

**SECTION 09960
GRAFFITI RESISTANT COATINGS**

PART 1 - GENERAL

1.01 SUBMITTALS

- A. Submit complete Non-Sacrificial Coating on all designated substrates specified or proposed by Owner or Architect.
1. Provide complete manufacturer's literature and specifications. Include complete lists and names of materials proposed for use.
 2. Specified Graffiti Resistant Coating may be applied as a system, which includes a water repellent (where needed), base coat and top coat. The complete system is required to achieve the maximum performance and requirements.
- B. Graffiti Resistant Coating may be applied to the following related sections:
Section 04200: Concrete Unit Masonry
Section 071240: Exterior Finish System.
Section 09900: Painting Systems.

1.02 QUALITY ASSURANCE

A. QUALIFICATIONS

1. Graffiti Resistant Coating System (Water Repellent, Base Coat, Top Coat, and Cleaner) shall be supplied by the same manufacturer.
2. Graffiti Resistant Coating System Applicator shall have at least five (5 years) local experience with product.
3. Applicators must be trained, experienced and familiar with the specified requirements.

B. REGULATORY REQUIREMENTS

- All products must comply with all applicable GS-11 standards and coatings compliance to LEED PROJECTS.
- All products must comply with all applicable Federal, State and local codes and regulations.
- Permashield shall comply with South Coast Air quality Management District's VOC classification.
- Permashield shall have a Research Report with the City of Los Angeles complying with City ordinance (RR# 25080-T).

C. FIELD TEST

Apply the system as specified in a designated area in accordance with 01400. Provide the test for each type of substrate required to be coated. This will serve as an indication that the applicator can provide acceptable results and will be used as the standard until the work is completed.

1.03 DELIVERY, STORAGE AND HANDLING

A. ACCEPTANCE

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All Materials shall be delivered to the project in its original containers, completely sealed and bearing name of coating, manufacturer, batch number, date of manufacturer and complete label instructions.

B. STORAGE AND PROTECTION

Protect all Materials during and after installation. DO NOT FREEZE.

1.04 PERFORMANCE REQUIREMENTS

Provide anti-graffiti system complying with the following:

1. Permanent coating system.
2. Show no signs of deterioration or change of appearance after graffiti materials removal during the warranty period.
3. Capable of removing 100% of all types of paint and graffiti materials from treated surfaces without damaging the coating or the substrate. No evidence of graffiti shall remain on the surface.
4. Capable of withstanding a minimum of 200 cleaning cycle without measurable coating deterioration.
5. Shall meet the following chemical test results:

• MEK double rubs	300+
• MEK	No effect after 5 days
• Gasoline	No effect after 5 days
• Motor oil	No effect after 5 days
• Sulfuric acid (50%)	No effect after 5 days
• Phosphoric acid (75%)	No effect after 5 days
• Carboxylic acid	No effect after 5 days
• Hydrochloric acid (37%)	No effect after 4 hours
• Nitric acid (20%)	No effect after 4 hours
• Toluene	No effect after 4 hours
• IPA	No effect after 4 hours
• Acid rain	No effect after 4 hours

1.05 PROJECT CONDITIONS

Do not apply Materials when surface temperature is less than 40°F. or more than 90°F. In the shade, or when the relative humidity is more than 80%. Do not apply Materials when the moisture content in the surface is exceeding 15% or when adverse weather conditions are imminent, (snow, rain, fog, mist, dew, wind, etc...)

PART II - PRODUCTS

2.01 MANUFACTURER

Materials are manufactured by:
MONOPOLE INC. Los Angeles, California (800) 491-9977 or approved equal.

2.02 MATERIALS

- A.** All natural (UNPAINTED) surfaces including concrete, masonry units, brick, tile and block must be treated with a clear flat, silane/siloxane penetrating water

repellent such as AQUASEAL ME12 by Monopole. AQUASEAL ME12 must be used to the entire exterior elevation to maintain the integrity of the surface, to protect against water seepage and to allow a more consistent application of the Graffiti Control System.

