

Life-Size Bronze Foundry Process...



"Exquisite Moment"

Nordquist

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Judy & Kim Nordquist, creating a Life-size bronze sculpture



Original Scale Model Sculpture – three months

To create a Life-size sculpture, the 1/5 Life-size scale model is sculpted in oil based clay from photos and measurements of the individual horse. The clay model is then molded and cast in bronze with ancient art of lost-wax casting—the oldest example of this technique is over 6,000 years old. Judy and Kim share the process with you below.





Foam Enlargement Process – 4 weeks

The scale model is scanned with a laser and enlarged with a CAD program. The Life-size is milled in sections of blue foam. The blue foam sections are glued together in preparation for the artist to add the clay



The life-size clay is then carefully put together on a steel armature.



Sculpting the Life-size clay sculpture

Sculpting the life-size clay – 4-5 months

It takes days of carving into the foam to redefine the detail of the foam model. Then months of adding the clay to the foam model to sculpt the details of the muscles, tendons, and facial features.



Attention to every detail -- takes a lot of time and careful work!







Finally, the finished Life-size clay sculpture is ready to go to the foundry!



Mold & Wax Pouring



Mold and Wax Pouring – 8 weeks

This step is the most important part in making sure the bronzes are true to our original sculpture.

Rubber is painted on the clay sculpture and then coated with plaster of Paris for support. The finished Life-size clay sculpture is cut into 40 different sections for molding. This creates the "Mother mold".



Mold of the mare's head



Judy checking the waxes that were just pulled from the mold

Wax Casting - Wax is poured into the Mother Molds, cooled and set. The wax is gently removed from the mold and chased by artisans to remove any imperfections. Judy inspects the waxes

Spruing and gating the shell

Foundry process to cast bronze – 12 – 14 weeks

Spruing and Gating – Wax rods are attached to the wax with a large cup at one end. This cup will receive the molten bronze.

Then the wax is dipped into a ceramic slurry of very fine silica sand. The Slurry coats the inside and the outside which allows the sculpture to be hollow.



Heating the Ceramic Shell in a kiln

The dry ceramic shell is placed in kiln and heated to 2,000 degrees to melt out the wax. The molten bronze is poured into the hollow shell. When the bronze is cooled, the shell is broken away.



The excitement of pouring molten bronze!

Gas fired crucible heats the bronze to 2000 degrees. Pouring the molten bronze into the ceramic shells is always a spectacle!



Metal Chasing & Sandblasting

Inspecting the metal for defects.



Metal Chasing

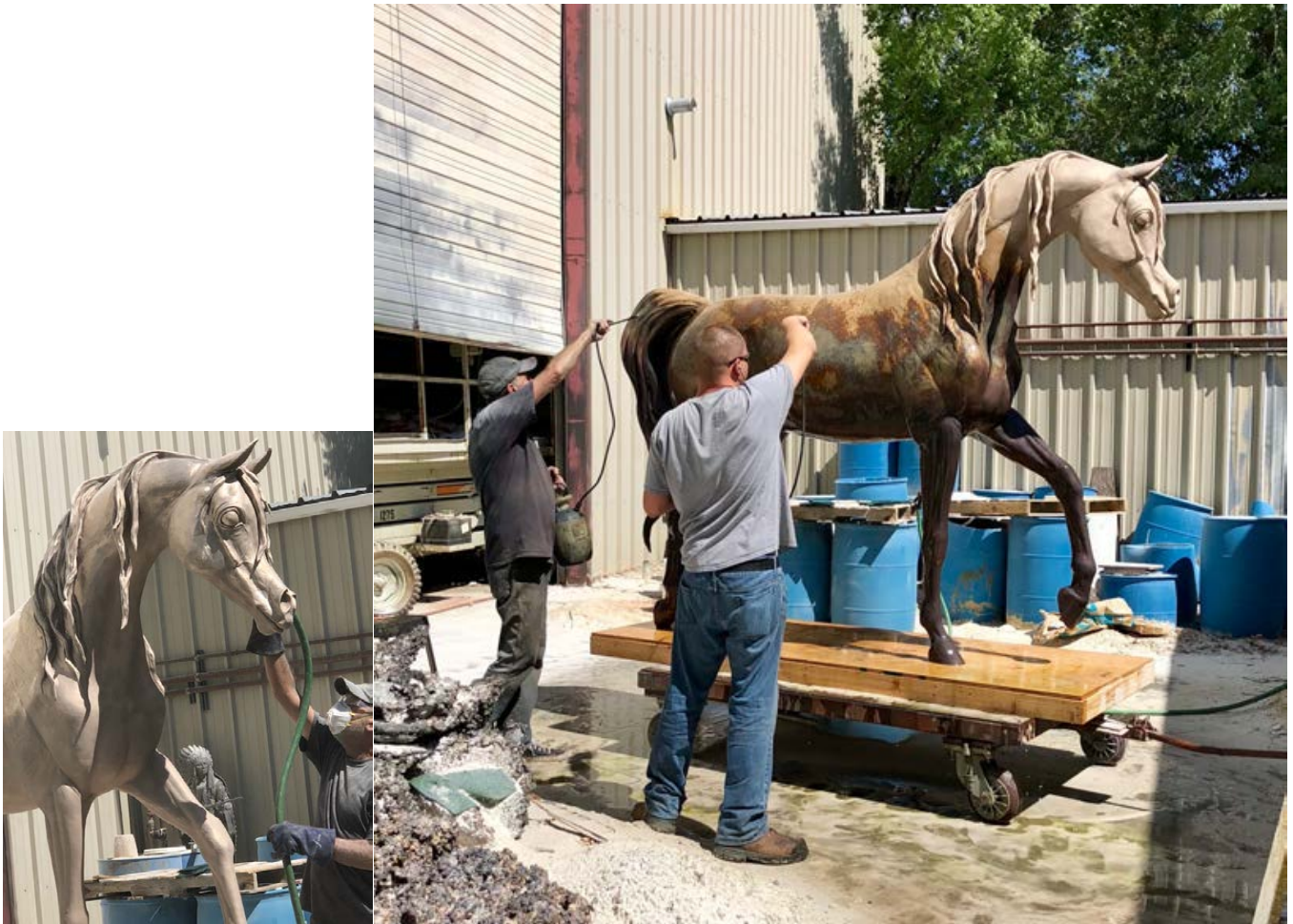
Grinding the weld lines of the bronze to recreate the texture of the original clay sculpture



Patina – adding life to the bronze

Bronze patina – 1 week

The bronze is sand blasted to prepare the surface for the patina. Specific chemicals are used to obtain the variation in coloring on the finished bronze. The chemicals are sprayed on at the same time the bronze is heated with a propane torch to heat the metal to the proper temperature. Then a final coat of Incralac is sprayed on to protect the bronze.









Finished and ready to go to their new home!

The life-size sculpture is finished and loaded on the trailer, on its way to their new home.







"This morning's sunrise is much sweeter with these beautiful Life-size bronzes on the farm!"

Thank you to the talented Judy Nordquist Studio for all your hard work."

Judy Nordquist
BRONZE SCULPTURE
by Judy and Kim Nordquist