



PRODUCT DATA SHEET

Edition 09.2020/v1
CSC Master Format™ 03 35 16
HEAVY-DUTY CONCRETE FLOOR FINISHING

Sika® Diamag-7®

ECONOMICAL MINERAL SURFACE HARDENER

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	<ul style="list-style-type: none"> ▪ 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 																				
Advantages	<ul style="list-style-type: none"> ▪ 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 ▪ Meets requirements of CFIA and USDA for use in food plants 																				
<table border="1"> <thead> <tr> <th colspan="2">Technical Data</th> </tr> </thead> <tbody> <tr> <td>Packaging</td> <td>25 kg (55 lb) bag</td> </tr> <tr> <td>Colour</td> <td>Natural Concrete Grey</td> </tr> <tr> <td>Yield</td> <td>5 - 7 kg/m² (1 - 1.4 lb/ft²)</td> </tr> <tr> <td>Shelf Life</td> <td>1 year in original, unopened packaging. Store dry, ensuring that product is not exposed to rain, condensation or high humidity.</td> </tr> <tr> <td>Application Temperature</td> <td>16 to 30 °C (61 to 86 °F)</td> </tr> <tr> <td colspan="2">Properties at 23 °C (73 °F) and 50 % R.H.</td> </tr> <tr> <td>Hardness (Moh's scale)</td> <td>~ 6.5 - 7</td> </tr> <tr> <td>Compressive Strength (28 days)</td> <td>~ 50 MPa (7250 psi)</td> </tr> <tr> <td colspan="2"><i>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.</i></td> </tr> </tbody> </table>		Technical Data		Packaging	25 kg (55 lb) bag	Colour	Natural Concrete Grey	Yield	5 - 7 kg/m ² (1 - 1.4 lb/ft ²)	Shelf Life	1 year in original, unopened packaging. Store dry, ensuring that product is not exposed to rain, condensation or high humidity.	Application Temperature	16 to 30 °C (61 to 86 °F)	Properties at 23 °C (73 °F) and 50 % R.H.		Hardness (Moh's scale)	~ 6.5 - 7	Compressive Strength (28 days)	~ 50 MPa (7250 psi)	<i>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.</i>	
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How to Use

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.

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

Application	<p>Mechanical Application: 5 - 7 kg/m² (1 - 1.4 lb/ft²) surface hardener application by mechanical material spreader with laser-guided screeding</p> <p>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.</p> <p>Note: For application rates in excess of 5 kg/m² (1 lb/ft²), apply 5 kg/m² (1 lb/ft²) mechanically and the remaining 1 or 2 kg/m² (0.2 - 0.4 lb/ft²) using the manual application method noted below.</p> <p>Manual Application: 5 - 7 kg/m² (1 - 1.4 lb/ft²) manual spread in 2 or 3 broadcasts</p> <p>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.</p> <p>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.</p> <p>Final Finishing</p> <p>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.</p> <p>Hand or machine trowel at suitable time intervals to obtain the specified finish. Refer to CSA A23.1 -2019 Clause 7.7.4.3</p>
Curing	<p>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.</p> <p>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.</p>
Clean Up	<p>Clean all tools and equipment promptly with water. Remove hardened product mechanically.</p>
Limitations	<ul style="list-style-type: none"> ▪ Sika® Diamag-7® is best installed by skilled and experienced applicators. Consult Sika Canada for advice and recommendations. ▪ 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 to 29 °C (65 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.
Health and Safety Information	<p>For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent SAFETY DATA SHEET containing physical, ecological, toxicological and other safety-related data.</p>



**KEEP OUT OF REACH OF CHILDREN
FOR INDUSTRIAL USE ONLY**

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, within their shelflife. 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 recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. 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 or may be downloaded from our website at: www.sika.ca

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Certified ISO 14001 (CERT-0102791)

