



The Chemical Company

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Technical Data Guide

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Water
Repellents

MasterProtect® H 400

Water-based 40% silane penetrating sealer

FORMERLY ENVIROSEAL® 40

PACKAGING

- 5 gallon (19 L) pails
- 54 gallon (205 L) drums

COLOR

Milky white; dries clear

YIELD

- Concrete:
100–200 ft²/gal (2.4–4.8 m²/L)
- Brick:
100–200 ft²/gal (2.4–4.8 m²/L)

Always apply a test area to determine actual coverage rates. Coverage rates will vary greatly with the porosity of the substrate.

STORAGE

Store in unopened containers in a clean, dry area between 35 and 110° F (2 and 43° C). Keep from freezing.

SHELF LIFE

18 months when properly stored

VOC CONTENT

Less than 350 g/L less water and exempt solvents.

DESCRIPTION

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

PRODUCT HIGHLIGHTS

- 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

APPLICATIONS

- 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

HOW TO APPLY

SURFACE PREPARATION

1. Verify 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 and 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 MasterProtect H 400 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 MasterProtect H 400 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 application of the sealer. Allow a minimum of 6–12 hours curing time for caulking and sealant materials (or until they have skinned over) before applying MasterProtect H 400. Following the application, remove excess product that might pond on a concave sealant joint.

Technical Data

Composition

MasterProtect H 400 is a water-based alkylalkoxysilane sealer.

Compliances

- Alberta DOT, Type 1b

Typical Properties

PROPERTY	VALUE
Solids and active ingredients, % by weight	40
Specific gravity, 77° F, (25° C)	0.95
Density, lbs/gal	7.9
Penetration, in (mm), average depth, depending upon substrate	0.24 (6.1)

Test Data

PROPERTY	RESULTS	TEST METHOD
Flash point, ° F (° C)	> 200 (> 93)	ASTM D 3278, SETA
Water absorption, %		ASTM C 642
48 hours	0.42	
50 days	1.2	
Scaling resistance rating, non-air-entrained concrete, 100 cycles treated concrete	0 – No Scaling	ASTM C 672
Resistance to chloride-ion penetration, lbs/yd³ (kg/m³)		AASHTO T 259 and T 260
Criteria of 1.5 at ½" (13 mm)	< 0.52 (< 0.31)	
Criteria of 0.75 at 1" (25 mm)	0.00 (0.00)	
Water weight gain, % reduction	85 – exceeds criteria	NCHRP 244 Series II-cube test
Absorbed chloride, % reduction	87 – exceeds criteria	NCHRP 244 Series II-cube test
Absorbed chloride, % reduction	99 – exceeds criteria	NCHRP 244 Series IV - Southern climate
Water repellent performance, %		Alberta Transportation and Utilities Procedures - Type 1b
Initial performance	89	
Post-abrasion performance	89.4	

Test results are averages obtained at a coverage rate of 125 ft²/gal (3.12 m²/3.8 L) under laboratory conditions. Reasonable variations can be expected.

APPLICATION

1. Test a small area of surface (generally a 5 by 5 ft [1.5 by 1.5 m] section) before starting 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.

DRYING TIME

Typical drying time for MasterProtect H 400 is 4 hours at 70° F (21° C) and 50% relative humidity. Cooler temperatures or higher relative humidity can extend the drying time.

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.

FOR BEST PERFORMANCE

- Keep material from freezing.
- Do not dilute MasterProtect H 400.
- 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.
- MasterProtect 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.
- MasterProtect 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 application of the sealer.
- Make certain the most current versions of product data sheet and SDS are being used; visit master-builders-solutions.basf.us to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and are not for supervising or providing quality control on the jobsite.

HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting www.master-builders-solutions.basf.us, e-mailing your request to basfbscst@basf.com or calling 1(800)433-9517. Use only as directed.

**For medical emergencies only,
call ChemTrec® 1(800)424-9300.**

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