

ITEM 11559.9002 - GRAFFITI -RESISTANT COATING (NYCDPR)

DESCRIPTION

Under this Item, the Contractor shall furnish and apply Graffiti Resistant Coating to exterior stone, brick, block, concrete, wood, or metal surfaces in accordance with O.S.H.A. Guidelines, Manufacturers Recommendations and the Plans, Specifications and directions of the Engineer.

Coating shall be applied only to the following within the Park:

- * Pedestrian Bridge Abutments and Back Walls
- * Plaques
- * Granite Base for Flagpoles
- * Routed Wood Park Signs
- * Plate Steel Animals

General Contractor shall apply Graffiti Resistant Coatings from one of the two (2) categories listed below, depending upon the type of substrate:

- A. For **previously painted** masonry, concrete (vertical surfaces), and bethabara wood (both painted and unpainted), metal surfaces (both painted and unpainted), apply Graffiti Solution System (G.S.S) as manufactured by American Polymer Corp., Sandy, Utah 84070 (800) 676-5963; local distributor: Kenseal. (718) 937-5490 APPROVED EQUAL shall be ARMAGLAZE 9000 System aliphatic urethane as manufactured by Aquarius Coatings Inc., (800) 561-6750.
- B. For **new and unpainted** masonry and concrete, the Contractor shall apply Professional Water Sealant (P.W.S) Coatings, as manufactured by Professional Products of Kansas, Inc., Wichita, KA 67216; (800) 676-7346 Local Representatives: ENVIRO-NORTHEAST SALES CORP., Highland Lakes, N.J. 07422; (201) 764-4303, Contact Person -Ed Talmo; or prequalified approved equal, or approved equal.

Quality Assurance Graffiti Resistant Coating shall be applied only by an Approved Installer, per Installation Instructions, who shall be trained by the manufacturer of each respective product prior to Bid Date, and shall be certified by the manufacturers as qualified to install materials specified for this project. Only qualified Contractors or Sub-Contractors and their trades persons, meeting the above requirements, shall be deemed Approved by the State. Submit copy of current S.S.P.C. Certificate if applicable.

Security Guard It is recommended that the Contractor shall provide a security guard service to protect uncured coatings for a 48 hours minimum to 72 hours maximum; **starting at time of initial application of Graffiti-Resistant Coating, and concluding at twenty-four (24) hours after the application of the final top coat.**

MATERIALS

Contractor shall apply Graffiti Resistant Coatings from one of the two (2) categories listed below, depending upon the type of substrate:

- A. For **previously painted** masonry, concrete (vertical surfaces), and bethabara wood (both painted and unpainted), metal surfaces (both painted and unpainted), apply Graffiti Solution System (G.S.S) as manufactured by American Polymer Corp., Sandy, Utah 84070 (800) 676-5963; local distributor: Kenseal. (718) 937-5490 APPROVED EQUAL shall be ARMAGLAZE 9000 System aliphatic urethane as manufactured by Aquarius Coatings Inc., (800) 561-6750.

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- B. For **new and unpainted** masonry and concrete, the Contractor shall apply Professional Water Sealant (P.W.S) Coatings, as manufactured by Professional Products of Kansas, Inc., Wichita, KA 67216; (800) 676-7346 Local Representatives: ENVIRO-NORTHEAST SALES CORP., Highland Lakes, N.J. 07422; (201) 764-4303, Contact Person -Ed Talmo; or prequalified approved equal, or approved equal.

