not be carried out in strong winds or draughts.
- Do not use concrete mix designs where some cement has been replaced by fly ash, as this makes the mix sticky and less workable.
- Variations in the concrete characteristics such as water content and cement quality can lead to slight colour variations in the surface finish.
- Dry shake hardeners give a finish to concrete which always has some colour variation across the floor due to the natural variability of the concrete onto which they are applied.
- To ensure optimum colour consistency, it is essential that the floor laying operation is as clean and protected from the environment as possible.
- Wide colour variation during the initial drying out period is normal for this system and is to be expected.
- Every effort must be made to ensure a uniform and even application of Sikafloor® ArmorTop. Correct timings 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 will be required.
- Slip resistance can be enhanced through chemical ageing. Refer to the Sika Information Manual for details.
- Do not apply over air entrained concrete or concrete with an air content greater than 3 %.

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.

ECOLOGY, HEALTH AND SAFETY

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, sub-

strates 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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