

# Brass Care Instructions

## HANDLING

Bare bronze should not be handled with bare hands. Salts and oils from your skin can etch into uncoated metals and may even cause permanent damage to the finish. Fingerprints are often discernible as darkened disfiguring marks on uncoated areas. Soft cotton gloves or any clean glove or rag may be employed for this purpose.

Lift objects from their center of gravity, and avoid lifting objects by lip, limbs, handles, spouts or other extended areas; the metal may have developed unseen weaknesses over time and may bend or break unexpectedly.

## STORAGE

Most home environments are safe, but generally speaking, basements are damp and therefore should not be used for storage. Do not allow dust to accumulate on stored objects. You may choose to drape plastic or cloth curtains around storage shelves, but do not place statues in sealed plastic bags; the danger of moisture condensation on the metal outweighs the benefit of dust protection.

## CLEANING AND POLISHING

If you choose to attempt cleaning your bronze or brass, and you are sure of the surface appearance you wish to achieve, some of the following suggestions may help:

### CLEANING

Stable or painted surfaces should be kept dust free. Vacuum clean all stable statues regularly, using the nozzle attachment with a brush. A bristle brush, or a toothbrush may help to raise dust from crevices.

Sometimes surface grime can be removed satisfactorily with soap and water. We recommend a plain soap in a 3% solution in water. Use deionized or distilled water, and rinsing is a very important step. If the dirt you want to remove is very greasy, "Vulpex Soap" may be used in mineral spirits, in a 3% solution; rinse with straight mineral spirits. It is especially important to remove old polish residues, which appear usually as dark green, gray or white deposits in cracks.

Calcareous (lime or hard water) deposits may respond to a 10 % solution of regular "Calgon" (sodium hexametaphosphate) in distilled or deionized water. Allow the solution to soak into the crust and then remove by scrubbing with stiff brushes. Then rinse thoroughly in distilled water.

### DEGREASING

The presence of degraded oils and grime may promote corrosion. You can degrease most uncoated statues with mineral spirits. (Please consult the manufacturer or Material Safety Data Sheet for complete safety requirements.) Wipe it over the surface in a small, inconspicuous area first to test for discoloration. After the solvent has evaporated, check for any undesirable effects (usually caused by residual dust or an old finish). Continue the cleaning process, using mineral spirits- dampened cloths to lift the grime. You may find that sharpened bamboo skewers, nylon bristle "parts brushes", craft stencil brushes or even tooth brushes help you to get into crevices and joined areas. If straight mineral spirits does not seem to be raising the grime, a surfactant, "Vulpex Soap", may be used in a 1% solution in mineral spirits. Be very certain to rinse with clean mineral spirits to remove residual detergent. This method is Not recommended for old copper with richly patinated surface accumulations.

### CORROSION REMOVAL

Very heavily corroded objects, like those unearthed or found in water, statues with original painted surfaces or those damaged by salts may require the assistance of a trained expert. By attempting to remove thick corrosion with steel wool or other scrapers, you may end up scratching or abrading the metal surface.

### POLISHING

Some bronze may have been polished to a bright finish, and altering original surfaces may reduce the historical value of an object. As mentioned above, some dark, stable surfaces may be considered "patinas." Collectors should be aware of any special finishes, especially lacquers and patinas, which may determine the correct color the metal should be, the degree to which it should be cleaned and/or the degree to which it should be polished. If you come across any special coating after you have cleaned off the simple dirt, you may wish to consult with an expert before proceeding.

If you wish to return a bronze or brass object to its original, polished appearance, it is usually possible with a fair amount of elbow grease and a good polishing compound.

Old lacquers must be removed prior to polishing. If the lacquer is original and in fairly good shape, you may consider investing in a professional treatment to preserve it. Lacquer removal is best done with acetone, preferably by immersion. Acetone is a volatile solvent that should never be used in a poorly ventilated area. (Please consult the manufacturer or Material Safety Data Sheet for complete safety requirements.)

