Subject: Overlapping Geometry Printable?
Posted by JustinM on Wed, 26 May 2010 22:32:47 GMT
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Simple question, just having a hard time finding the answer.

For example, if I have two spheres overlapping and I get it printed, does Shapeways simply print them merged? The spheres are water tight, they just intersect.

Thanks.

File Attachments

1) intersect.jpg, downloaded 525 times

Subject: Re: Overlapping Geometry Printable?
Posted by stannum on Thu, 27 May 2010 00:41:27 GMT
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Yes, but the price is like if they were non overlapping. So try to reduce overlap to the minimum to make sure the item is a single part once printed; for example deforming the invisible zone of one, like if a very strong sphere had crashed into a softer one and just merged a bit.

Subject: Re: Overlapping Geometry Printable?
Posted by joris on Thu, 27 May 2010 06:06:59 GMT
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I would always recommend that you merge/unify etc. the two parts to make them into a single volume. The intersecting of two parts could give you internal non-manifold problems. Unify-ing them would avoid this.

Subject: Re: Overlapping Geometry Printable?
Posted by RaveMandela on Mon, 07 Jun 2010 06:44:56 GMT
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Would that be merge/unify using a boolean function or is another method advised?
The problem could be that the result is not watertight is my experience.

Subject: Re: Overlapping Geometry Printable?
Posted by GHP on Mon, 07 Jun 2010 07:44:21 GMT
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Overlapping volumes should work fine (apart from a higher price) as long as they have no vertices in the same locations or very close to each other. Shapeways doesn't allow multiple vertices in the same location and will merge very close vertices, which can result in a non-manifold mesh.
I'm not sure exactly how close vertices have to be to be merged, but it seems that they look for an absolute difference (something less than 0.001, I think), so models that are scaled in metres are more likely to have problems.

Subject: Re: Overlapping Geometry Printable?
Posted by RaveMandela on Thu, 10 Jun 2010 20:37:27 GMT
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"Models that are scaled in metres are more likely to have problems."

This could very well be my problem. So....How can I have a model not scaled in metres? With all software I use the world units are read as metres by Shapeways.

Subject: Re: Overlapping Geometry Printable?
Posted by virtox on Thu, 10 Jun 2010 20:48:25 GMT
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Some software is good at hiding the unit setup

Otherwise, the STL upload at shapeways has a unit selection.
Because STL is dimensionless, it does not matter what unit your software uses as long as it saves its own units unscaled.
(so 1 meter in your software would be 1 unit of whatever you choose it to be at upload, mm inch, meter)

If you can't export to STL, you can use (freeware) Meshllb to convert.

Subject: Re: Overlapping Geometry Printable?
Posted by RaveMandela on Thu, 10 Jun 2010 20:55:58 GMT
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STL is not option for me because I would like to have my models printed in full color and this is not supported in STL format.

About the first comment "Some software is good at hiding the unit setup" What software would that be and how does it work?