BUILDING TRUST
CONSTRUIRE LA CONFIANCE

PRODUCT DATA SHEET

Sikagard® H 400

(formerly MProtect H 400)

Water-based, 40 % silane penetrating sealer

PRODUCT DESCRIPTION

Sikagard® H 400 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

Concrete substrates:

- Architectural
- Glass-fibre-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 the surface appearance
- Single-component product for ease of application

APPROVALS / CERTIFICATES

Alberta DOT, Type 1b

PRODUCT INFORMATION

CSC MasterFormat®	**07 19 16 | SILANE WATER REPELLENTS**
Composition / Manufacturing	Water-based alkylalkoxysilane
Active Content	40 %
Packaging	▪ 19 L (5 US gal.) pails ▪ 205 L (54 US gal.) drums
Shelf Life	18 months when properly stored in original, unopened packaging
Storage Conditions	Store in unopened containers in a clean, dry area between 2 °C and 43 °C (35 °F and 110 °F). Protect from freezing.

Appearance / Colour	Milky white; dries clear	
Density	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 %	

TECHNICAL INFORMATION

Penetration Depth	6.1 mm (0.24 in), average depth depending upon substrate		
Water Absorption	48 hours	0.42 %	(ASTM C642)
	50 days	1.2 %	
	Water weight gain		
	85 % reduction – exceeds criteria		(NCHRP 244 Series II-cube test)
Chloride Ion Diffusion Resistance	Criteria of 1.5 at 13 mm (1/2 in)	< 0.31 kg/m³(< 0.52 lb/yd³)	(AASHTO T 259 and T 260)
	Criteria of 0.75 at 25 mm (1 in)	0.00 kg/m³ (0.00 lb/yd³)	
	Absorbed chloride		
	87 % reduction – exceeds criteria		(NCHRP 244 Series II-cube test)
	99 % reduction – exceeds criteria		(NCHRP 244 Series IV - Southern climate)
Water Resistance	Initial performance	89 %	(Alberta Transportation and Utilities Procedures - Type 1b)
	Post-abrasion performance	89.4 %	
Freeze Thaw De-Icing Salt Resistance	Non-air-entrained concrete, 100 cycles-treated concrete	0 – No Scaling	(ASTM C672)
	Note: Test results are averages obtained at a coverage rate of 3.12 m²/3.8 L (125 ft²/US gal.) under laboratory conditions. Reasonable variations can be expected.		

APPLICATION INFORMATION

Yield	▪ **Concrete:** 2.4–4.8 m²/L (100–200 ft²/US gal.) ▪ **Brick:** 2.4–4.8 m²/L (100–200 ft²/US gal.) **Note**: Always apply a test area to determine actual coverage rates. Coverage rates will vary greatly with the porosity of the substrate.
Drying time	4 hours (typically) **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.
Product properties tested at 21 °C (70 °F) and 50 % R.H. unless stated otherwise.

LIMITATIONS

For professional use only; not for sale to or use by the general public. Proper application of the product is the responsibility of the user. Make sure that the most recent versions of the product and safety data sheets are used. Field visits by Sika personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

- Protect product from freezing.
- 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® H 400 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® H 400 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.
- Do not thin this product. The addition of thinners (ex.: water, solvent, etc.) will slow cure and reduce ultimate properties of this product. The use of thinners will void any applicable Sika warranty.

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.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

Verify 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. Surface, air, and material temperatures should be 4 °C to 43 °C (40 °F to 110 °F) during application.

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Do not apply when temperatures are expected to fall below 4 °C (40 °F) within 12 hours. A dry surface is suggested for maximum penetration of sealer; however, surfaces to be treated can be slightly damp. Do not apply 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® H 400. Following the application, remove the excess product that might pond on a concave sealant joint.

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 evaluation.

Stir material thoroughly before and during application. 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.

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.

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