HYDRO GUARD

TECHNICAL DATA SHEET

A-HYDRO

Surface-applied water-repellent treatment for the protection of concrete, cement stucco, mortar, brick, artificial and natural stone.

PRODUCT DESCRIPTION

Hydro Guard is a water-borne formulation that imparts water-repellency to protect a wide range of building surfaces. It penetrates deeply into capillaries that polymer solutions cannot reach.

Unlike conventional coating formulations, Hydro Guard does not create a film on the surface. Instead, it creates a water-repelling near-surface zone without sealing substrate pores. If there is leakage behind the Hydro Guard-modified zone, water can evaporate through those open pores, permitting drying and preventing swelling and cracking.

Exteriors treated with Hydro Guard are resistant to UV radiation and are thus non-yellowing. They exhibit long-term durability.

ADVANTAGES

- Allows surfaces to maintain “breathability”
- Retains surface’s natural color and low gloss
- Resistant to UV radiation
- Water-borne and environmentally friendly
- Cost-effective and easy to apply

COMPATIBLE SUBSTRATES

- Concrete
- Brick
- Limestone
- Cement stucco
- Mortar
- Artificial & natural stone

USES

- Building façades
- Exterior walkways & hardscapes

PRODUCT INFORMATION

Available Packaging	1 gal. unit container
Storage Conditions	Store dry at 40-95 °F (4-35 °C) Store in a cool, well-ventilated area. Keep container tightly closed.

TECHNICAL INFORMATION

Type	Aqueous suspension
Color	Milky white
Odor	Very slight
pH	7.5 ± 0.5
VOC Content	0.1 g/liter
Melting Point/Freezing Point	< 32°F (0°C)

Boiling Point	> 212°F (100°C)
Flash Point	> 212°F (100°C)
Flammability	Not flammable
Density	1.01 ± 0.05 g/cm^3
Solubility	Fully miscible with water
Viscosity	2.8 ± 0.5 cP @ 68°F (20°C)

SCIENTIFIC TESTING

RILEM II.4 RILEM/Karsten tube	On horizontal surfaces, untreated concrete specimens exhibited a change in water level of 2.5 cm a er 1 hour. For treated specimens, measured loss was 0.1 cm. At 24 hours, the tubes on untreated specimens were empty; loss on the treated specimens was only 0.4 cm at that point. Cement-based materials with a reportable loss of less than 1 cm are considered “water-impermeable” in this test.
EN 1062-3 Timed capillary uptake	Specimens were 100 mm diameter concrete disks, 60 mm in thickness. Weight change was measured as function of the square root of me, and the 24-hour values used to calculate absorption. Treated specimens exhibited an 89% reduction in water uptake.
EN 11507 Accelerated weathering	Contact angle measurement was done as a function of cyclical exposure to UV-B radiation, condensation, and water spraying, to simulate long-term field conditions. At the start of the test, the measured angle was 137 degrees, considered a sign of very substantial water-repellency. After 1500 hours, contact angle was at 105 degrees, still indicating good hydrophobicity. A competitive product evaluated in this manner and starting at essentially the same contact angle was at 38 degrees after 1500 hours.
ASTM E514 Water penetration	This test is a simulation of wind-driven rain, measuring through-wall water penetration. The apparatus is a large, pressurized chamber in which water is sprayed at a test wall, at a rate of 138 l/sq m/hour. Dura on of the test was 120 hours, with a chamber pressure of 500 Pa. Treatment resulted in an 89% reduction in water penetration.
ASTM E96 Water vapor transmission	Test specimens were cement blocks, cured for 28 days. The wet cup method of E96 was used. Dish assemblies were weighed every 24 hours for 9 days. Treated specimens exhibited over 96% retention of water vapor transmission versus untreated.
EN 1766 Depth of treatment	Specimens were concrete cubes, approx. 100 mm, cured for 28 days. Depth of water-repellency was measured on fractured cross-sections by water misting. Average depth of treatment was 17.5 mm.
ISO 11890-2.07 VOC Content	Vola le organic compound (VOC) content was determined by the gas chromatographic method. The reported value was 0.7 g/liter, in compliance with VOC regulations in all parts of the US and Canada.
SINTEF Chloride-ion penetration	Over a period of 6 weeks, 100 mm concrete cubes were sprayed with a 3% NaCl solution (4 hours of spraying, 4 hours of drying). The cubes were then milled in 5 mm increments, down to 20mm below the surface, and the powders analyzed for chloride ion. In the outermost 5 mm, treated cubes exhibited 83% less chloride ion than the treated. Total chloride ion in the full 20 mm was 87% less than for the treated specimens.

