

Bronze sculptures are timeless products meant to be appreciated and enjoyed in all environments; however, these artworks will only maintain their original appearance as long as they are periodically cared for. This set of care instructions is meant to help the owners of fine bronze to become a more knowledgeable and responsible caretakers of their artworks.

As a last measure to protect a newly created bronze and the last step in the patina process, an application of wax is applied to the bronze before an artwork leaves the foundry. This wax helps prevent oxygen from getting to the bronze and oxidizing the surface. Over time however, this wax barrier wears off and the effects of oxidation will then distort or ruin the patinated bronze surface. The best method for caring for patinas always includes regular cleaning and waxing, which is important to both the appearance and longevity of the bronze. Please contact Falls Art Foundry to schedule a maintenance program for your fine art bronze sculptures.

**1. The Nature of Patinas:** Patinas are thin films of color created by the application of heat and chemicals to the surface of a bronze. A patina on bronze is the equivalent to rust on iron, only bronze is more interesting than iron because the copper in the bronze can react with a variety of colors. The color comes about from the chemical reaction with the copper found in the bronze alloy and is known as a conversion coat. This is different than paint where the surface is covered with a pigmented layer which adheres to the metal rather than becoming part of the metal. The application is done at the foundry and requires skill and craft. Patinas that have been cared for get more handsome as they age and protect the bronze sculpture against corrosion. The best method for caring for patinas always includes regular cleaning and waxing.

**2. General:** The cleaning and waxing of bronzes is important to both the appearance and the longevity of the bronze. Waxing should be done at least twice a year, in the spring and fall. Ideally it would be done every couple of months depending on the weather and the surrounding conditions. If dust, dirt, or droppings build up on the sculpture, it is time to wash. If the sculpture looks dull and flat, it's time to wax.

**3. Washing:** Dust on indoor sculpture can be removed with a cloth or duster. For outdoors, wash the sculpture with warm water and soft cloths. Washing before waxing removes dust and dirt and keeps it from being covered with new wax, which would seal it into the sculpture. A soft, **non-wire** brush or wooden tool will help to get into corners and remove stubborn dirt. Any anionic soap can be used. "Joy" and "Dawn" liquid soaps work well in combination with soft, natural bristle brushes. A commercial anionic cleaner called "Orvus WA

paste” is also available from conservation supply companies. It is important to rinse any soap residue from the sculpture by rinsing with water before drying or waxing.

**4. Deposits and Accretions:** Outdoor sculptures are often placed near or under trees. Tree droppings can be tenacious and actually shorten the life of a patina. For problems of this nature the best policy is careful and regular observation and prompt cleaning. Bird droppings are particularly destructive to patinas and should be removed as soon as they are discovered. Any dropping that has hardened onto the surface of the sculpture should be softened by placing a damp paper towel on the deposit. For stubborn deposits a teflon scraper, wooden tool, stiff natural bristle brush, or even the edge of a plastic credit card can be used as a scraper. If none of these work, try using a solvent such as lacquer thinner or naphtha to soften the deposit. Never use abrasives or chemicals on bronze surfaces.

**5. Conditions for Proper Waxing:** The bronze should be completely dry before waxing. If the weather is not hot, drying with clean soft towels is recommended. If the weather is hot, still use towels to prevent evaporated water droplet rings from being left on the metal surface. The goal is to be sure that all of the water is out of the pores of the metal. An ideal day for waxing would be a cloudy day with the temperature between 70 and 80 degrees F. In the summer, waxing should be done on cool mornings or late afternoons. In the spring and fall, do not wax at temperatures below 60 degrees F.

**6. Waxing:** The actual waxing of the sculpture consists of putting a thin, uniform layer of wax on the surface of the sculpture. Any clear quality wax can be used, however waxes with carnuba and or a microcrystalline content are advised. “Trewax” or “Butcher’s” clear bowling alley wax are widely available and work well. Avoid waxes that are colored, for they will change the appearance of the patina. Apply the wax to the surface with a soft bristle brush. If the brush has any metal parts on it, it is best to protect the bronze from being scratched by covering the metal with masking tape. Work in a circular motion to rub the wax into the surface of the metal in a thin, uniform coat. If too thick a coat is applied, the wax may show brush strokes or turn white and clog fine detail. One way to prevent a build-up of wax is to wipe off the brush onto a paper towel before putting the brush to the surface of the bronze.

**7. Buffing:** After the wax is dried (usually in about 30 minutes), buff the surface to a consistent gloss with soft, clean cloths. Buffing the sculpture is achieved by polishing the wax on the surface of the sculpture rather than trying to rub the wax off the sculpture. Start gently and then as the surface gets a sheen, rub more vigorously.

**Prohibitions and Notes on Bronze Sculpture Placed In or Near Water**

Never use any chemical, cleaning solutions, tarnish removers, or any other unknown or previously unused substance to clean the surface of the sculpture.

Avoid exposure of the sculpture to chemicals including, but not limited to: grass and tree fertilizer spray, pesticides, bug sprays and foggers, window washing products, ammonia or other commonly used household products. Chemicals will adversely affect the patina.

Never use abrasive cleaning pads, steel wool, or sand paper on the sculpture. Use of such materials could mar or scratch the surface of the sculpture and require refinishing.

**If a bronze sculpture is placed in a fountain setting, where it will be continuously splashed with water, certain precautions must be taken.**

Your fountain should be equipped with a urethane filter, which will minimize debris in the water. If your area has particularly hard water, you should seek consultation with your landscape designer or a water consultant on how to filter out minerals and salts.

The sculpture will have to be waxed much more frequently (perhaps every 3 months) to maintain the surface appearance. However, areas that are constantly splashed with water may result in discoloration, which is considered normal for a water installation.

A bronze sculpture should never be placed into or splashed with chlorinated water such as in a swimming pool or Jacuzzi. Chlorine is extremely corrosive and will eventually erode the metal.

**Natural Wear and Aging**

It is the natural course of bronze, even when maintained, that the patina will slowly mellow and deepen. This is highly desirable and considered part of the joy of owning fine bronze work. A bronze sculpture which has been installed in an area where the air is heavily laden with salt will patina even faster. While bronze is very durable and will last for centuries, it must be acknowledged that there will be some wearing of the patina, especially if it is constantly touched or in contact with the natural world.

*We hope that these care instructions will help you to more fully enjoy and appreciate one of life's most beautiful and expressive art materials. If you have any further questions, please call Falls Art Foundry or where you acquired your bronze sculpture.*