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U.S. General Services Administration

Removing Smoke Stains From Brick Masonry

Procedure code:

421107S

Source:

Tech Notes On Brick Construction - 20

Division:

Masonry

Section:

Brick Unit Masonry

Last Modified:

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REMOVING SMOKE STAINS FROM BRICK MAS= ONRY

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 smoke stains from brick masonry.

B. 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 Precaution= s
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).=0CPART 2---= PRODUCTS

2.01 MATERIALS

NOTE: Chemical products are sometimes sold under a common name. This usually means that the substance is not as pure as the same chemical sold under its chemical name. The grade of purity of common name substances, however, is usually adequate for stain removal work, and these products should be purchased when available, as they tend to be less expensive. Common names are indicated below by an asterisk (*).

A. Scouring powder containing bleach

-OR-

Alkali detergent or commercial emulsifying agent.

B. Trichloroethylene (highly refined solvent):

CAUTION: TRICHLOROETHYLENE IS HIGHLY TOXIC AND MAY REACT WITH STRONG ALKALIS SUCH AS FRESH CONCRETE TO FORM DANGEROUS GASES.

1. Other chemical or common names include Ethinyl trichloride.
2. Potential Hazards: TOXIC
3. Available from automotive supply distributor, chemical supply house (both commercial and scientific), dry cleaning supply distributor, paint store, photographic supply distributor (not camera shop), or printer's supply distributor.

C. Filler material such as diatomaceous earth or powdered talc

D. Clean, potable water

2.02 EQUIPMENT

A. Glass or ceramic container for mixing the solution=

B. Wooden utensil for stirring the ingredients

C. Wood or plastic spatula

D. Stiff bristle brush

E. Masking tape

PART 3---EXECUTION

3.01 ERECTION, INSTALLATION, APPLICATION

NOTE: WHEN CLEANING, AVOID OVERCLEANING. AIM FOR ACHIEVING 85% CLEAN. MOST DAMAGE OCCURS WHEN ATTEMPTING TO CLEAN THE LAST 15%.

NOTE: TEST CLEAN A SMALL AREA BEFORE ATTEMPTING TO CLEAN LARGE AREAS.

A. Scrub the affected area with a stiff bristle brush and scouring powder containing bleach. -OR- Brush or spray apply an alkali detergent or commercial emulsifying agent.

B. For small stubborn stains, apply a poultice of trichloroethylene and inert filler material.

1. Thoroughly rinse the area to be treated with mineral water.
2. Mix the liquid solution to be used in a glass or ceramic bowl.
3. Thoroughly moisten the stained surface with this liquid. Be sure to dampen well beyond the stain.
4. Mix the remaining liquid with the white absorbent material to form a paste the consistency of oatmeal or cake icing.
(Approximately one pound of paste is needed for every square foot of surface area to be treated).
5. Using a wooden or plastic spatula, apply the paste to the stained surface in layers no more than 1/4 inch thick. The poultice should extend well beyond the stain to prevent forcing the stain into previously clean masonry.=
6. Check the coating for air pockets or voids.
7. Cover the poultice with plastic sheeting and seal with masking tape.
8. Let set for 48 hours (unless otherwise specified).
9. After set period, dampen the poultice with mineral water.
10. Remove the poultice with a wooden or plastic spatula to avoid scratching the surface.
11. Thoroughly rinse the cleaned area with mineral water, blot with clean towels and allow the surface to dry.
12. Repeat the process as necessary to remove any remaining residue until a desired level of cleanliness is achieved.

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