



PRODUCT DATA SHEET

Sikagard®-400 Enviroseal

(formerly MProtect H 400)

Water-based, 40 % silane penetrating sealer

PRODUCT DESCRIPTION

Sikagard®-400 Enviroseal is a water-based, 40 % alkylalkoxysilane penetrating sealer. It provides long-lasting protection against moisture intrusion, freeze/thaw cycles, and chloride intrusion.

WHERE TO USE

- Interior or exterior
- Horizontal and vertical
- Above grade
- Parking garages
- Stadiums
- Bridge decks
- Concrete highway road surfaces
- Ramps and barrier rails
- Many other reinforced concrete structures

Substrates

- Architectural concrete
- Precast concrete
- Cast in place concrete
- Glass fibre reinforced concrete (GFRC)

PRODUCT INFORMATION

Composition / Manufacturing	Water-based alkylalkoxysilane sealer
Packaging	19 L (5 US gal) pails 205 L (54 US gal) drums
Colour	Milky white; dries clear
Shelf Life	18 months when properly stored

CHARACTERISTICS / ADVANTAGES

- Excellent penetration protecting against damage from moisture intrusion and chloride ion penetration
- 40 % silane
- Ideal for traffic-bearing surfaces
- Breathable to allow interior moisture to escape without damaging sealer
- Does not alter surface appearance
- One component for ease of application

APPROVALS / CERTIFICATES

Alberta DOT, Type 1b
Quebec MTMD approval

Storage Conditions	Store in unopened containers in a clean, dry area at temperatures between 2 °C and 43 °C (35 °F and 110 °F). Keep from freezing.	
Density	950 kg/m ³ (7.9 lb/US gal)	
	Specific Gravity 0.95 at 25 °C, (77 °F)	
Flash Point	> 93 °C (> 200 °F)	(ASTM D3278, SETA)
Solid content by weight	40 %	
Active Content	40 %	

TECHNICAL INFORMATION

Freeze Thaw De-icing Salt Resistance	0 – No Scaling, for non-air-entrained concrete, 100 cycles treated concrete	(ASTM C672)
Penetration Depth	6.1 mm (0.24 in)	
Chloride Ion Diffusion Resistance	87 % reduction – exceeds criteria 99 % reduction – exceeds criteria	(NCHRP 244 Series II-cube test) (NCHRP 244 Series IV - Southern climate)
Water Absorption	48 hours 50 days	<u>0.42 %</u> <u>1.2 %</u> (ASTM C642)
Water Resistance	Water weight gain 85 % reduction – exceeds criteria Water Repellent Performance Initial performance Post-abrasion performance	(NCHRP 244 Series II-cube test) <u>89.0 %</u> <u>89.4 %</u> (Alberta Transportation and Utilities Procedures - Type 1b)
Chloride Ion Diffusion Resistance	Criteria of 1.5 at 13 mm (1/16 at 1/2 in) Criteria of 0.75 at 25 mm (1/32 at 1 in)	< 0.31 kg/m ³ (< 0.52 lb/yd ³) <u>0.00 kg/m³ (0.00 lb/yd³)</u> (AASHTO T 259 and T 260)

APPLICATION INFORMATION

Yield	Concrete: 2.4–4.8 m ² /L (100–200 ft ² /US gal) Brick: 2.4–4.8 m ² /L (100–200 ft ² /US gal)
	Always apply a test area to determine actual coverage rates. Coverage rates will vary greatly with the porosity of the substrate.
Product Temperature	Between 4 °C and 43 °C (40 °F and 110 °F) during application
Ambient Air Temperature	Between 4 °C and 43 °C (40 °F and 110 °F) during application
Substrate Temperature	Between 4 °C and 43 °C (40 °F and 110 °F) during application
Drying time	Typically 4 hours at 21 °C (70 °F) and 50 % relative humidity Note: Cooler temperatures or higher relative humidity can extend the drying time.

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.

LIMITATIONS

Proper application is the responsibility of the user. Field visits by Sika personnel are for the purpose of making technical recommendations only and are not for supervising or providing quality control on the jobsite. Make certain the most current versions of the product data sheet (PDS) and safety data sheets (SDS) are being used.

- Keep material from freezing.
- Do not apply Sikagard®-400 Enviroseal when temperatures are expected to fall below 4 °C (40 °F) within 12 hours
- Do not dilute Sikagard®-400 Enviroseal.
- Water repellents perform best when applied to a dry substrate, when power washing is performed, allow for a proper drying time before applying the water repellent.
- Do not apply during inclement weather or when inclement weather is anticipated within 12 hours.
- To prevent damage to nearby shrubbery and landscaping, cover or protect with drop cloth.
- Protect asphalt-based products such as roofing materials or plastic products from overspray.
- Sikagard®-400 Enviroseal may leave a temporary slippery surface for up to several hours after application. Therefore, traffic-bearing surfaces should not be reopened until the treated surface is dry.
- Variations in the texture and porosity of the substrate will affect the coverage and performance of the product.
- Sikagard®-400 Enviroseal will not inhibit water penetration through unsound or cracked surfaces or surfaces with defective flashing, caulking, or structural waterproofing.
- Line striping can be done after the application of the sealer.

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.

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APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

Verify the substrate has properly cured. Concrete should obtain 80 % of design strength, typically achieved within 14–28 days. Clean concrete surfaces of all sand, surface dust and dirt, oil, grease, chemical films, coatings, and other contaminants prior to application. Power wash, sandblast, or shotblast as necessary to achieve the desired surface condition.

A dry surface is suggested for maximum penetration of sealer; however, surfaces to be treated can be slightly damp. Do not apply Sikagard®-400 Enviroseal if standing water is visible on the surface to be treated.

Crack control, caulking, patching, and expansion joint sealants can be installed before or after the application of the sealer. Allow a minimum of 6–12 hours of curing time for caulking and sealant materials (or until they have skinned over) before applying Sikagard®-400 Enviroseal.

APPLICATION

Test a small area of the surface (generally a 1.5 m x 1.5 m [5 ft x 5 ft] section) before starting the general application of any clear penetrating sealer to ensure desired performance results, aesthetics, and coverage rates. Allow 5–7 days for the product to fully react before evaluating.

Stir material thoroughly before and during application. Apply to saturation. Apply by low-pressure with a non-atomizing spray or, if desired, on horizontal surfaces, by pouring, followed by a squeegee or a broom for even distribution. Following the application, remove the excess product that might pond on a concave sealant joint.

CLEAN UP

Clean equipment and tools with hot soapy water. Overspray can be cleaned immediately with hot soapy water. Dried residue can be cleaned with a mild citrus-based cleaner or very hot water, then scrubbed with a soft-bristle brush.

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 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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