

CSI SPECIFICATIONS

Protection and Maintenance of Concrete

Water Repellent Sealer

Division 07 19 00



Note to Specifier: This guide specification includes materials and installation procedures to protect concrete and masonry using Hydrostop Sealer (Hydropel Sealer in the USA). Successful installation of this product provides high water repellency, water beading, reduced efflorescence, reduced chloride ingress and reduced organic overgrowth (moss etc.). Treated surfaces better resist deterioration and have reduced maintenance expenses. This sealer is appropriate for above grade use (walls, sidewalks, parking barriers, parking slabs). This sealer does not resist hydrostatic pressure and should not be used below grade. The guide specification should be adapted to suit the needs and conditions of the project. The content may be included in Division 7 (07 19 00 Water Repellents).

Part 1 General

1.1 Summary

- A. This specification is intended to be read as a whole by all parties involved in the project. The general contractor is responsible to make clear to any subcontractors the scope of their work and coordinate work between different trades.

1.2 System Description

- A. This specification describes the installation of Hydrostop Sealer (Hydropel Sealer in the USA).
 - 1. Use - Hydrophobic water/rain/chloride shield – use to greatly reduce water absorption and chloride penetration. Reduces organic growth (moss/algae), resists solvents and acids. The concrete remains breathable and does not trap internal moisture.

1.3 Related Sections

- A. Section 07 19 00 – Water Repellents

1.4 References

- A. The following standards are applicable to this section:
 - 1. ASTM C1403 – Standard Test Method for Rate of Water Absorption of Masonry Mortars
 - 2. ASTM E96 – Standard Test Method for Water Vapor Transmission of Materials
 - 3. ASTM C672 – Standard Test Method for Scaling Resistance of Concrete Exposed to Deicing Salts.
 - 4. ASTM E514 – Standard Test Method for Water Penetration and Leakage Through Masonry

1.5 Quality Assurance

- A. Contractor Qualifications: The contractor must be qualified in the field of concrete repair with a successful track record of at least 5 years. The contractor will maintain qualified personal trained by a manufacturer's technical representative.
- B. Store and apply materials in accordance with the product label and product SDS, or as required by local, state or federal authorities.

1.6 Delivery, Storage and Handling

- A. All materials must be delivered in original, unopened containers with the manufacturer's name, label, and batch numbers. Remove damaged material from the site immediately.
- B. Store materials off the ground and protect from rain, freezing or excessive temperature until ready to use.

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1.7 Job Conditions

- A. Do not apply below 4°C (40 °F), or if it is raining or snowing, or if such weather conditions are imminent.

1.8 Submittals

- A. Submit copies of the manufacturer's literature, to include: Technical Data Sheet (TDS), Safety Data Sheet (SDS), Application Instructions (AI).
- B. Submit letter of contractor training by manufacturer.

1.9 Warranty

- A. Manufacturer's warranty: Provide written manufacturer's warranty against defects in materials and manufacturing for a period of <5 Years Water Repellent Sealer>, beginning with the date of substantial completion of the work.

Part 2 Products

Note to Specifier: Hydrostop Sealer is Hydropol in the USA.

2.1 Manufacturer

- A. Basis of Design
Kryton International Inc.
Toll Free: 1.800.268.8280
E-mail: info@kryton.com
Website: www.kryton.com
- B. The following products manufactured by Kryton International Inc. conform to the requirements of this specification:
 - 1. Hydrostop Sealer <Hydropel Sealer> (Product Code K773)
- C. Substitutions: Not permitted.

2.2 General Requirements:

- A. The concrete sealer shall be a water based, silane-siloxane penetrating water repellent.
- B. All materials shall be non-combustible, both before and after installation.
- C. All materials must be supplied as a sealed, factory blended unit.
 - 1. Concrete Water Repellent and Sealer
 - 1. Appearance – milky white liquid (dries clear, non-glossy)
 - 2. pH – 7-8
 - 3. VOC - < 20 g/L
 - 4. Water Absorption – Fed Spec SS-W-110-C - 0.3%
 - 5. Water Absorption Reduction (NCHRp 224, Series II) – 72%
 - 6. Resistance to Wind Driven Rain (ASTM D514) – 89%
 - 7. Chloride Ion Reduction (NCHRP 224, Series II) – 76%
 - 8. Accelerated Weathering, Reduction in Chloride (NCHRP, Series IV) – 90%
 - 9. Coverage: Coverage will vary depending on the porosity of the substrate; confirm coverage with a test patch. Typical coverage:
 - 1. Dense concrete - 7.5 m²/L (300 sqft/gal)
 - 2. Normal concrete – 6.0 m²/L (240 sqft/gal)

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3. Concrete coated with Krystol T1 – 6.0m²/L (240 sqft/gal)
4. Concrete Block – 5.0m²/L (200 sqft/gal)

Part 3 Execution

Note to Specifier: Detailed installation information is given in Kryton Application Instructions #7.11 (Sealer). The contractor must read those instructions before performing the work.

3.1 Surface Preparation

- A. All surfaces to be treated must be clean and free from dirt, oil, paint, moss, mildew, laitance, efflorescence, form oils, and any other contaminate that may interfere with the penetration or reaction of the sealer. Shotblasting, sandblasting, pressure washing or chemical cleaners are suitable methods.
- B. Protect all vegetation, glass and painted surfaces from overspray.

3.2 Installation

- A. Installation of Sealer:
 1. Mix the sealer prior to use. Do not dilute.
 2. Surfaces must be dry at the time of application. Do not apply sealer to surfaces that have been washed or rained on in the previous 24 hours, or if rain is expected within in 12 hours.
 3. Apply the sealer uniformly by brush, roller or low pressure sprayer. Airless spray equipment must be set at low pressure to prevent atomization of the product during application.
 4. Apply only as much sealer as the surface can absorb without material pooling on the surface. A very light “fog coat,” followed immediately by a uniform “flood coat” will usually provide the most even penetration and prevent over application. For vertical surfaces, apply material using overlapping, horizontal passes and allow a 6-8 inch rundown below the spray line.
 5. Do not allow material to pool on the surface. Use a sponge, rag or roller to immediately remove excess material that does not soak into the surface.
 6. Allow the surface to dry naturally. No special curing procedures are required.

3.3 Clean Up

- A. Sealer – clean tools and equipment immediately with soap and water.
- B. Leave finished work area in a neat, orderly and clean condition.

3.4 Schedules

Note to Specifier: Specify products, type of repair and location to suite project.

- A. Provide sealer for the following locations:
 1. Exterior exposed concrete walls
 2. Exterior CMU walls
 3. Parking slabs
 4. sidewalks
 5. Concrete Barriers

END OF SECTION

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Kryton International Inc. 1645 East Kent Avenue, Vancouver BC, V5P 2S8 | TEL: 1.604.324.8280 | TOLL 1.800.267.8280 | WEB kryton.com V2025-01

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