PRODUCT DATA SHEET

Sikafloor®-1 MetalTop

METALLIC DRY SHAKE FLOOR HARDENER

PRODUCT DESCRIPTION

Sikafloor®-1 MetalTop is a one part, pre-blended, coloured metallic dry shake hardener for concrete comprising of cement, hard metallic non corroding aggregates, special admixtures and pigments.

USES

Sikafloor®-1 MetalTop may only be used by experienced professionals.

- Sikafloor®-1 MetalTop provides a non-staining, ultra-hard wearing, metallic dry shake topping for monolithic floors. When sprinkled and trowelled into fresh wet concrete floors, it forms a coloured, extremely wear resistant smooth and dense surface
- Typical uses are in warehouses, heavy duty, prestige and high durability requirement distribution centres, factories, 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. Regular cleaning is simply all that is required.
- Slip resistant surface possible
- Dust proof
- Available in a range of colours

APPROVALS / STANDARDS

Cement based screed CT-C70-F7-AR0,5 according to EN 13813, declaration of performance 020803040010000011180, and provided with CE marking.
Cement based screed A_{fl} according to EN 13813, declaration of performance 020803040010000011180, and provided with CE marking.

PRODUCT INFORMATION

Chemical Base	Industrial source of 100% crushed and graded metallic aggregates mixed with cement, pigments and admixtures
Packaging	25 kg bags
Appearance / Colour	Powder Natural (concrete grey) Other colours upon request.
Shelf Life	12 months from date of production
Storage Conditions	Store in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C.
Density	~2750 kg/m³ (after 28 days)

TECHNICAL INFORMATION

Abrasion Resistance	Class AR0.5	(EN13892-4, BCA)
	Class A1,5	(EN 13892-3, Böhme)
	Note: Sikafloor®-1 MetalTop has a very low BCA abrasion depth ~20 µm, and up to 1.5 $cm^3/50\ cm^2$, Böhme.	

SYSTEM INFORMATION

System Structure	Substrate	Fresh concrete slab (See substrate quality below)
	Dry shake	Manual or machine application of Sikafloor®-1 MetalTop Levelling of surface by means of power trowel or laser screed. Final smoothing with power trowel.
	Curing compound	Sikafloor® ProSeal
	Use products mentioned above as indicated in their respective Product Data Sheets.	

APPLICATION INFORMATION

Consumption	~7 kg/m^2 the consumption will depend on application method and the concrete mix (w/c-ratio) This figure does not allow for surface profile and wastage.	
Layer Thickness	~2.5–3.0 mm at the recommended coverage of ~7.0 kg/m^2	
Ambient Air Temperature	+5 °C min. / +35 °C max.	
Relative Air Humidity	30 % min. / 98 % max.	
Substrate Temperature	+5 °C min. / +35 °C max.	
Applied Product Ready for Use	Substrate temperature	Foot traffic
	+10 °C	~18 hours
	+20 °C	~12 hours
	+30 °C	~8 hours
	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 and comply with local standards.
A concrete slump in the range 75 to 110 mm will normally give best results (a slump of up to 150mm is possible with careful mix design).
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/mm^2.
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.
Air Entrained Concrete is not a suitable substrate for the application of dry shake hardeners.

APPLICATION

Mechanical Application - Automatic spreader in conjunction with a laser screed
Spread Sikafloor®-1 MetalTop evenly onto the concrete immediately after screeding at ~7 kg/m^2 in one application.
Manual application
Dependent on the conditions, remove the surface “bleed” water or allow it to evaporate. Sprinkle Sikafloor®-1 MetalTop onto the screeded concrete evenly in 2 stages (first stage: 4 kg/m^2; second stage: 3 kg/m^2).
Care must be taken to apply the product without creating ripples etc. in the concrete surface. Overall application rate 7 kg/m^2. Casting Sikafloor®-1 MetalTop powder carelessly or further than 2 metres from point

lowed immediately by the application of the second stage quantity of Sikafloor®-1 MetalTop.
Notes:
- Never add water to the surface where the dry shake has been applied.
- Sikafloor®-1 MetalTop 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 for closing pores and removing undulations can be achieved either by hand or powered trowels.

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.

CURING TREATMENT

Cure and seal Sikafloor®-1 MetalTop immediately after finishing using the solvent based product Sikafloor® ProSeal. (Refer to separate Product Data Sheet). Apply in a continuous even film by low-pressure spray unit, application also possible by.
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-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®-1 MetalTop 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

- Application of Sikafloor®-1 MetalTop must not be carried out in strong wind or draughts.
- 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 quality 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 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®-1 MetalTop. Correct timing and trowelling techniques are essential.
- At low relative humidity (below 40 %), efflorescence can appear on the surface.
- At high relative humidity (above 80 %), bleeding, slower curing and hardening can occur and extended finishing operations be required.
- Shrinking joints are to be created within two days. Expansion joints are reflected in the surface of the floor.

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 Safety Data Sheet (SDS) 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.

SIKA LIMITED
Watchmead
Welwyn Garden City
Hertfordshire, AL7 1BQ
Tel: 01707 394444
Web: www.sika.co.uk
Twitter: @SikaLimited

SIKA IRELAND LIMITED
Ballymun Industrial Estate
Ballymun
Dublin 11, Ireland
Tel: +353 1 862 0709
Web: www.sika.ie
Twitter: @SikaIreland

FM 12504 EMS 45308 OHS 585274