

Silver Cleaning and Care

Vocabulary:

Fine or pure silver:

99.9% silver.

Sterling silver:

An alloy composed of at least 92.5% silver and 7.5% other metals, usually copper.

Silver plate:

A sheet of silver fused with copper, made by passing the sandwich between two polished steel rollers in a flattening mill. Forms were die-stamped and mass-produced.

Electroplating:

A process by which metal ions suspended in a solution are moved by an electric fields to coat an electrode.

Britannia or white metal:

A tin alloy composed of < 90-97% tin, 7% antimony, 2% copper and/or zinc.

Pewter:

A tin alloy composed of 85–99% tin and 19%-1% copper, antimony, bismuth, or lead.

Paktong:

An alloy of copper, nickel, and zinc.

Nickel silver:

An alloy of 60% copper, 20% nickel, and 20% zinc.

Hallmarks:

Stamped marks used to indicate the purity of the silver alloy used (lion passant: sterling, or standard mark), to indicate its quality was tested and assayed at one of the assay offices and used to indicate place of probable manufacture (leopard head: city or assay mark), to indicate year of assay and sometimes assumed to be date of manufacture (date letter: date mark), to indicate a duty had been paid on the object (sovereign head: duty mark), and to identify the silversmith or company (maker's mark).

Decorative Arts Bibliography:

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Krill, Rosemary Troy. *Early American Decorative Arts, 1620-1860: A Handbook for Interpreters*. Walnut Creek: Altamira Press, 2001.

Pickford, Ian, Ed. *Jackson's Silver & Gold Marks of England, Scotland and Ireland*. Woodbridge: Antique Collectors' Club, 1989 (1905).

Quimby, Ian M. G. *American Silver at Winterthur*. Winterthur, DE: Henry Francis du Pont Winterthur Museum, 1995.

Venable, Charles L. *Silver in America, 1840–1940: A Century of Splendor*. Dallas: Dallas Museum of Art, 1995.

Silver Care:

Silver handling:

- Wear petroleum-free nitrile gloves. Or, wear clean cotton gloves.
- Move pieces using both hands wrapped around the most stable part of a vessel. Arms or projecting pieces may be weak.

What is Tarnish?

- A product of a chemical reaction between metal and a nonmetal compound.

Tarnish prevention:

Storage:

- Avoid contact with protein-based materials that contain sulphur compounds such as silk, wool, or leather.
- Do use sulphur-absorbing materials or products. See the Long-term Storage Solutions.

Display:

- Keep silver dust-free as dust absorbs moisture, accelerating the progression of tarnish. Use lint-free cloths or clean and fine, soft brushes.
- Place objects in dry areas away from natural or artificial forced air such as windows or HVAC vents.

Tarnish removal:

Tools:

- Petroleum-free nitrile gloves – www.labsaftey.com, www.safewareinc.com
- Cotton – Pharmacy, www.talasonline.com
- Precipitated calcium carbonate USP – Industrial suppliers, www.talasonline.com
- Distilled Water – Grocery stores

Instructions:

- Remove dirt or dust with a lint-free cloth or a soft brush.
- Examine the object for signs of mechanical or structural instability, dents, or scratches.
- Mix a small amount of precipitated calcium carbonate USP (chemical compound: CaCO_3) and distilled water in a shallow dish until it is the consistency of a runny slurry.
- Apply a small amount of the slurry to the object with cotton and, using small and gentle circular motions, rub the object. Replace the cotton as it removes tarnish. Gloves and the table surface may need to be refreshed, too.
- Remove residues by wiping or rinsing the surface of the object with cotton dipped in distilled water. Denatured alcohol may also be used.
- Dry with cotton or a clean, lint-free cloth.

Particulars:

- Try not to polish too often or too aggressively.
- Be careful. It's easy to use too much calcium carbonate to polish.
- Replace the used cotton often; tarnish can scratch the silver surface.
- Do not allow liquids to touch elements that are difficult to clean or dry. i.e.: crevices or handles made of ivory or wood.

Long-term Storage Solutions:

Tarnish Inhibitors:

Silver tarnish-inhibiting/ tarnish-directing plastics and cloth:

Wrap a silver tarnish-inhibiting cloth around piece and place in a clear Mylar or Polyethylene bag.

Tools:

- Sulfur-absorbing: Bonded materials react with corrosive gasses to mitigate and neutralize the microenvironment.
 - Generic -- most high-end fabric stores.
 - 3M Anti-Tarnish Strips -- www.gaylord.com, www.universityproducts.com
 - Charcoal cloth -- www.universityproducts.com
 - Corrosion Intercept -- www.universityproducts.com

- Silver sacrifice: Silver particles are embedded into a cloth, corroding before the objects housed.
 - Pacific Silvercloth -- www.gaylord.com, www.universityproducts.com
 - Mylar bags – Turkey baking bags.
 - Polyethylene bags – www.talas.com

Tarnish barrier:

Wrap silver in a piece of acid-free, “non-buffered” or “unbuffered” tissue paper and place in a heat-sealing, or a self-sealing bag.

Tools:

- Acid-free, “unbuffered” tissue paper -- www.talas.com
- Mylar or Polyethylene: See above.

Environment:

Store in a stable, well-ventilated environment.

Silver Care Bibliography:

Institute of Conservation, ICON. “Care and conservation of silver and plate.” *Conservation Register* (2011). 2006. <http://www.conservationregister.com/downloads/Silver.pdf>

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Metcalf, Simon. “Weighing up silver objects: evaluating past and future conservation Methods.” *Conservation Journal* 22 (January 1997): 4-5. January 1997. http://media.vam.ac.uk/media/website/uploads/documents/legacy_documents/file_upload/42729_file.pdf

Selwun, Lyndsie. “Silver – Care and Tarnish Removal.” *CCI Notes* 9/7 (2007): 1-5. Revised 2007. http://www.cci-icc.gc.ca/publications/notes/9-7_e.pdf

General Conservation Websites:

The Canadian Conservation Institute: www.cci-icc.gc.ca

The American Institute for Conservation of Historic and Artistic Works: www.aic-faic.org

American Institute for Conservation of Historic and Artistic Works: www.conservation-us.org

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