- B.** All natural (UNPAINTED CHALKY SURFACES) must be treated with AQUABOND to cohesively bind chalky surfaces.
- C.**
1. *Base Coat:* MONOCHEM PERMASHIELD BASE
 2. *Top Coat:* MONOCHEM PERMASHIELD PREMIUM
 3. *Remover:* CITRUS CLEAN SUPER
- D. BASE COAT: PERMASHIELD BASE:**
1. A hydrophobic Clear or Pigmented, single component, water base, Aliphatic Polyurethane designed to provide a pin-hole free coating on natural substrate surface which cannot be accomplished by using the Top Coat.
 2. **PERMASHIELD BASE** requires an application of two coats minimum. Extremely porous or irregular surfaces such as split-face block, fluted block, bee-hole block, rough stucco, etc...will require at least three coats or as many coats as necessary to achieve a continuous pin-hole free coating.
- E. TOP COAT: PERMASHIELD PREMIUM**
1. A Clear two-component, water base, aliphatic polyurethane.
 2. Minimum of 2 coats (4-6 dry mils minimum) depending on substrate, the number of coats could vary to satisfy warranty requirements.
- F. ASTM STANDARDS MEET BY COATING**
- ASTM D-412 (Tensile Strength and Elongation Test)
 - ASTM D-4060 or 968 (Abrasion Resistance Test)
 - ASTM D- 530 (Hardness Test)
 - ASTM D-2794 or 522 (Impact Resistance Test)
 - ASTM D-471-77, D- 714 and B-117 (Outdoor Weathering, Salt Spray Test, Minimum 8000 Hours Exposure)
- H. COVERAGE**
- Average coverage per coat is 200-250 sq/ft per gallon or a net of 100-125 for two coats system.
- I. REMOVER: CITRUS CLEAN SUPER**
- Biodegradable, water based cleaner/remover.
 - To remove permanent marker: Spray remover directly on marker and immediately wipe with clean dry rag or paper towel. Repeat as necessary. Rinse with water to neutralize.
 - To remove spray paint: Spray remover directly on graffiti, allow sufficient dwell time, and agitate gently with stiff bristle nylon brush. When solvent action is complete, flush with water to remove paint residue and neutralize. If removal is incomplete, dry and repeat above steps.

PART III - EXECUTION

3.01 EXAMINATION AND PREPARATION

- A. Prior to proceeding with work of this section, verify that all preparation work is completed or properly corrected in a manner acceptable to applicator so that this installation may properly commence.
- B. Substrate to receive Materials must be cleaned of all dirt, rust, scale, bond-breakers, grease, moisture, and all other foreign substances which adversely is detrimental to the adhesion and required appearance of the finished system.
- C. Once the applicator commences his work, it will be construed as his acceptance of surfaces and its conditions.
- D. Always apply a test patch to a small area.

3.02 APPLICATION

Apply Materials in strict accordance with the manufacturer's recommendations.

3.03 PROTECTION

- A. Protect adjacent surfaces from over spray, runoff or spillage immediately.
- B. Properly protect and cover other work of other trades.

3.04 CLEAN-UP

- A. Upon completion of installed system, clean windows, glass and adjacent surfaces from spotting.
- B. Remove rubbish, cans, rags and other discarded materials related to this work, at the end of each day.

3.05 WARRANTY

- The contractor shall warrant that they have installed the materials in compliance with the Manufacturer's Specifications and drawings for the project. Provide a (10) ten year Manufacturer's warranty on the installed product.
- Permashield Graffiti Control System by Monopole Inc. will perform free from defect under normal un-sacrificed conditions for ten years. Protection against future graffiti shall remain intact without need to re-apply any top coat or other coatings.
- Defects are defined to include failure to withstand complete graffiti removal, ghosting, shadowing, chemical staining, yellowing and any normal environmental effects.

END OF SECTION