

The Digital Sculpture Enlargement Process is a high tech digital process that is a fast and accurate way to produce proportionally correct armatures of any size.

This technology saves you time and money.



Step #1. The maquette is placed in front of our 3D non-contact laser scanner and a number of scans are taken. The individual scans are joined together in a computer to create a complete 3D image. The maquette can be made from wax, plaster, clay, resin, metal, wood or any solid object.

Step #2, The 3D scanned data files are assembled, cleaned up and scaled up or down, mirror imaged, or even reversed for a mold. The data can be easily modified. The 3D Data is converted into a CAD/CAM format and then programs are created to run on one of our 7 CNC milling machines.



Step #3, The proper foam is selected for the application. There are 2 groups of foam: The first is Polystyrene (EPS), either Expanded “white beads” or Extruded “blue board”. The second group is Urethane foam; it’s chemically stable and non-toxic. Both come in a variety of densities or weights, which is the pounds per cubic foot. EPS comes in 1 to 4-LBS densities, while urethane foam comes in 2-LBS to 50-LBS. EPS foam is cheap and is used to fill very large areas or low resolution armatures. It does not sculpt well. 2-LBS to 8-LBS Urethane foam sculpts very well. This example is 4-lbs urethane foam.

Step #4: When the image is milled, not all of the detail is carried through because of the size and radius of the cutting tools that leave a radius where V-shape cuts are required.



Step #5. The milled foam is hand tooled with clay or stone carving tools to sharpen and restore the missing detail.

Step #6: Clay is melted at 200 degrees and a 1/32 to 1/16 of an inch layer is applied. This allows the milled and hand retouched detail to come through. If too much clay is applied, you will end up resculpting the entire image, which defeats the benefits of this process.



Step #7: The final details and textures are sculpted into the clay.

View more at www.Danielsdse.com

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