Polishing with a mild abrasive is the only safe cleaning method recommended. Copper and its alloys are relatively soft metals. Commercially available "dips" may contain undesirable components such as hydrochloric or sulfuric acid which act too quickly and remove more metal than simple polishing does.

Some commercial paste polishes are quite abrasive and may scratch your fine metalwork. For statues not suffering from heavy corrosion "Duraglit Wadding" polish may be somewhat less abrasive than others. Light polishing may be done using jeweler's cloth containing rouge ( i.e. "Birk Cloth", "Hagerty Glove"). A museum-proven, safe polishing method is as follows:

#### POLISHING METHOD 1

For most polishing use fine calcium carbonate, CHALK, ("whiting") worked into a slurry or runny paste with equal amounts of ethanol (denatured alcohol, ethyl alcohol) and distilled water. The paste is rubbed across the surface, working a small area at a time, with cotton balls or clean cotton rags. Detailed areas may be polished with Q-tips in the paste or with cotton wadding on the end of a sharpened bamboo skewer. Depending on the design of your object, it may not be desirable to over-clean every crevice, as this decreases the overall contrast of the detailing. It is important to remove all residual polish with distilled water. Drying may be accelerated by adding ethanol to the rinse water, or by giving the object a final wipe with ethanol.

#### POLISHING METHOD 2

Some statues may not respond to the special treatment outlined above because the oxidation layers are too thick. For an admittedly more abrasive method, use "Solvol Autosol" for general purpose polishing. Test for the degree of polish you wish to achieve on a small inconspicuous part of the object. Buff on the polish with a clean rag. The surface must be rinsed with mineral spirits after polishing to remove any polish residues. This polish can be recommended because it contains less ammonia than other commercial brands. Ammonia can cause long-term damage to valuable bronze objects.

#### COATING

Polishing exposes fresh, reactive metal to the atmosphere and, therefore, to further oxidation. You may wish to coat objects that will not be used. We lacquer valuable silver and brass for their protection. This also eliminates the need for frequent polishing - a process that inevitably wears away the metal surface if done frequently.

#### WAX

For most collectible bronze and brass statues, the best coating we can generally recommend is wax. Wax provides a relatively flexible coating that is easily applied and that can be renewed. It can be used on top of original patinas and lacquers that you do not wish to disturb, as long as they are cleaned first. Use "Renaissance" wax, or other "microcrystalline" waxes in most cases, because it is inert and will not yellow over time. It is applied to a degreased surface with a clean cloth, and buffed out with a rag or bristle brushes (shoe polish brushes are great for this purpose).

For better adhesion, you may wish to dilute the wax in mineral spirits or varsol, brush it on, let the solvent evaporate and then buff with a rag or soft shoe polishing brush. An alternative, on objects made entirely of metal, is to gently and briefly heat the degreased surface with a hair dryer before applying the wax. (Do not try this if heat sensitive materials such as wood and ivory are nearby.)

Again, wax is not an appropriate coating for all metal surfaces, especially where it is impossible to cover the whole object, or where the slightly glossy finish would be inappropriate.

#### LACQUERS

Lacquering involves the use of solvents to clean the metal properly (acetone or tri-chloroethane). On large areas of metal a spray-applied lacquer achieves the most even and durable finish. Spray lacquering is a task best left to qualified individuals with the training and equipment necessary to do a good job.

Poorly applied lacquers can actually cause more severe corrosion if small areas are left exposed.

If there are small areas or pieces of a bronze that need coating, you may achieve satisfactory results by brushing on a lacquer. We recommend "Incralac" lacquer, which is formulated for use on copper and copper alloys. It is soluble in the solvents xylene and toluene and must be used in a well-ventilated area. (Please request a Material Safety Data Sheet and instructions when you order this product) The metal must first be scrupulously clean, and you should always wear gloves to handle the artifact after it has been polished. Just prior to applying the lacquer, the artifact should be given a final degreasing with acetone. Lacquer gives a shiny luster to the metal.