Cleaning And Polishing Solid Brass

Procedure code:	501010S
Source:	Hspg Prepared For Nps - Sero
Division:	Metals
Section:	Metal Materials
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CLEANING AND POLISHING SOLID BRASS

ALL CLEANING REMOVES SOME SURFACE METAL AND PATINA. THEREFORE, USE CAUTION, AS EXCESSIVE CLEANING CAN REMOVE THE TEXTURE AND FINISH OF THE METAL.

THE CLEANING OR STRIPPING OF METALS MAY INVOLVE THE USE OF ABRASIVES, LIQUIDS OR SOLVENTS WHICH MAY SPLASH OR RUN OFF ONTO ADJACENT MATERIALS. TAKE SPECIAL CARE TO PROTECT ALL ADJACENT MATERIALS, AND DO NOT USE THIS PROCEDURE ON METALS OTHER THAN THOSE
SPECIFIED IN THE SUMMARY.

PART 1---GENERAL

1.01 SUMMARY

A. This procedure includes guidance on cleaning and polishing solid brass. This includes both lacquered and unfinished brass.

B. For additional guidance relating to cleaning and maintaining brass, see the following procedures:

1. For cleaning and polishing brass-plate, see 05010-03-P.

2. For removing old lacquer or paint from solid brass or brass-plate, see 05010-31-R.

3. For removing patina or tarnish from solid brass, see 05010-32-P.

4. For applying a protective coating to brass-plate or solid brass, see 05010-12-P.

C. Brass is an alloy of copper and zinc. Brass-plate is a thin layer of brass bonded to steel. Solid brass is more durable than brass-plate and, therefore, can withstand more rigorous methods of cleaning.

D. Brass may be unfinished or lacquered. Architectural brass hardware and trim is generally maintained in a highly polished, "bright" finish.

1. Unfinished brass MUST be polished frequently in order to maintain its luster. All polishing, however, removes some brass.

2. Lacquered brass will usually last about 10 years and does NOT require frequent polishing.

3. Lacquer protects the brass finish from deterioration, though some brilliance of its surface characteristics is sacrificed. Removal and reapplication of the lacquer, however, will not harm the brass surface.

E. 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. Diedrich Technologies, Inc.
7373 South 6th Street
Oak Creek (Milwaukee), WI 53154
800/323-3565 or 414/764-0058

2.02 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. For Cleaning Solid Brass:

1. Household items such as ammonia, vinegar, baking soda and table salt:

a. Household ammonia:

CAUTION: DO NOT MIX AMMONIA WITH CHLORINE BLEACHES, A POISONOUS GAS WILL RESULT! DO NOT USE BLEACH ON BIRD DROPPINGS.

1) Other chemical or common names include Ammonium Hydroxide; Ammonia water*; Aqua ammonia*.

2) Potential hazards: TOXIC; MAY IRRITATE THE EYES.

3) Available from chemical supply house, grocery store or pharmaceutical supply distributor, or hardware store.

b. Vinegar:

1) Potential Hazards: CORROSIVE TO

CONCRETE, STEEL, WOOD OR GLASS.

2) Available from grocery store or supermarket.

3) Vinegar itself, which contains about 4% acetic acid, may be suitable for some purposes requiring acetic acid.

c. Baking soda:

1) Other chemical or common names include Sodium bicarbonate; baking powder*.

2) Available from grocery store or supermarket, or drugstore or pharmaceutical supply distributor.

-OR-

Mild cleaner such as "Mr. Clean"

-OR-

Commercial paint and lacquer remover, such as "Diedrich 400 - Enviro-Safe Strip" (Diedrich Technologies, Inc.), or approved equal.

-OR-

Lacquer thinner

-OR-

Acetone (C3H6O):

a. A volatile fragrant flammable liquid ketone used chiefly as a solvent and in organic synthesis and found abnormally in urine.

b. Other chemical or common names include Dimethyl ketone; Propanone

c. Potential Hazards: VOLATILE AND FLAMMABLE SOLVENT

d. Available from chemical supply house such as Fisher Scientific Co. or hardware store.

2. Mineral spirits:

   a. A petroleum distillate that is used especially as a paint or varnish thinner.

   b. Other chemical or common names include Benzine* (not Benzene); Naphtha*; Petroleum spirits*; Solvent naphtha*.

   c. Potential Hazards: TOXIC AND FLAMMABLE.

   d. Safety Precautions:

      1) AVOID REPEATED OR PROLONGED SKIN CONTACT.

      2) ALWAYS wear rubber gloves when handling mineral spirits.

      3) If any chemical is splashed onto the skin, wash immediately with soap and water.

   e. Available from construction specialties distributor, hardware store, paint store, or printer's supply distributor.

