

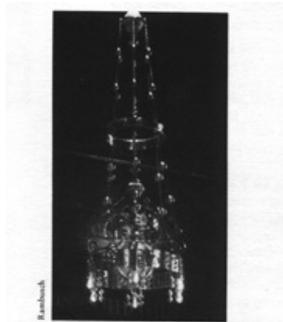
Technical Tips Maintaining Brass and Copper



Use a lathering brass cleaner on a damp sponge and a horsehair brush to clean tarnish or residue from crevices of unlacquered objects.

Fixtures and furnishings made of brass and copper are found in nearly every house of worship: lighting fixtures, religious symbols, candle holders, door and window hardware, statuary, and many other items. Copper is initially bright reddish-brown in color. When exposed to the atmosphere, it acquires a protective patina that turns from brown to black to green over an eight to ten year period. This patina usually prevents deeper corrosion. Brass is yellowish in color, made of an alloy of copper and zinc, with small amounts of other elements. Brass and copper may be polished to preserve their natural color or modified with artificial patinas and finishes created by chemical and mechanical processes. Examples include antiqued, brushed, burnished, matte, or mottled finishes. Brass may even be painted with metallic powder to create a rich gilded finish. Natural colors or artificial finishes on brass and copper can be preserved for many years by a clear coating of lacquer.

Maintenance depends on the type of finish and if the object is uncoated or lacquered. Sometimes it is difficult to distinguish the difference between coated and uncoated metal. If you are uncertain, says Peter Romeo of The Lamp Doctor, test the metal by dabbing a solution of one part baking soda dissolved in one part white vinegar with a soft cloth on an inconspicuous area. If the metal cleans and brightens immediately, no lacquer is present. If there is no change in appearance, the object is lacquered. This solution will not harm the lacquer, whereas testing with a brass cleaner will affect the lacquer finish. Unlacquered polished brass and copper can both be cleaned with mild soap and polished with a household brass polish and a soft cloth. Brass and copper objects that are regularly polished will acquire a satiny sheen called a "butler's finish." Avoid aggressive over-polishing with abrasive cleaners, devoting more attention to the crevices of finely detailed objects which tend to accumulate tarnish and polish residue. For these detailed objects, use a lathering brass cleaner on a damp sponge and a horsehair brush commonly used for cleaning silver. Lacquered and gilded finishes need only to be dusted and cleaned with a soft, damp cloth. A lacquer coating will eventually yellow and deteriorate, depending on the object's exposure to humidity, sunlight, and handling. Gilded finishes are particularly vulnerable to damage as they can be mistaken for tarnish or over painting. Never use brass polish on lacquered or gilded surfaces since it will ruin the finish!



Brass chandeliers at Sage Chapel, Cornell University made by Lamb Studios in 1904. In 1996, they were taken down, disassembled, polished, lacquered, and rewired.

Once a lacquered finish deteriorates, the lacquer must be stripped so that the object can be polished or refinished. Small items like door hardware can often be commercially refinished by lamp restoration shops for under \$100, whereas large, multi-faceted fixtures like chandeliers start at about \$1,000. Normally, chandeliers must be removed using a scaffold, photographed, taken apart, refinished, rewired, and reassembled. Deteriorated objects -― those that are severely pitted or cracked -― should be examined by a specialist to determine if and how they can be repaired through mechanical or chemical means. Metal conservators can perform prioritized conditions surveys and train staff on in-house maintenance (see Resources for tips on finding refinishers and conservators). Finally, before starting a cleaning project remember to document metalwork, especially items that are easily removed or of high artistic value, with photographs and written descriptions for the building archives.

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