



PRODUCT DATA SHEET

Sika® Diamag 7®

ECONOMICAL MINERAL SURFACE HARDENER

PRODUCT DESCRIPTION

Sika® Diamag 7® is an economical, mineral broadcast-applied dry shake surface hardener recommended for both interior and exterior use. It contains carefully graded, non-rusting, hard wearing silica-quartz particles which provide an exceptionally durable surface. Special dispersing and plasticizing agents promote ease of incorporation into the concrete surface. Sika® Diamag 7® is premixed and ready-to-use.

WHERE TO USE

Sika® Diamag 7® may only be used by experienced professionals.

- Commercial and industrial facilities subject to moderate levels of abrasion, impact and loading
- Manufacturing and warehouse floors
- Shipping and receiving loading docks
- Food processing areas
- Automotive showrooms and service areas
- Shopping centres and supermarkets
- Roller rinks/Ice rinks
- Aircraft hangars
- Electrical equipment rooms

PRODUCT INFORMATION

CSC MasterFormat®	03 35 16 HEAVY-DUTY CONCRETE FLOOR FINISHING
Packaging	25 kg (55 lb) bag
Shelf Life	1 year in original, unopened packaging.
Storage Conditions	Store dry, ensuring that product is not exposed to rain, condensation or high humidity.

CHARACTERISTICS / ADVANTAGES

- Increased wear resistance provides up to twice the relative serviceable life compared to plain concrete
- Improved overall resistance to abrasion and impact
- Increased surface density improves resistance to oils, greases, and liquid penetration
- Reduces surface wear and dusting lowering routine maintenance and repair costs
- Non-rusting materials make it suitable for application in wet areas
- Can be finished with a surface texture to provide increased traction
- Suppresses the appearance of fibres on the surface of the concrete

APPROVALS / CERTIFICATES

- Meets requirements of CFIA and USDA for use in food plants

Appearance / Colour	Natural Concrete Grey		
Surface Hardness	~6.5 to ~7 (Moh's scale)		
Compressive Strength	28 days	~50 MPa (~7250 psi)	(ASTM C109)
Yield	In-service condition	Dry-shake application rate	
	Light to Medium duty	5 kg/m ² to 6 kg/m ² (1.0 lb/ft ² to 1.2 lb/ft ²)	
	Medium to Heavy duty	6 kg/m ² to 7 kg/m ² (1.2 lb/ft ² to 1.4 lb/ft ²)	

BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

Properties tested at 23 °C (73 °F) and 50 % R.H. unless stated otherwise.

LIMITATIONS

- Protect installation area from direct sunlight and windy conditions that can cause rapid surface drying of the concrete.
- Protect stored material from exposure to rain, condensation and high humidity as moisture may penetrate packaging, causing lumps.
- For best results, condition product to 18 °C to 29 °C (65 °F to 84 °F) prior to mixing and installation. Lower temperatures may result in slower strength development and longer cure times.
- Do not install over concrete containing calcium chloride and or admixtures containing calcium chloride.
- Do not apply over concrete having more than 3 % air content in accordance with CSA A23.1-2019 Clause 7.7.4.3.1.
- Concrete mixes containing more than 20 % cement replacement using Supplementary Cement Materials (fly ash, slag or limestone) and some chemical admixtures can reduce the quantity of bleed water available to “wet out” the dry shake surface hardener which can cause difficulties with application and finishing. Modification to the concrete mix design may be required to address the bleed quantity. SikaFilm® should be used with low bleed quantity concrete mixes to reduce premature surface drying.
- Proper curing and sealing is required in accordance with CSA A23.1 - 2019 Clause 7.8.2.
- Do not use in areas exposed to acids or other chemicals that are known to rapidly deteriorate concrete.
- Do not use in areas subject to repeated freeze/thaw cycles

ENVIRONMENT, HEALTH & SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

SUBSTRATE PREPARATION

General considerations before starting work

Consult appropriate sections of CSA A23.1 -2019 and ACI 302 1R-15 for design and installation guidance. Job site conditions can influence surface drying and set time affecting the timing of hardener application and finishing procedures. Experience is required to determine proper timing for required procedures.

During cold weather, open flame heaters shall not be used. Space heaters must be properly vented to avoid floor surface damage caused by carbonation or contamination.