PRODUCT DELIVERY, STORAGE, AND HANDLING:

- A. Contractor shall deliver materials in sufficient quantity to allow for continuity of work. Protect all materials, and equipment, during transit, delivery, storage, and handling to prevent damage and deterioration.
- B. Avoid fire; open flame and sparks. Container contents, even when empty, may ignite explosively when exposed to heat, welding, cutting torch, pilot lights and other flames and ignition sources at locations distant from the material storage and handling point.
- C. Avoid inhalation; ingestion; skin contact; and eye contact.
- D. Protect shrubs, plants and grass, during application. Avoid wind drift which may injure passersby or damage vehicles and adjacent properties.
- E. For additional cautions, human health data and protective equipment to be used (including respiratory), refer to Material Safety Data Sheets.
- F. Containers shall be kept closed when not in use.
- G. Dispose of excess, waste materials and empty containers in accordance with all local, state and federal regulations. Empty containers as may be classified as hazardous; they retain product residues such as vapor, liquid or solid. Do not transfer contents into other containers for storage.

PRODUCTS:

- A. **"G.S.S." COATINGS:** Note: This Coating shall be applied to surfaces listed under "GENERAL" Heading of this Specification; (i.e. previously painted masonry, concrete and wood surfaces; and metal surfaces, both painted and unpainted).
1. a. **G.S.S.-Barrier, Standard:** Sealer product; standard undercoat-not high solids version. This Standard Version shall be used with Clear Overcoat. Barrier shall be applied over painted porous surfaces (not metal; *), to prevent the underlying paint from bleeding through the G.S.S.-10 clear top coats. [* For Steel and Aluminum Surfaces, in lieu of G.S.S.-Barrier, use a water-borne urethane primer, such as Bond-Plex, as manufactured by Sherwin Williams Company (718) 426-8813 , or Prequalified Approved Equal.]
1. b. **G.S.S.-Barrier, High Solids:** Shall be used with Pigmented Topcoat. The High Solids Version is not recommended for use with clear top coating. High Solids barrier consists of a one component, acrylic copolymer coating. (See Manufacturers Product Guide for more information.)
2. a. **G.S.S.-10 Clear Coating (Low V.O.C.):** Anti-Graffiti product; overcoat. G.S.S.-10 consists of a polymer composition; two (2) component resin and catalyst system. It is a non-sacrificial permanent coating, with flat/matte finish. G.S.S.-10 Part A is premeasured for use with Part B.
2. b. **G.S.S.-Pigmented Coating:** Anti-Graffiti product; topcoat. Two (2) component polyurethane, nonsacrificial, protective coating. Color shall be selected from either the manufacturers standard color guide, or Sherwin Williams Industrial and Marine Coatings; System 4000 color chart. Finish shall be flat/matte (not gloss) unless otherwise noted. [Pigmented coating shall be used in lieu of clear coating, when previously painted substrate is not uniform in color, and requires concealing with an opaque top coat.]

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B. **"P.W.S." COATINGS:** Note: This Coating shall be applied to surfaces listed under "GENERAL" Heading above, (ie new and unpainted masonry and unpainted concrete).

1. **Professional Water Sealant (PWS) Low V.O.C:** Anti-graffiti protectant. Professional Water Sealant consists of a penetrating, permanent weatherproofing treatment; one component sealant, clear with flat/matte finish, formulated using Silicone Rubber.

CONSTRUCTION DETAILS

SURFACE PREPARATION:

Surfaces shall be thoroughly dry, cleaned and free of dust, surface dirt, oil, grease and other contaminants that might prevent penetration of the coatings. Newly constructed surfaces, repointed surfaces and concrete shall be cured for at least 28 days before application. Glossy, glazed and slick troweled surfaces should be lightly etched or abraded before application of coatings. Surface defects, voids, joints or cracks must be properly sealed or filled, allowing any patching compounds to be completely cured before application. Cleaning may be accomplished by high pressure washing, sand blasting or chemical cleaning. When chemicals are used, they should be removed by high pressure water cleaning before application of the sealant. Use of raw acids shall not be permitted. Allow cleaned surfaces to dry completely. A test must always be made prior to application using the same cleaning and application procedures as to be used on the project. This test area shall remain available to be inspected by the Engineer.

