

Caring for Your Outdoor/Indoor Star York Bronze Sculpture

The environment in which your outdoor bronze is placed will determine the intensity of the maintenance program of your outdoor bronze sculpture. In large urban areas with humid and acidic atmospheres, green spotting and streaking will occur, which in a small amount of time, can cover the entire surface of the bronze. In dryer climates, the maintenance program will be less demanding since there are fewer airborne contaminants. However, in the Southwest the sun can affect the lighter colors, eventually darkening the overall patina. Keeping your bronze clean and waxed will insure a long life for the original patina.

When placing a sculpture inside it is important to keep the bronze out of direct sun or away from humid environments such as an attached green house, the bathroom, or inside pools. Greenish, blue streaks and spots will become visible particularly with darker patinas. Lighter patinas will damage in direct sun, resulting in discoloring. The metal does heat up absorbing the wax, resulting in a darkened patina as you maintain it. In some cases the sun, whether indoor or out, is capable of causing chemical reactions within the layered patinas applied to the sculpture. Indoor sculptures still require a watchful eye and a yearly/ bi- yearly maintenance program to slow the oxidation process and maintain the luster of the original patina. It is not advisable to use any furniture polishes or cleaners to dust or clean bronze which may result in the discoloring or the stripping of wax and/or lacquer meant to protect the piece. Please refer to the waxing process later described in this document for your inside sculpture.

In many areas of the Southwestern United States, the water is very alkaline, leaving crusty deposits on bronze fountains or other bronze surfaces placed in paths of sprinklers systems. These deposits may be difficult or even impossible to remove, short of a complete restoration of the bronze patina. If small amounts of these alkaline or calcium deposits are to be removed, a mild solution of vinegar and water may be applied, using a soft scrub brush, and rinsing thoroughly. If higher concentrations are deposited on the surface, then tougher measures may be required, such as using brass wool, fine steel wool or a soft scotch brite hand pad to remove these thicker deposits. There are many commercial cleansers on the market expressly made for removing such deposits from metal. Many of these products may be purchased through janitorial supply outlets, or it might be advisable to check with pool

supply companies in these areas of the U.S. as they may carry other products associated with the removal of the crusty residue without too much damage to the patina.

TOOLS & APPLICATION:

Most tools needed for the maintenance of your outdoor sculpture are relatively inexpensive and can be purchased in hardware and janitorial supply stores.

1. **Clean running water.** Prior to waxing, the surface of your bronze must be cleaned, preferably with a garden hose that has a spray nozzle attachment. Water from ponds or rivers should not be used since they may contain pollutants which can damage your bronze.
2. **Soft, non-metallic scrub brushes.** Plastic or natural bristle scrub brushes will usually not scratch or cause any changes to the patina or bronze, and are recommended for textured areas where the bristles can loosen the dirt.
3. **Non-ionic or neutral detergent.** Many household detergents are **not** recommended for cleaning bronze due to the chemicals they contain which can damage the bronze. A non-ionic or neutral detergent mixed with water will loosen and lift unwanted pollutants from the surface using a soft, non-metallic scrub brush. *Never use concentrated detergent directly on the surface of the bronze.* Mix the detergent and water (please refer to the instructions on the detergent label for the recommended amounts) in a non-metallic bucket. Dip the scrub brush in the soap mixture and apply the detergent to the surface, starting at the top of the bronze and gently working in a circular pattern downward, and rinsing as you go. Be sure to scrub the low lying recesses well since this is where most corrosion begins. Allow your bronze to dry in the sun, although you can use towels to soak water from recesses. The bronze must be very dry before waxing, to prevent water from getting trapped under the wax and causing damage to the sculpture.
4. **Clean, flat paintbrush.** A new "chip" paintbrush about 2"-3" wide is recommended for the application of wax on your bronze surface. Do not use old paintbrushes as they contain pigment, dirt, and other unwanted materials that may ruin your bronze's patina. Purchase various shapes and sizes of paintbrushes to reach in and around tight areas of the sculpture. Wrap the metal ferrules which connect the bristles to the handle with soft tape (masking tape,

duct tape, etc.) to avoid scratching the bronze. *Never apply paste wax with a towel or cloth since it has the potential to remove previous layers of protective wax.*

5. **Clean, dry cotton cloths.** Once the wax has dried on the bronze surface, use a cotton cloth to buff or shine the wax. Cotton towels may also be used to wipe down and dry the bronze sculpture after it has been washed, prior to waxing.

6. **Wax.** Probably the most important component of your maintenance program, wax, when applied to the surface of your outdoor sculpture, will not only protect the patina and bronze from the elements but will also extend the life of the artwork. *It is important to know that certain waxes should be used only on certain patinas, as some waxes will darken light patinas, while others may leave an unwanted buildup or staining effect on the bronze surface.* The following commercial paste waxes are readily available and recommended:

a) **Sculpt Nouveau's** Recommended for outdoor use. This wax is made with binders, rust, and UV inhibitors. It is ideal for Bronze, Brass and Copper. The wax is available in clear as well as many colors. Their **Solvent Dye** may be added for extra color.

