

Product Data Sheet
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Sika®Chapdur Corundum

Sika®Chapdur Corundum (Sikafloor®-2 SynTop TR)

Non-metallic dry shake floor hardener

Product Description

Sika®Chapdur Corundum is a one part, preblended, coloured high grade mineral aggregate dry shake hardener for concrete comprising of cement, hard aggregates, compatible admixtures and pigment.

Uses

- n Sika®Chapdur Corundum provides a hard wearing, non-metallic dry shake topping for monolithic floors. When sprinkled and trowelled into fresh wet concrete floors, it forms a coloured, very wear resistant smooth surface
- n Typical uses are in warehouses, distribution centres, factories, manufacturing facilities, aircraft hangars, DIY stores, supermarkets, shopping malls, offices and museums

Characteristics / Advantages

- n Very high wear resistance rating
- n Good impact resistance
- n Cost effective, long life floor
- n Maintenance free
- n Slip resistant surface possible
- n Dust proof
- n Increased resistance to oils and grease
- n Available in colours

Tests

Approval / Standards Istanbul Technical University, Report No: 561 dated 24.04.2000

Product Data

Form

Appearance / Colours Powder
Natural, concrete grey, light fume, red, green,
Other colours upon request.

Packaging 25 kg bags

Storage

Storage Conditions / Shelf-Life 6 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 Blend of high grade mineral aggregates mixed with cement, admixtures and pigments.

Density ~ 1.70 kg/l (bulk density)



Mechanical / Physical Properties

Abrasion Resistance	When applied on C 25 concrete (28 days, 23 °C, 70% r.h.), wearing is decreased 70-77% with respect to the unapplied concrete surface. Concrete with Sika®Chapdur Corundum: 2.1 cm ³ / 50 cm ² Reference Concrete: 9,8 cm ³ / 50 cm ² TS 699 (Böhme method)
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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 Sika®Chapdur Corundum Levelling of surface by means of power trowel or laser screed. Final smoothing with power trowel. Curing compound: Application of 'Sika®Top 71 Curing' and 'Sikafloor®ProSeal W' on the concrete. (For information about usage of other types please contact with our Technical Department).
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Application Details

Consumption	Excluding allowances for loss wastage and surface profile; Light duty areas ~ 6 kg/m ² . Medium duty areas ~ 8 kg/m ² Heavy duty areas ~ 10 kg/m ²
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/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. The concrete should contain an adequate proportion of cement (300-350 kg/m ³) and the slab should be at least 15 cm. thick for the best result. Flatten out the freshly poured concrete with a vibrating beam. As soon as its plasticity permits, smooth the concrete preferably using a mechanical trowel. Air Entrained Concrete is not a suitable substrate for the application of dry shake hardeners.

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	<u>(i) Mechanical Application - Automatic spreader in conjunction with a laser screed:</u> Spread decided consumption of Sika®Chapdur Corundum in one application evenly onto the concrete immediately after screeding. <u>(ii) Manual application:</u> Dependent on the conditions, remove the surface "bleed" water or allow it to evaporate. Sprinkle Sika®Chapdur Corundum onto the screeded concrete evenly in 2 stages (first stage: 2/3 of consumption; second stage: 1/3 of consumption).
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Care must be taken to apply the product without creating ripples etc. in the concrete surface. Casting Sika®Chapdur Corundum powder carelessly or further than 2 metres from point of casting will reduce the consistency of finish.

Wait until Sika®Chapdur Corundum has been evenly moistened by the concrete water. Use a low-revving mechanical trowel held perfectly flat.

Compaction:

The first application must be worked into the slab followed immediately by application of the second stage quantity of Sika®Chapdur Corundum.

Notes:

- Never add water to the surface where the dry shake has been applied.
- Sika®Chapdur Corundum 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.
- If parts of the surface come loose or if the laitance rises, this means the concrete is still too fresh.
- As soon as the plasticity or initial set allows, perform preliminary smoothing with the same machine running at low speed but equipped with metal smoothing blades set at the minimum angle. Any final smoothing required should be performed later with the machine running at high speed.

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 concrete has been levelled to allow for the hydration of the dry shakes. Compaction with the trowel can start as soon as 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 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 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 Sika®Chapdur Corundum. 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.

Curing Details

Curing Treatment

Cure and seal Sika®Chapdur Corundum immediately after finishing using Sika®Top 71 Curing and Sikafloor®Proseal W. (Refer to separate Product Data Sheet) Apply by roller of fine mist spray. Disperse any excess pools using a roller.

Joints:

Floor joints should be sawed out with a light saw within 1-7 day(s) after application according to the ambient temperature.

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, Sika®Chapdur Corundum 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.

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.



Sika Yapı Kimyasalları A.Ş.
Deri Org. San. Böl. 2. Yol J-7
Parsel, Aydınli, Orhanlı Mevkii,
34957 Tuzla, İstanbul, Türkiye

Çağrı Merkezi
Telefon
Faks
bilgi@tr.sika.com

+90 216 444 74 52
+90 216 581 06 00
+90 216 581 06 99
www.sika.com.tr