APPLICATION INFORMATION

Coverage (for a single application)	~300-350 ft^2/gallon (7.3-8.5m^2/liter, no dilution)
Air/Substrate Temperature	41-95°F (5-35°C)
Application Conditions	Surface and air temperatures must be at least 41°F (5°C) during application and for 8 hours following and should not exceed 95°F (35°C). Do not apply by sprayer in windy conditions to prevent overspray.

APPLICATION INSTRUCTIONS

EQUIPMENT
The preferred method of application is either HVLP sprayer or low-pressure pump spray. Paint brushes and rollers may be used for small-scale applications. Foam or synthetic brushes and rollers can be used with Hydro Guard.

NOTE: ON NEW BUILDING SURFACES AND INSTALLED REPAIR MATERIALS, ENSURE SUBSTRATE IS FULLY CURED PRIOR TO APPLICATION.

SURFACE PREPARATION
1. Wear protective gloves & gear before applying.
2. Protect vehicles, and surrounding surfaces not set for treatment.
3. All surfaces should be clean and dry, and free from dust, oil, grease, and other foreign matter, including paint/coating residues.
4. Thoroughly clean surface using appropriate product and methods.
5. Ensure surface is completely dry prior to application.

DO NOT DILUTE PRODUCT. SHAKE CONTAINER WELL BEFORE USE. LOAD PUMP SPRAYER OR PAINT TRAY AFTER SHAKING FOR A MINIMUM OF 1 MINUTE.

VERTICAL APPLICATION
Apply Hydro Guard to the point of rejection using a brush, roller, or airless sprayer. No dilution is required. On very absorptive surfaces, re-apply within 3 hours to increase penetration depth. Testing is recommended on a small inconspicuous area before full-scale application. Surface water-repellency is typically achieved 24 hours after application.

SPRAYER:
1. Saturate from bottom up.
2. Apply enough for a 4–8-inch rundown below the spray contact point.
3. Let first application penetrate for 5-10 min before re-application (if necessary).
4. NOTE: When spraying fluted architectural block, spray in an overlapping X-pattern. Wipe up any excess material using microfiber cloths.
5. Allow surface to dry.

BRUSH/ROLLER:
Only for small scale applications.
1. Apply uniformly and saturate the surface.
2. Let product penetrate for 5-10 min.
3. Brush out heavy runs and drips that do not penetrate.
4. Allow surface to dry.

HORIZONTAL APPLICATION
1. Apply uniformly and saturate the surface.
2. Do not over-apply.
3. Back roll out any puddles thoroughly until they penetrate the surface.
4. Wipe up any excess material with a microfiber cloth.
5. Allow surface to dry.

SAFETY INFORMATION

Always read the product SDS for safety instructions and precautions before use. Use appropriate safety equipment and job-site controls during handling, application, and storage.

For further information regarding transportation, handling, storage and disposal of chemical products, users should refer to the SDS.

LIMITATIONS

• Minimum ambient and substrate temperature during application is 41°F (5°C); maximum is 95°F (35°C).
• Substrate must be dry prior to application.
• Always test on all substrates to ensure desired results.
• Do not apply at temperatures higher than 95°F (35°C). Higher temperatures cause evaporation, which may result in an uneven appearance.
• Do not apply Hydro Guard to wet, damp, or frosted surfaces.
• Do not apply if rain is imminent within 8 hours of application.
• Not suitable for application to coated surfaces or surfaces previously treated with water repellents or liquid hardeners.
• Will not prevent water penetration through structural cracks, defects, or open joints.
• Hydro Guard is not suitable for application to synthetic resin paints, gypsum, or other non-masonry surfaces.
• The product may not be suitable for surfaces to receive paints or coatings. Always test for compatibility.
• Not recommended for below-grade application.

WARRANTY

The information and recommendations provided are based on thorough research conducted by ourselves and others, and we believe them to be accurate. However, we do not guarantee complete accuracy because it is impossible to cover every potential application of our products or anticipate all variations that may occur in substrates, surfaces, job conditions, and application methods. It is the responsibility of purchasers to conduct their own tests to determine the suitability of our products for their specific purposes.

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