



## Service One, Inc. Technical Paper

# Maintenance and Restoration of Architectural Bronze

Whether the substrate is Brass, Bronze, Muntz, Copper or Nickel Silver, Service One's experienced technicians can restore it to its original elegance.

Just a few of the finishes and types of surfaces we restore and maintain include:

- Bronze: Polished, satin, antique or statuary and bronze art castings.
- Interior ornamental metals: Handrails, plaques, signage.
- Elevators and escalators.
- Entrances, window, door frames and extrusions.
- Lighting - Sconces and chandeliers: Cleaning, refinishing and rewiring.
- Historic conservation- Sculptural bronze statuary and castings are treated with the least intrusive techniques, all with the highest regard for conservation and the original history of the artwork.
- Patina finishes on bronze, brass and copper

### **Satin Bronze (#4 Finish)**

#### ***METAL CHARACTERISTICS AND DESCRIPTION OF REFINISHING METHODS***

Whether the alloy is Brass, Muntz, Copper or Nickel Silver, Service One's experienced technicians can restore it its original elegance. The original coatings are stripped, then, a detailed cleaning of the metal with mild jeweler's abrasives restores the grain and results in a chemically clean surface. The metal is then sprayed with 3 to 4 coats of a synthetic clear acrylic coating. Only the highest quality coatings are used and additives to resist marring and oxidizing are applied. All glass and adjacent areas are masked during the refinishing process.

Refinishing is recommended from quarterly (on high wear areas such as door handles and revolving doors) to every three years.

#### ***COMMON CAUSES OF SURFACE DETERIORATION***

Ultraviolet deterioration, pitting, neglect, de-icing products oxidation, acid rain, sulfur compounds (auto & factory pollutants), vandalism and scratches due to a high volume of pedestrian traffic. The maintenance of bronze and stainless steel by untrained personnel is evidenced by a dull finish, random patterns and cross graining.

### **Mirror Bronze (# 7 and # 8 Polished Finishes)**

#### ***METAL CHARACTERISTICS AND DESCRIPTION OF REFINISHING METHODS***

The refinishing of mirror surfaces is truly an art, and there is no substitute for patience and high quality materials. The refinishing process described in the satin description is used, however,

after the satin finish is completed, a series of finer buffing procedures must be followed. High-speed power equipment is used with a number of polishing mediums to give a uniform, lustrous finish to the work.

Our quality standards require several extra steps to assure you the highest degree of reflectivity available. Refinishing is recommended quarterly to annually for polished surfaces. Day to day maintenance with neutral cleaners and soft cloths is also required on high traffic areas. Ammoniated cleaners can damage the finish over the long term.

***COMMON CAUSE OF SURFACE DETERIORATION***

Same as Satin Bronze; however, the highly reflective surface shows oxidation very quickly . The signs of improper maintenance performed by others shows very quickly.

**Oxidized Bronze** (Antique, Statuary or US10B Finish)

***METAL CHARACTERISTICS AND DESCRIPTION OF REFINISHING METHODS***

All metals will oxidize in time with exposure to the atmosphere and pollutants. An oxidized finish on bronze consists of a controlled coloring and highlighting of the natural grain of the metal. This process can be performed on site by trained technicians. A series of chemical baths are applied which slowly change the color. The colors range from light statuary brown to deeper medium tones to dark statuary bronze, and finally to black and gunmetal. When the desired color is achieved, a clear synthetic coating is applied to halt the oxidizing process and protect the surface.

Refinishing is recommended semi-annually to every four years depending upon location and function of the metal.

***COMMON CAUSES OF SURFACE DETERIORATION***

Same as Satin Bronze; in addition, vandalism and uneven deterioration of the oxidized finish.



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