

HYDROSTOP RESTORE & PROTECT SYSTEM™

Section 07 & 03 - Concrete Restoration and Protection

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Concrete restoration and protection system – Provide Hydrostop Restore & Protect System consisting of Hydrostop Grout, Hydrostop Coating, and Hydrostop Sealer, for restoration and protection of above grade aging concrete.
- B. Provide all written materials and site services necessary to complete the installation as herein specified.

1.2 RELATED SECTIONS

ATTENTION SPECIFIER Edit to add or remove sections as required for the project.

- A. Section 07 16 16 – Cementitious and Reactive Waterproofing
- B. Section 03 61 00– Cementitious Grouting
- C. Section 07 19 00 – Water Repellents
- D. Section 03 01 30 – Maintenance of Cast-in-Place Concrete

1.3 REFERENCES

ATTENTION SPECIFIER Delete references not required by the text of the edited specification.

- A. ASTM D7234 – Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers
- B. ASTM C1403 – Standard Test Method for Rate of Water Absorption of Masonry Mortars

1.4 SUBMITTALS

- A. Certificates of Conformance or Compliance: Before delivery of the materials a copy of the manufacturer's certificates, attesting that materials meet the requirements specified, shall be submitted to and approved by the contracting officer.
- B. Product Literature: Manufacturer's descriptive product literature shall be submitted and shall consist of detailed specifications, available performance test data and installation instructions.
- C. Certified Laboratory Test Reports: Before delivery of materials, copies of the reports of all tests specified herein or in reference publications shall be submitted to and approved by the contracting officer.
- D. Test reports shall be accompanied by certificates from the manufacturer certifying that the previously tested material is of the same type, quality and make as that proposed for this project.
- E. Training: Contractor shall advise manufacturer's representative two weeks prior to installation of restoration materials to ensure manufacturer's representative can be available on site for application training.

1.5 QUALITY ASSURANCE

- A. Provide Hydrostop Restore & Protect System consisting of Hydrostop Grout, Hydrostop Coating and Hydrostop Sealer, manufactured by Kryton International Inc., 1645 East Kent Avenue, Vancouver BC, V5P 2S8. Tel: 604.324.8280.
- B. Installer/Applicator shall be an experienced installer acceptable to the manufacturer.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in manufacturer's original, unopened, undamaged packages bearing the manufacturer's name, brand designation and batch number.
- B. Store materials in a dry storage area to avoid contact with moisture. Do not store liquids at temperatures below 4 °C (40 °F).



1.7 WARRANTY

- A. Provide manufacturer's limited product warranty document.

PART 2 PRODUCTS

2.1 CONCRETE RESTORATION AND PROTECTION SYSTEM

- A. System Components: The system shall consist of the waterproof repair grout, Hydrostop Grout, the 2-part polymerized topping mortar, Hydrostop Coating, and the water-based water repellent sealer, Hydrostop Sealer, all manufactured by Kryton International Inc. - located at: 1645 East Kent Avenue, Vancouver BC V5P 2S8; Toll Free Tel: 800.267.8280; Tel: 604.324.8280; Fax: 604.324.8899.
- B. Cementitious repair grout shall consist of cement, quartz silica and other hydrophilic chemicals which promote the growth of insoluble hydration crystals within the concrete; 2-part topping mortar shall consist of a powdered blend of cement, quartz silica and other special additives, and a specialized liquid acrylic polymer; Water-repellent sealer shall consist of a unique water-based blend of silane and siloxane compounds which chemically react with silicates below the surface to produce a strong, water repellent effect.
- B. Obtain all restoration and protection products from a single source.
- C. Products shall contain no added chlorides.
- D. Substitutions: Not permitted.

