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U.S. General Services Administration

Removing Painted Graffiti From Masonry

Procedure code:

420005S

Source:

Developed For Hspg (Nps - Sero)

Division:

Masonry

Section:

Unit Masonry

Last Modified:

01/25/2017

THE CLEANING OR REMOVAL OF STAINS FROM MASONRY MAY INVOLVE THE USE OF LIQUIDS, DETERGENTS OR SOLVENTS WHICH MAY RUN OFF ON ADJACENT MATERIAL, DISCOLOR THE MASONRY OR DRIVE THE STAINS DEEPER INTO POROUS MASONRY. USE THE PRODUCTS AND TECHNIQUES DESCRIBED HERE ONLY FOR THE COMBINATIONS OF DIRT/STAIN AND MASONRY SPECIFIED.

PART 1---GENERAL

1.01 SUMMARY

- A. This procedure includes guidance on removing painted graffiti from historic masonry (this includes spray paint and paint-based felt-tipped markers).
- B. Successful removal of graffiti from masonry is dependent upon the type and surface texture of the masonry as well as the particular substance applied.
- C. See 01100-07-S for general project guidelines to be reviewed along with this procedure. These guidelines cover the following sections:

1. Safety Precautions
2. Historic Structures Precautions
3. Submittals<
4. Quality Assurance
5. Delivery, Storage and Handling
6. Project/Site Conditions
7. Sequencing and Scheduling
8. General Protection (Surface and Surrounding)

These guidelines should be reviewed prior to performing this procedure and should be followed, when applicable, along with recommendations from the Regional Historic Preservation Officer (RHPO).

PART 2---PRODUCTS

2.01 MANUFACTURERS

A. Union Carbide Corporation
Old Ridgebury Road
Danbury, CT 06817
203/794-2000

B. Rohm & Haas
Independence Mall West
Philadelphia, PA 19105
215/592-3000

C. GAF Corporation
1361 Alps Road
Wayne, NJ 07470
201/628-4127

D. ProSoCo Inc.
1601 Rock Mountain Blvd.
Stone Mountain, GA 30083
404/939-9890

-OR-

755 Minnesota Avenue
P.O. Box 1578
Kansas City, KS 66117
913/281-2700

E. Ashland Chemical
4550 N. East Expressway
Doraville, GA 30340
404/448-7010

2.02 MATERIALS

A. Non-ionic detergent such as "Zyfo" or "Tergitol" (Union Carbide, or Ashland Chemical), "Triton" (Rohm & Haas), "Igepal" (GAF Corporation), or approved equal.

B. Trisodium Phosphate:

NOTE: THIS CHEMICAL IS BANNED IN SOME STATES SUCH AS CALIFORNIA. REGULATORY INFORMATION AS WELL AS ALTERNATIVE OR EQUIVALENT CHEMICALS MAY BE REQUESTED FROM THE ENVIRONMENTAL PROTECTION AGENCY (EPA)

REGIONAL OFFICE AND/OR THE STATE OFFICE OF ENVIRONMENTAL QUALITY.

1. Strong base-type powdered cleaning material sold under brand names.
2. Other chemical or common names include Sodium Orthophosphate; Tribasic sodium phosphate; Trisodium orthophosphate; TSP*; Phosphate of soda*; (also sold under brand names such as).
3. Potential Hazards: CORROSIVE TO FLESH.
4. Available from chemical supply house, grocery store or supermarket or hardware store.

C. Paint Stripper to remove multiple layers of paint coatings and graffiti from exterior masonry surfaces (remains active for up to 24 hours), such as "Sure Klean Heavy Duty Paint Stripper" (ProSoCo, Inc.)

D. Clean, natural fiber rags for drying

E. Solvents such as acetone, lacquer thinner, N-methy-2-pyrrolidone

Acetone (C₃H₆O):

1. A volatile fragrant flammable liquid ketone used chiefly as a solvent and in organic synthesis and found abnormally in urine.
2. Other chemical or common names include Dimethyl ketone; Propanone
3. Potential Hazards: VOLATILE AND FLAMMABLE SOLVENT
4. Available from chemical supply house or hardware store.

F. Filler material such as attapulgate clay, kaolin, fuller's earth, talc, chalk, cotton pads, acid-free paper.

(Do not use chalk or iron-containing clay with an acid solvent as their chemical reaction will cancel the effectiveness of the acid).

G. Clean, potable water

2.03 EQUIPMENT

A. Garden hose and nozzle

B. Non-metallic brushes (non-metallic)

C. Wood scrapers

PART 3---EXECUTION

3.01 EXAMINATION

A. Identify the substance used to create the graffiti.

B. Examine the surrounding area for signs of what may have been used to create the graffiti (i.e. spray cans or other debris).

3.02 ERECTION/INSTALLATION/APPLICATION

A. Begin with the least harsh method of removing paint.

1. Wash the area with a solution of trisodium phosphate (TSP) and water. Apply with a non-metallic brush.
2. When the paint has softened, scrape off as much as possible with a wooden scraper.
3. Wash the area again using a non-ionic detergent and water.
4. Thoroughly rinse the surface with clean, clear water.

B. If a stronger method is necessary:

1. Brush on a commercial paint remover (either a solvent such as lacquer thinner or acetone, or a methylene chloride-based remover may be used) with a non-metallic brush. Follow manufacturers instructions for application and dwell time.
2. When the paint has softened, scrape off as much as possible with a wooden scraper.
3. Wash the area again using a detergent and soapy water and rinse thoroughly with clean water.

C. For felt tip marks, use a poultice:

1. Pre-wet surface using denatured alcohol.
2. Saturate a soft cloth with a mixture of acetone, lacquer thinner and N-methy-2-pyrrolidone. Test proportions to find the most effective mixture.
3. Gently rub the stain with the saturated cloth.
4. To remove remaining stain, prepare a poultice using the same solvent mixture as used in C.2. above mixed with a filler material such as attapulgite clay, kalin or fuller's earth (all clays), talc, chalk or whiting, shredded acid-free paper, or cotton pads. Mix to form a thick paste.
5. Thoroughly wet the masonry surface to be treated with clean, clear water.
6. Apply the mixture to the stained area in a 1/4" to 3/4 " thick layer using a wood or plastic spatula and allow to dry. Be sure to spread the poultice well beyond the stained area. The liquid portion of the paste will migrate into the concrete where it will dissolve some of the staining material. Then the liquid will gradually move back beyond the concrete surface and into the poultice, where it will evaporate, leaving the dissolved staining material in the poultice.
7. Keep poultice moist until stain has lifted. Exact length of time will vary and will require periodic inspection of the substrate.
8. Once it appears that the stain has lifted, allow the poultice to dry out. As the poultice dries, the solvent is re-absorbed by the poultice material bringing with it the stain.
9. When the poultice has dried, brush or scrape it off with a wooden scraper.
10. Using a stiff bristle brush, scrub the surface with scouring powder and clean water to remove any residual staining.
11. Wash all residue using a non-ionic detergent as in Section 3.02 A. above.
12. Thoroughly rinse the area with clean, clear water and allow to dry.
13. Repeat the process as necessary to sufficiently remove the stain.

3.03 ADJUSTING/CLEANING

A. Upon completion of the masonry cleaning work, clean window glass and spattered adjacent surfaces.