
Subject: ss moving parts tolerances?

Posted by [fraochdha](#) on Sat, 22 Sep 2012 14:03:26 GMT

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Recently I was told that with SS you can't have moving parts, but then I stumbled across this.

http://www.shapeways.com/model/145172/one_ring_to_pwn_the_ball.html

Can you or can't you create moving parts in one print using SS?

thanks!

Subject: Re: ss moving parts tolerances?

Posted by [stonysmith](#) on Sat, 22 Sep 2012 16:14:36 GMT

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It is not a simple yes/no answer. You must understand how the printing is accomplished to understand the seeming variation in rules. I would suggest taking a look at some of the videos as to how the process is accomplished.

This is a bit of an oversimplification, but, steel powder is "glued together" by the printer to make your structure. At that point it is very fragile, and the steel is only held together by the binder. Think of it as wet clay. They then have to clean the unused powder off of the model, taking care not to break the model. Then they transfer the model to a kiln, where it is baked to remove most of the binder and fuse together the steel powder into a solid.

If you have loose / movable / interlocking parts.. the "gap" between your parts during printing goes away during cleaning. Once it is cleaned, the two peices can and very likely DO touch each other. Once the model is in the kiln, (with the two parts touching) you run a very high chance that the parts are going to fuse together.

The designer of this item was willing to accept that the ball may fuze to the rings, and that it would have to be separated by the purchaser.

Hence, the general rule is.. "no interlocking parts", but they may allow some exceptions to that rule. However, you must be willing to accept the possibility that all of your parts could fuse together in a solid mass inside the kiln... with no refund for "it didn't work the way I wanted it to".

Subject: Re: ss moving parts tolerances?
Posted by [fraochdha](#) on Fri, 28 Sep 2012 05:36:21 GMT
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This is great info. Thx. It make a lot of sense.
