
Subject: Hollow design filled in?

Posted by [Mach](#) on Sat, 08 Oct 2011 17:06:19 GMT

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Just got my prototype back. It's 21 mm tall. I'm very pleased with the results except for the missing hole in the inside.

I'm guessing that the wall thickness was too small. With the flange inset on the bottom, the thickness would have been less than 3 mm.

I'm planning a redesign as two parts. The first is the valve handle with a very small pilot hole in the bottom. The second is the pipe section with a hole all the way through. Can this be printed?

Subject: Re: Hollow design filled in?

Posted by [stop4stuff](#) on Sat, 08 Oct 2011 17:32:37 GMT

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Hi Mach,

Welcome to Shapeways!

I'm guessing the model pictured is one of the stainless steel variations(?) How does the model file volume (can be checked with NetFabb) compare to the uploaded model volume on your Shapeways model page?

I'm thinking although the center appears hollow in your model image, sometimes when different parts (shells) of a model share common planes, Shapeways automatic checking software merges the parts differently to how you might expect and either removes parts altogether or fill in areas.

With your redesign its worth checking the wall thicknesses with NetFabb. If it's stainless you're designing for, check the Design Rules and Advanced Design Rules

Paul

Subject: Re: Hollow design filled in?

Posted by [TreadshotA1](#) on Thu, 13 Oct 2011 09:30:55 GMT

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I think the problem is that in the picture when you have the cross section hshowing, you can clearly see there is a face with no thickness at all (it's the inside cylinder, the first face you hit starting from the bottom, going up). This should be the outside of the model, so in other words anything past this face should not exist. Hence I think the printer must have trouble deciphering what is the outside and the inside of the model, since you have faces within the model. I'm surprised they managed to print it, given the model looks is not watertight from the cross section. You have lines intersecting within the model everywhere...

Subject: Re: Hollow design filled in?

Posted by [Mach](#) on Thu, 13 Oct 2011 11:42:59 GMT

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stop4stuff wrote on Sat, 08 October 2011 17:32Hi Mach,

Welcome to Shapeways!

I'm guessing the model pictured is one of the stainless steel variations(?) How does the model file volume (can be checked with NetFabb) compare to the uploaded model volume on your Shapeways model page?

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With your redesign its worth checking the wall thicknesses with NetFabb. If it's stainless you're designing for, check the Design Rules and Advanced Design Rules

Paul

Thanks Paul! Yes its a bronze variant of the stainless printing. I downloaded NetFabb and checked as you instructed but am not sure where to get the volume from the upload page. I only find exterior "cube" dimensions of the model which I believe will only give maximum volume. Regardless, I redesigned the part as two pieces. We'll see what happens next.

Thanks Treadshot A1, it was water tight but I had to do a lot of editing to make it so. Its my first model with sketch-up for 3d printing so I still have much to learn. Is there an easy way to automatically eliminate the interior faces before printing or is it simply a matter of cleaning up the

drawing as you go? Is Sketch-up the right tool for building models for 3D printing?

Subject: Re: Hollow design filled in?

Posted by [TreadshotA1](#) on Thu, 13 Oct 2011 11:58:44 GMT

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Well, Sketchup ain't bad. I use it as well, and i'm cranking out robots like Chibi-Devs through it, so it is workable. It's annoying, unprofessional, has horrible graphics and makes weird triangles, but it's workable.

Still, i'm upgrading to other programs soon, can't wait. Wouldn't say i hate Sketchup, but there's a reason why many laugh at it: there's far, far better.

And there's no way to easily eliminate interior faces. You just have to be very careful when modeling. It's all about learning the program. I've spent 2 and a half years on it now, and only a few months ago can i say i really managed to get the hang of it. So, yeah, enjoy the next year or two of intense struggling. j/k

Here's an example of what is practically the limits of sketchup, at least in my experience:

<http://www.shapeways.com/forum/index.php?t=msg&th=5586&start=0&>

Subject: Re: Hollow design filled in?

Posted by [stop4stuff](#) on Thu, 13 Oct 2011 11:59:42 GMT

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You'll find the volume for your model next to the bounding box dimensions after clicking [edit] to on (upper right of page).

Dizingof uses Sketchup and some of the items he churns out are astounding, so yes used in the right way, Sketchup is good for 3D printing.