Hot or windy conditions may require adjustments to application procedures to offset rapid setting of concrete surface. Ideally the building will have a roof and walls in place to protect from direct environment. Consider SikaFilm® to protect concrete from the effects of excessive moisture loss in rapid drying conditions. Specialized application methods and concrete mixes might be necessary to facilitate the incorporation of heavy industrial 7 kg/m² (1.4 lb/ft²) application rates. DO NOT machine trowel concrete with an air content of 3 % or higher as surface delamination may occur, refer to CSA A23.1-2019 Clause 7.7.4.3.

APPLICATION

Mechanical Application: 5 kg/m² to 7 kg/m² (1 lb/ft² to 1.4 lb/ft²) surface hardener application by mechanical material spreader with laser-guided screeding

Screed concrete by mechanical or laser guided screed and consolidate the surface to remove any imperfections in the wet concrete surface using a magnesium bullfloat. A “check rod” may also be used prior to surface hardener application.

Immediately spread Sika® Diamag 7® at a maximum rate of 5 kg/m² (1 lb/ft²) in a single pass onto the plastic concrete surface using a mechanical material spreader. The quantity of materials being deposited from the mechanical spreader must be calibrated for accuracy at the beginning of each placement. DO NOT bullfloat over the surface hardener after it has been freshly applied. The dry shake hardener will darken in colour as it absorbs concrete mix water from the underlying concrete. Initial hand or machine floating operations may begin after the concrete takes on an initial set and once the surface hardener darkens as it is completely “wetted out”. DO NOT float over dry surface hardeners they must “wet out” before proceeding with hand or machine floating.

Note:

For application rates exceeding 5 kg/m² (1 lb/ft²), apply 5 kg/m² (1 lb/ft²) mechanically and the remaining 1 kg/m² or 2 kg/m² (0.2 lb/ft² or 0.4 lb/ft²) using the manual application method noted below.

Manual Application: 5 kg/m² to 7 kg/m² (1 lb/ft² to 1.4 lb/ft²) manual spread in 2 or 3 broadcasts

Sika® Diamag 7® is applied to the surface in 2 or 3 broadcasts, each layer being floated in using machine float equipment. The surface is then machine floated and hand or machine trowelled as required to meet the specified requirement. Apply the first broadcast of Sika® Diamag 7®, as soon as concrete is firm enough to support the weight of workmen with a footprint depth of ~6 mm (~1/4”) with NO free standing water present on the surface. Use up to 2/3 of the total material in the first application. Spread the product evenly by broadcasting at right angles in two (2) passes close to surface level. DO NOT broadcast from a stationary position to avoid uneven distribution of the hardener. Using a 2 x 4 attached to a long handle, gently scrape the surface to spread any built-up of surface hardener materials. Allow Sika® Diamag 7® to absorb surface moisture from the underlying concrete. DO NOT float over dry surface hardeners which must “wet out” before proceeding with hand or machine floating. Machine float the broadcasted material promptly after it has “wet out”. Ensure that the broadcast application is incorporated into the base slab by machine floating. Follow immediately behind first floating, apply the remaining surface hardener material, and repeat as above.

Note:

For applications greater than 5 kg/m² (1 lb/ft²), apply hardener in 2-3 shakes. First application should be 50 %

of the total required material and the remainder applied in each of the subsequent applications.

Final Finishing

If a slip resistant finish is required, do not proceed with further trowelling operations after floating. Refer to CSA A23.1 - 2019 Clause 7.7.6. for other non-slip finishes. Sika recommends a mock-up be constructed using actual job site products and installation methods to determine an approved surface texture that meets the client’s requirements.

Hand or machine trowel at suitable time intervals to obtain the specified finish. Refer to CSA A23.1 -2019 Clause 7.7.4.3

CURING TREATMENT

As soon as final trowelling is completed and applicator and equipment cannot damage the surface, apply as per printed directions by low-pressure spray, one or more coats of Sika® Florseal WB-18 & -25. Protect finished surface from damage by traffic or trades until sufficiently hardened.

To produce a durable, film-free sealed surface, cure concrete using Sika® UltraCure NCF™ Single-Use Wet Curing Blanket, then densify the surface using Sikafloor®-3S.

CLEAN UP

Clean all tools and equipment promptly with water. Remove hardened product mechanically.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

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



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Product Data Sheet

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