

## PRODUCT DATA SHEET

# Sikagard®-400 Enviroseal

(formerly MProtect H 400)

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### WATER-BASED 40% SILANE REACTIVE PENETRATING SEALER

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#### PRODUCT DESCRIPTION

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

#### USES

- 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

- Concrete substrates:
  - architectural
  - glass-fiber-reinforced
  - precast
  - cast in place

#### 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

## ENVIRONMENTAL INFORMATION

**This product cannot be used in the South Coast Air Quality Management District (“SCAQMD”) unless the following criteria from SCAQMD Rule 1113(b)(54) are met:**

(A) Used only for reinforced concrete bridge structures for transportation projects within 5 miles of the coast or above 4,000 feet elevation or for restoration and/or preservation projects on registered historical buildings that are under the purview of a restoration architect.

(B) Penetrate into concrete and masonry substrates and chemically react to form covalent bonds with naturally occurring minerals in the substrate.

(C) Line the pores of concrete and masonry substrates with a hydrophobic coating, but do not form a surface film.

(D) Improve water repellency at least 80 percent after application on a concrete or masonry substrate. This performance must be verified on standardized test specimens, in accordance with one or more of the following standards: ASTM C67, or ASTM C97/97M, or ASTM C140.

(E) Provide a breathable waterproof barrier for concrete or masonry surfaces that does not prevent or substantially retard water vapor transmission. This performance must be verified on standardized test specimens, in accordance with ASTM E96/E96M or ASTM D6490.

(F) Meet the performance criteria listed in the National Cooperative Highway Research Report 244 (1981), surface chloride screening applications, for products labeled and formulated for vehicular traffic.

**Please review SCAQMD Rule 1113 for further information.**

## APPROVALS / STANDARDS

Alberta DOT, Type 1b

## PRODUCT INFORMATION

<b>Chemical Base</b>	water-based alkylalkoxysilane sealer.	
<b>Packaging</b>	5 gallon (19 L) pails 54 gallon (205 L) drums	
<b>Color</b>	Milky white; dries clear	
<b>Shelf Life</b>	18 months when properly stored	
<b>Storage Conditions</b>	Store in unopened containers in a clean, dry area between 35 and 110 °F (2 and 43 °C). Keep from freezing.	
<b>Density</b>	7.9 lbs/gal <b>Specific Gravity</b> 0.95 at 77 °F, (25 °C)	
<b>Flash Point</b>	> 200 °F (> 93 °C)	(ASTM D 3278, SETA)
<b>Solid content by mass</b>	40%	
<b>Active content</b>	40%	

## TECHNICAL INFORMATION

<b>Freeze Thaw De-Icing Salt Resistance</b>	0 – No Scaling, for non-air-entrained concrete, 100 cycles treated		(ASTM C 672)
<b>Penetration Depth</b>	0.24 in (6.1 mm)		
<b>Rapid Chloride Permeability</b>	87% reduction – exceeds criteria		(NCHRP 244 Series II-cube test)
	99% reduction – exceeds criteria		(NCHRP 244 Series IV - Southern climate)
<b>Water Absorption</b>	48 hours	0.42	(ASTM C 642)
	50 days	1.2	
<b>Water resistance</b>	<b>Water weight gain</b>		(NCHRP 244 Series II-cube test)
	85 % reduction – exceeds criteria		
	<b>Water Repellent Performance</b>		(Alberta Transportation and Utilities Procedures - Type 1b)
	Initial performance	89%	
	Post-abrasion performance	89.4%	
<b>Rapid Chloride Permeability</b>	Criteria of 1.5 at 1/2" (13 mm)	< 0.52 lbs/yd <sup>3</sup> (< 0.31 kg/m <sup>3</sup> )	(AASHTO T 259 and T 260)
	Criteria of 0.75 at 1" (25 mm)	0.00 lbs/yd <sup>3</sup> (0.00 kg/m <sup>3</sup> )	

## APPLICATION INFORMATION

<b>Coverage</b>	Concrete: 100–200 ft <sup>2</sup> /gal (2.4–4.8 m <sup>2</sup> /L) Brick: 100–200 ft <sup>2</sup> /gal (2.4–4.8 m <sup>2</sup> /L) Always apply a test area to determine actual coverage rates. Coverage rates will vary greatly with the porosity of the substrate.
<b>Drying Time</b>	Typical drying time for Sikagard®-400 Enviroseal is 4 hours at 70 °F (21 °C) and 50% relative humidity. Cooler temperatures or higher relative humidity can extend the drying time.

## BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

## ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

## APPLICATION INSTRUCTIONS

- Keep material from freezing.
- 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 dry 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.
- Make certain the most current versions of the product data sheet and SDS are being used.
- 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.

## SUBSTRATE PREPARATION

1. Verify the substrate has properly cured. Concrete should obtain 80% of design strength, typically achieved within 14–28 days.
2. 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.
3. Surface, air, and material temperatures should be 40 to 110 °F (4 to 43 °C) during application. Do not apply Sikagard®-400 Enviroseal when temperatures are expected to fall below 40 °F (4 °C) within 12 hours.
4. 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.
5. 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. Following the application, remove the excess product that might pond on a concave sealant joint.

## APPLICATION

1. Test a small area of the surface (generally a 5 by 5 ft [1.5 by 1.5 m] 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.
2. Stir material thoroughly before and during application.
3. Apply to saturation. Apply by low-pressure non-atomizing spray or, if desired on horizontal surfaces, by pouring, followed by a squeegee or a broom for even distribution.

## CLEANING OF TOOLS

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.

## LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at [usa.sika.com](http://usa.sika.com) or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

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### Sika Corporation

201 Polito Avenue  
Lyndhurst, NJ 07071  
Phone: +1-800-933-7452  
Fax: +1-201-933-6225  
[usa.sika.com](http://usa.sika.com)



### Product Data Sheet

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