
Subject: Engraving limits?

Posted by [CoreyC](#) on Sun, 07 Nov 2010 05:14:05 GMT

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Hi, I'm new to using Shapeways and have not had the opportunity to handle a single object yet. But I am confused about how to go about doing my project. I'm not sure how Shapeways will print my model ring in stainless steel. I want to (in the model) place an etched style engraving, so that a 3d picture, word, or such can be seen on the ring's face. Of course, to save on money, this will not be pulled out of the face, but pushed in, resulting in less volume.

However, a ring is small, and the design rules state that a wall thickness of 1mm must be observed. If the engraved design makes the inner wall of the ring smaller than 1mm, but the <1mm wall is surrounded by >1mm walls, will that be okay? Or is it a hard limit? A printer dot size? I would need to do a ton of research to complete this project and I am on a deadline of only a few months. If I cannot complete this design by then I must turn to other methods or materials offered, but I would prefer to use stainless.

Also, the detail of the engravings is important as well, will the 90° edges remain sharp after printing, or will there be a bezel introduced into the model? If it does remain 90°, how close can the engravings sides be.

For example: If this were the flat ring face

```
OOOOO
OOOOO
OOOOO
OOOOO
OOOOO
```

would some parts of this engraving be flat after printing, or still show the lowered/engraved design? (dots here)

```
OO.OO
O.O.O
.OOO.
O.O.O
OO.OO
```

Short Version:

Can wall thickness on a small ring of <1mm be possible if it is only for a small region of the product.

What is the engraving limit of stainless, will the small gaps required be filled after printing, detail levels?

Subject: Re: Engraving limits?

Posted by [GlenG](#) on Sun, 07 Nov 2010 22:57:06 GMT

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I think what you are describing will work. A 1mm thick flat band with embossed designs .5mm deep? Is this what you want to do? The printing will produce 90° walls all the way to the surface of the band. Problems sometime arise if the width of the embossed line is very deep (2mm) and very narrow(.3mm or less). What happens is that sometimes loose print media will hang up in the tight grooves and it is very difficult to remove without destroying the green model. After sintering/infiltrating the loose media fuses in place and makes a less than perfect result. Try to design embossed lines that are never deeper than they are wide.

I appreciate you wanting to keep total volumes low. But this is a finger ring and the difference in a fraction of a c.cm should not be your only consideration. Very small, very thin parts often suffer a loss of detail and/or poor surface condition because these parts sometimes become over saturated with binder during the print cycle. Make your band 1.5mm thick and the results might be more successful. If you can, post a rendering of your design and I can better advise you.

-G

Subject: Re: Engraving limits?

Posted by [CoreyC](#) on Wed, 10 Nov 2010 00:58:04 GMT

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Well, currently I'm having trouble with my own design (stupid fingers, why won't you WORK!!!!????) but here is a design similar to what I'm looking for, but with a different image than a horse. The depth of the image should go from 0-2mm, so I was thinking of a 3mm thick ring face.

image courtesy of 5xj.com, whose script I can't seem to find anywhere *le sigh*

My question is: would something like the horses feet, which may turn out incredibly thin, be filled in due to green model prep or low printer resolution?

Subject: Re: Engraving limits?

Posted by [GlenG](#) on Wed, 10 Nov 2010 15:35:14 GMT

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Just try to keep the ratio of line width no less than 2x the depth. Your design of the ring body has good structure and it should print very well. It's impossible to predict 100% outcome but I'd say go for it and see.

-G

Subject: Re: Engraving limits?

Posted by [goodell](#) on Fri, 17 Dec 2010 05:41:54 GMT

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Hi,

I'm the author of the blender 2.49b signet ring python script.

It's hard to find since I've not yet released the script.

You know how it is - it's not yet finished.

Someday, when it's finished, I'll release it.

Anyway, email me at:

5xj@5xj.com

and I can supply you with the unpublished script.

Roy Goodell