They have blended the finest waxes for finishing metal along with the most effective inhibitors then added extra hardeners to create the first wax that is made just for metal. The wax creates a very beautiful, hard protective coating once cured. The wax will be soft in the container. Apply to a hot or cold surface. Stippling with a brush may be the preferred method of application so as to not create streaking on the surface. Try not to let the clear wax fill up in the recessed areas as it may turn white. Use a toothbrush or soft brush to remove the excess wax from these areas. When using the colored waxes the build up in the recessed areas is desirable. If you are waxing on a cold surface with the clear wax, buff after 15 to 30 minutes. Let the colored wax sit longer, up to an hour then buff. The colored waxes take much longer to dry. If you are applying the wax to a hot surface, let the surface cool down, then buff. Do not apply the wax to extremely hot surfaces; let the surface cool down somewhat. Do not wait longer than these times to buff in any circumstance as the wax soon dries too hard. Lacquer or varnish may be applied over a hot application of wax once it has cooled, if there is only one coat of hot wax.

This wax works well when applied over another clear protective coating or used alone. It also is effective over a rusted surface or patina - although for outdoor rusted metal we recommend applying a marine varnish over the rust, and then apply the wax.

b. **Clear Trewax Brand Paste Wax.** Recommended for indoor use as a protective coating, Trewax is highly recommended *for light patinas and patinas where little or no change is requested in the appearance of the bronze.* Trewax should be applied in thin coats (as buildup can occur quickly), using a soft ferrule-wrapped paint brush on cool bronze surfaces for best results. Apply Trewax to the brush by laying the bristles across the surface of the paste wax and wiping back and forth in a sweeping motion. *Trewax has a fast drying time, so if the patina has darkened and has not returned to its original color, then either too much wax was applied and the excess must be gently and quickly wiped away; or the surface of the bronze was too warm to accept wax coatings.* Trewax may darken light patinas and leave a "Mud Pack" effect on darker ones if applied to a warm surface.

When Trewax is first applied to the surface, the coloration may temporarily darken and intentional patterns within the patina may temporarily disappear. When the wax dries on the cool bronze surface and the colors and patterns return, then it is time to shine the bronze to a glossy finish. Shining the bronze before the wax has dried may cause color smearing or distortion. Since Trewax has a fast drying time, it is advisable to apply, let dry, and buff smaller areas of larger surfaces, until the entire piece is covered.

Using a soft ferrule-wrapped paintbrush, apply the wax to the brush in a stroking motion by sweeping the bristles of the brush gently across the surface of the wax. Two to three strokes should be sufficient. Apply the wax to the WARM bronze in a sweeping motion. The patina will darken immediately, hiding lighter "water stains" and other blemishes seen above or within darker patinas. After applying the wax, allow the bronze to cool so the wax can dry and set.

Once the wax has dried, use a clean soft cotton cloth to wipe the bronze surface while applying the wax in a circular motion. This will compress and shine the dried wax. Use a soft,

thick nylon brush to shine textured surfaces and hard to reach areas. Also apply more wax coatings in areas of the bronze where water tends to collect.

These days with all the innovative colors and patterns, a hard sealer is used, i.e., synthetic lacquers and varnishes which will extend the life of the original patina. But it is still suggested to keep in mind the outside natural hazards to the patina and the surface of a bronze such as the sun, humid climate and pollutants. Eventually all things break down, and a maintenance program of wax is still suggested twice a year. It is recommended to wax once in the spring and the second in the fall applying during the cooler parts of the day. When in humid climates expect to wax several more times throughout the year.

The effect of a natural aging process is generally what is widely accepted and desired as a natural overall change to the bronze. Although, there may come a time when a collector wishes to recondition a weathered patina. A fresh look can add vigor or create a new perception to an older piece, as it again, becomes a natural part of the landscape in the aging process. In general it is the collector's prerogative to modify a piece, whether it is the natural occurrence or a revitalized patina. Most of the time this can be done on site, and there are several companies around the nation that specialize in this kind of restoration.

It is always advisable for a collector placing a sculpture outside to understand the aging process of the material used in creating the sculpture. When any sculpture is exposed to natural environment elements, particularly sun and sea air, it must be protected and maintained to remain new looking, tho the changes are surface they do not effect the integrity and sculptural value of the bronze. Many people prefer to see the weathering process, and feel it actually enhances the beauty of the art.

The above information was collected and compiled from *The Care of Bronze Sculpture* by Patrick V. Kipper. Please refer to this book for further information and reading. To order the book, please contact Rodgers & Nelsen Publishing Co., PO Box 7001, Loveland, CO 80537-0001, and 970-593-9557.