2.2 MATERIALS

- A. Concrete restoration and protection system: Hydrostop Restore & Protect System, the three product system that repairs surface cracks and defects in concrete and creates a durable barrier against water intrusion shall a substrate that complies with the following:
 - 1. Pull Off Adhesion Strength: A pull off adhesion strength of 7 MPa (1,000 psi.) when coated with Hydrostop Coating and tested in accordance with ASTM D7234 – Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers
 - 2. Water Absorption Reduction: A water absorption reduction of 70% after 24 hours when coated with Hydrostop Coating and Hydrostop Sealer and tested in accordance with ASTM C1403 – Standard Test Method for Rate of Water Absorption of Masonry Mortars

PART 3 EXECUTION

3.1 EXAMINATION AND SURFACE PREPARATION

- A. The Hydrostop Restore & Protect System is intended for structurally sound, above grade aging concrete.
- B. Safety precautions shall conform to the manufacturer's MSDS and all local regulations.
- C. Do not begin installation until substrates have been properly prepared.
- D. Concrete surfaces must be clean and free of contaminates or debris. Remove dirt, organic growth, oil, paint and other foreign material. High pressure water blasting is the preferred cleaning method.
- E. Surface must be thoroughly soaked with clean water to a saturated-surface-dry condition (SSD). Re-wet surface prior to installing Hydrostop Grout and Hydrostop Coating.
- F. Strictly follow manufacturer's published procedures for mixing, application and curing of products, as laid out in Application Instruction 8.11 — Restoring Above Grade Concrete.



3.2 INSTALLATION

3.2.1 Repair Damaged Areas and Cracks

- A. Structural defects such as honeycombing, cracks, or holes should be routed out using a sharp 25 mm (1 in.) wide chisel to a minimum depth of 13 mm (0.5 in). Use a vacuum if necessary to remove dust, debris or water. Wash chase with water so that it is clean and bring the concrete to an SSD condition.
- B. Mix Hydrostop Grout with cool, clean water in the ratio of 1 part water to approximately 4 parts Hydrostop Grout. Fill in the chase or defect with Hydrostop Grout and strike off with a trowel. Usage is 40 m (130 ft.) of crack repair per 18 kg pail.
- C. Protect the freshly installed grout from wind and direct sunlight. Cure the repair by keeping it damp for at least 24 hours. Cover with plastic or damp burlap to prevent water loss from evaporation.

3.2.2 Apply Hydrostop Coating

- A. Hydrostop Coating comes supplied as a pre-measured kit. Shake Part B (liquid) and pour the entire contents into a suitable mixing container. Slowly add the entire contents of part A (powder) into the mixing bucket containing part B (liquid) while mixing with an electric drill and paddle.
- B. Ensure the concrete is in SSD condition and apply Hydrostop Coating to the concrete at a rate of 1-2 kg/m² (1.8 to 3.6 lb./sq. yd.) using a stiff bristle concrete brush, by spreading with a push broom, or with a suitable sprayer designed for mortar or ceiling texture. Finish with either the concrete brush or a trowel to desired texture. Usage is about 1 kit per 16.5 m² (180 sq. ft.).
- C. Allow the coating to reach its initial set (4-5 hours) or until the coating feels set to the touch. It is permissible for the coating to dry out during the initial setting period. After the initial set, lightly dampen the surface with water and maintain moist curing conditions for a further 24 hours. Cover the coating with plastic or damp burlap as needed to maintain moisture levels.

ATTENTION SPECIFIER If applying paint over Hydrostop Coating, do not apply Hydrostop Sealer. Cure Hydrostop coating for three days, and then allow the surface to dry. Follow the paint manufacturer's instructions for painting new concrete surfaces.

3.2.3 Apply Hydrostop Sealer

- A. Hydrostop Sealer comes supplied as a ready to use, sprayable liquid; no mixing is required.
- B. Remove curing protection from the Hydrostop Coating and allow the surface to dry out until no dark or damp areas remain.
- C. Apply Hydrostop Sealer using a brush, roller, or low pressure spray equipment in a single coat the rate of 7.4 m²/L (300 sq. ft./gal.) or approximately 150 m² (1,500 sq. ft.) per 18.9 L (5 gal.) pail. Do not allow Hydrostop Sealer to pool on the surface; remove excess material with a towel, sponge or roller before the surface dries.
- D. Protect the surface from rain for 24 hours while water repellency develops.

END OF SECTION