3. Mild soap

B. For Polishing Solid Brass:

1. Liquid brass cleaner (contain a very fine abrasive) such as "Brasso", "Noxon", "Golden Glow", "Wright's Brass Cleaner and Polish" (J.A. Wright & Co.), or approved equal.

   NOTE: THESE WORK WELL ON TARNISH, BUT CAN LEAVE BEHIND A RESIDUE THAT WILL BUILD UP IN JOINTS OR CARVED AREAS IF NOT COMPLETELY REMOVED.

   -OR-

   Solid brass cleaner such as "Simichrome", "Wenol", "Flitz", or approved equal.

   -OR-

   "Neverdull" cotton wadding:

a. Cotton wadding impregnated with a cleaning solution.

b. It will not leave a residue, but can only be used as long as it is moist with cleaning solution.

C. Clean, potable water

D. Clean, soft cloths

2.03 EQUIPMENT

A. Eye and skin protection

B. Heavy gloves and protective gear

C. Soft natural bristle brushes

D. Pointed orangewood stick

PART 3---EXECUTION

3.01 EXAMINATION

A. Before proceeding with steps to clean brass, examine the surface(s) to determine the extent of the work required. Look for:

1. Broken, cracked, missing, distorted or loose parts.

2. Coating failures such as chips, losses, peeling, cracks, bubbling and wear.

3. Corrosion - caused by moisture, sea water and sea air, deicing salts, acids, soils, gypsum plasters, magnesium oxychloride cements, ashes, clinkers and sulphur components.

3.02 PREPARATION

A. Protection:

1. General: Comply with recommendations of manufacturers of cleaners, polishes and coatings

for protecting building surfaces against damage from exposure to their products.

2. Protect adjacent surfaces from contact with chemical cleaners by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape. Apply masking agent to comply with manufacturer's recommendations. Do not apply liquid masking agent to porous surfaces.

3. Protect persons and surrounding surfaces of building where metal surfaces are being restored, from damage resulting from metal cleaning and refinishing work.

   a. Prevent cleaning solutions and coatings from coming into contact with persons and other surfaces which could be damaged by such contact.

   b. Erect temporary protection covers over walkways for persons who must be in area of operations during course of metal cleaning and refinishing work.

   c. Provide ventilation to eliminate the spread of fumes to unaffected spaces.

B. Surface Preparation:

1. Before cleaning, determine if your brass surface is solid or plated:

   a. A magnet will stick to the steel beneath brass plating; it will not stick to solid brass.

   b. Solid brass can withstand much harsher treatment than brass plating can.

3.03 ERECTION, INSTALLATION, APPLICATION

NOTE: WHEN CLEANING, TRY TO RETAIN THE BRASS PATINA, AS THIS PROTECTS THE BRASS FROM FURTHER CORROSION.

NOTE: PERFORM EACH CLEANING, POLISHING, AND COATING METHOD INDICATED IN A MANNER WHICH RESULTS IN UNIFORM COVERAGE OF ALL SURFACES, INCLUDING CORNERS, MOLDINGS AND INTERSTICES, AND WHICH PRODUCES AN EVEN EFFECT WITHOUT STREAKING OR DAMAGE TO

ADJACENT SURFACES.

A. For unlacquered solid brass:

1. Apply brass cleaner (liquid, wadding or solid) using a clean, soft cloth, or use a jeweler's rouge pad. Apply cleaner to a small area at a time. Buff along the grain of the metal using a clean, soft cloth.

2. Quickly remove the cleaner by buffing the area with a clean, soft cloth.

3. Use a pointed orangewood stick to remove excess polish/cleaner from crevices and corners.

4. If staining occurs from the chemical cleaner, repeat the process.

5. To slow down the process of tarnishing, apply a lacquer (see 05010-12-P for guidance).

   -OR-

   Apply a silicone coating such as "Slipit". Follow manufacturer's instructions for application.

B. For lacquered solid brass:

1. Clean using ONLY a mild detergent and water.

   CAUTION: DO NOT USE AMMONIA-BASED CLEANERS ON LACQUERED BRASS. THEY WILL DETERIORATE THE COATING.

2. Rinse thoroughly and dry with a clean, soft cloth.

3.04 ADJUSTING/CLEANING

A. During the work, remove from the site discarded cleaning and coating materials, rubbish, cans and rags at end of each work day.

B. Upon completion of coating work, remove all protective coverings and coatings, and clean window glass and other coating-spattered surfaces. Remove spattered coatings by proper methods as recommended by coating manufacturer, using care not to damage adjacent surfaces.

END OF SECTION