Subject: Interlocking help.
Posted by ou_let on Sat, 11 Aug 2012 03:11:45 GMT
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I attached a picture of my model, i need to connect these 2 pieces together. Currently the edges would be completely adjacent if moved into place. How much does everyone think i should skim off. I'm thinking very little or perhaps none at all. Note, i want them to be able to stay attached.

thanks

File Attachments

1) fishhelp.png, downloaded 84 times

Subject: Re: Interlocking help.
Posted by msandoe on Sat, 11 Aug 2012 20:41:16 GMT
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I haven't much experience with interlocking parts, but I'd say you'd have to take into account the accuracy that the printer is going to print these parts with. For instance, if you're using Fine Detail Plastic, the accuracy is .1 mm, so you may have the diameter of the inner circle be .2 mm less than that of the outer circle. This so that when the printer prints the inner circle .1mm more than it should be, and the bigger circle 1mm smaller than it should be (only at parts of the circle of course) it should fit quite nicely.

http://www.shapeways.com/materials/detail-design-guidelines

Subject: Re: Interlocking help.
Posted by msandoe on Sat, 11 Aug 2012 23:38:41 GMT
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I just looked at the Design Specifications of a material again. Apparently it comes with a "Clearance" value. This has me confused, but I think it's the answer to your question. Perhaps this is the recommended clearance to have for interlocking parts. Hope this helps.

Here's that awesome link again: http://www.shapeways.com/materials/strong-flexible-design-guidelines

Subject: Re: Interlocking help.
Posted by stonysmith on Sun, 12 Aug 2012 01:58:28 GMT
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For parts that are printed in place next to each other, you will need the listed "clearance" for the parts to move independent of each other. (think about the gap between links of a chain)

However.. if you want parts such as a puzzle that fit together tightly and don't have any play between them, you need to separate the peices completely, and have the surfaces match pretty close to exact - holes the same size as plugs, etc.,

For the second type, I wouldn't create a gap bigger than the "tolerance" value you see for the various materials.. you want a small bit of friction between the parts to allow them to grip together.