APPLICATION PROCEDURES:

- A. General Product application must not be initiated during inclement weather, or when precipitation appears imminent. Application should be completed at least 4 (four) hours before precipitation begins.
- B. For the "G.S.S." Type Coating Systems, consisting of both Undercoat and Topcoat, refer to manufacturers Application Guide, along with information specified herein.
 1. G.S.S. - Barrier Undercoat sealer shall only be applied when temperature is between 10⁰ C and 35⁰C. The surface to receive Barrier shall be visibly dry, and relative humidity shall be such that condensation does not form on the surface during application.
 2. Apply two (2) coats of Standard Barrier Undercoat (75 to 100 µm total) over all previously painted masonry and wood surfaces, using either brush, roller or spray. Ensure that the coatings are applied evenly and built up sufficiently to create a protective layer over the underlying surface, and to eliminate any future "shadowing" or "ghosting" which would appear after graffiti removal, if the surface is not adequately sealed and coated. Barrier shall be applied creating a pinhole-free surface. Allow 1 to 2 hours between coatings. Avoid over-application of Barrier Coating to avoid pooling or puddling which can result in permanent whitening. Application of Barrier in direct sunlight can also result in permanent whitening.
 3. G.S.S.-10 Overcoats shall be applied over G.S.S. Barrier Undercoat. Prior to installation of overcoats, the barrier coats shall be allowed a minimum of 12 hours drying time. Moisture shall not be permitted on undercoating prior to application of G.S.S.-10 coating. G.S.S.-10 shall be activated by mixing parts "A" and "B". These two portions have been pre-measured at a precise ratio. Contractor shall not mix at any other ratio and shall not add thinner or water. Part "B" shall be poured into Part "A" Container. While mixing together, stir well with a lifting motion to ensure that the two parts are well balanced. If

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the coating must be thinned for application purposes, thin with MEK only, and only after Parts A and B have been mixed together. The coating may be applied by brush, roller or spray. Apply two (2) coats of GSS - 10; of 1 to 2 mil thickness each coat. Allow one (1) to two (2) hours before applying the second coat. If using roller, direct the roller upwards, from bottom toward top, maintaining a wet wedge.

4. Coverage rates will vary, depending upon porosity of the surface and method of application. Once activated, the coating has a pot life of approximately 4 to 6 hours, under normal conditions (27 °C. or less). The lid shall not be left off the container unnecessarily.
- C. For the Professional Water Sealant ("P.W.S.") Type Coating Systems, refer to Manufacturer's Application Guide, along with information specified herein.
1. "P.W.S." shall be applied only when temperature is between 16 °C and 27 °C. and relative humidity is 50%. Under these ideal weather conditions, the coating will dry to the touch in approximately twenty-five (25) minutes. At lower temperatures, drying time will be longer.
 2. The coating shall be applied over all new and unpainted masonry, concrete, and wood surfaces using a two (2) coat application process, with a drying time of not more than two and a half (2 ½) hours between applications.

Curing time of will vary depending upon the temperature and humidity conditions. The second coat shall require six (6) to eight (8) hours to develop full graffiti protection.
 3. On vertical applications, "P.W.S." shall be applied with a low pressure airless sprayer at an angle, to allow the sealant to run down the face rather than to penetrate deep into the voids of the substrate. On porous and rough stone surfaces, it shall be necessary to apply a mist coat before flood coating.
 4. On horizontal surfaces, such as wooden bench slats, "P.W.S." shall be applied by brooming, brushing, rolling or using airless spray equipment. The coating shall not be permitted to puddle or pond. Over-application may cause surface to become slippery when wet. Excess sealant shall be wiped up immediately.
 5. For low-pressure Spray application, the setting shall be about 275 kPa to avoid atomization of the material. Spray equipment shall be fitted with stainless steel or brass fittings and gaskets suitable for solvent solutions. A fan spray tip of 50⁰ with flow rate of approximately 1.5 liters per minute is recommended. Coatings shall be applied in a saturating spray application from the top down. Apply sufficient material to create a 150 mm to 200 mm rundown below the contact point. Allow the first application to penetrate the masonry surface until dry to the touch. If a second application is required, less material will be needed.
 6. For brush application, brushes should be nylon or other synthetic material resistant to solvent solutions. When applying Professional Water Sealant with a brush, apply sufficient material to thoroughly saturate the surface. Avoid excessive overlapping. Take care to brush out runs and drips, and to avoid buildup of Professional Water Sealant.

