

Metal Casting 3D Printed Designs

Posted by Marco CM - 2013/03/26 15:23

Occasionally casting a metal part from a 3d printed model can be a more cost effective method of crafting compared to direct 3d metal printing. If the part you need does not have a specific need to be 3d printed in metal, you have the option on Kraftwurx.com to order traditionally cast stainless steel parts from 3d models! These models are super strong and can last a lifetime. Simply choose "Cast Stainless Steel" from the materials selection for your kraft.

Kraftwurx produces these parts by first 3d printing a wax model using one of the Nano-Detail Wax materials also available in the material selector. The 3d printed wax model is then placed into a gypsum mold. Liquid steel is poured into the resulting mold. Once cooled the parts are broken free from the gypsum stone, sandblasted, bathed in acid and finished polished by hand. Below you can see photos of the process and along with photos of raw unfinished parts.

The raw stainless steel casting. This casting contains 4 rings:

http://kraftwurx.com/images/fbfiles/images/rawcasting_kw_web.jpg

The rings are cut off using a standard jeweler's saw and blade. Some beeswax, bur lube or oil can be used, but sawblades will also work well dry:

http://kraftwurx.com/images/fbfiles/images/sawcastingkw_web.jpg

The remains of the sprue are filed using standard files

http://kraftwurx.com/images/fbfiles/images/filekw_web.jpg

Then the inside and outside are sanded with a 400 or 600 grit sanding drum to remove scratches and prepare the surface for a unitized wheel.

http://kraftwurx.com/images/fbfiles/images/fine_sandkw_web-20130326.jpg

The 3M scotch-brite wheel works great as a final, brushed finish for the ring. But in this case, we will be using the wheel to prepare the surface for tripoli

http://kraftwurx.com/images/fbfiles/images/3m_wheelkw_web.jpg

Tripoli or Grey Star is the next step, which smooths and imparts a good shine onto the stainless steel.

Next will be rouge for a high-polish

http://kraftwurx.com/images/fbfiles/images/tripolikw_web.jpg

The polished ring, ready to have a stone set

http://kraftwurx.com/images/fbfiles/images/beforeset_web.jpg

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