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7. Container shall be kept tightly sealed until ready to use. Stir thoroughly before use. Product shall not be diluted or altered in any way. Coverage rates will vary depending upon surface porosity and texture. Once opened, Professional Water Sealant must be used within 24 hours.

CLEAN-UP INSTRUCTIONS:

Clean application equipment immediately after each use. For G.S.S. Products, avoid having the G.S.S.-10 coating set up on or inside application equipment, by cleaning frequently with any of the following solvents (do not use solvents other than listed): xylene, lacquer thinner, MEK or n-butyl acetate. If coating has begun to set up and cannot be cleaned with the above, G.S.S.-Erasol shall be used for cleaning. All drips and over spray shall be cleaned while still wet. For spraying equipment, cleaning with MEK every one (1) to two (2) hours is recommended. Since G.S.S.-10 adheres permanently to surfaces, including human skin, spills shall be cleaned immediately. For P.W.S. Products, clean equipment with mineral spirits or paint thinner.

CURE TIME REQUIRED PRIOR TO REMOVER USE:

For G.S.S. Products, full curing time required before graffiti can be removed from newly applied protective coating is seven (7) days at ambient temperatures. Curing period is longer during cooler temperatures. A test patch shall be performed during cooler temperatures to determine whether the G.S.S.-10 Top Coat has cured sufficiently to remove graffiti with Erasol Remover Product. Apply a small amount of Erasol Remover Product on a clean spot of the coated surface and let it stand for 24 hours undisturbed. When the coating appears to have softened, it has not fully cured. When the coating remains hard, then Erasol may be used to remove graffiti.

GRAFFITI REMOVAL:

- A. For permissible materials to be used in removing any graffiti which may accumulate during Construction Contract duration, Contractor shall use the following:
 1. **G.S.S. ERASOL**; as manufactured by American Polymer Corp., local distributor: Kenseal. (718) 937-5490
 2. **P.W.S. GRAFFITI-FREE-SAFE-SYSTEM III**; as manufactured by Professional Products of Kansas, Inc. Local Representative: ENVIRO-NORTHEAST SALES CORP. (201) 764-4303.
 3. Stiff Nylon Brushes (For agitating stubborn graffiti taggings) by ENVIRO-NORTHEAST SALES CORP.
 4. Low pressure pump-up sprayers such as the following:
 - a. Impact Model No. 203 PUM, (3 gallon) with shoulder strap and wand. Kenseal.
 - b. Chapin De-Greasing Sprayer, Model No. 1036 (3 gallon) with shoulder strap and wand. Local Representative: ENVIRO-NORTHEAST SALES CORP.
 - c. Others such as those manufactured by Hudson.
- B. For graffiti removal procedures, see Manufacturers Literature and Instructions. Use of Chemicals which are not included in manufacturers list of components for Remover System, may damage or remove the protective coating, thereby necessitating the reapplication of sealant/coating systems.
- C. Use of remover products which are not part of the Complete System, (ie. not manufactured by the same companies as Protective Coatings) will void the 10 year manufacturers Warranties/Guarantees.

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SUBMITTALS

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METHOD OF MEASUREMENT

The quantity of graffiti resistant coating to be paid for under this item will be the number of square meters of surfaces prepared, coated, and cured, in accordance with the Contract Drawings, Specifications and directions of the Engineer.

BASIS OF PAYMENT

The price per square meter shall include the cost of all labor, materials, equipment and incidental expenses necessary to furnish and install graffiti resistant coatings, including surface preparation, application, and proper curing of coating, protection of the surfaces until the application is complete and maintenance of surfaces coated throughout contract duration, all in accordance with the Plans and Specifications, and directions of the Engineer.