Subject: SLS powder problems
Posted by jbate on Fri, 03 May 2013 16:58:45 GMT
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Good afternoon,

I was wondering if anyone could help me out with a small problem. My work is using SLS 3D printing in order to print parts. The problem is that when they get printed and we receive them there is a small build up of the SLS powder, in small grooves which are really hard to remove the powder from. I have been using a needle and an ultrasonic machine (it submerges the part in warm water and uses high frequencies to loosen the powder up). This has been the most useful way, however with many parts its gets a bit time consuming. Has anyone else had this problem? If so do you have any suggestions or tips for me? I have searched all over the internet for solutions, and as I am rather new to 3D printing, I don't have the right search phrases for me to find anything of use.

Thank you in advanced, I really appreciate it.

Subject: Re: SLS powder problems
Posted by denali3ddesign on Fri, 03 May 2013 17:06:32 GMT
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Maybe a tumbler like Shapeways uses to polish their SLS parts? Video link.

Subject: Re: SLS powder problems
Posted by stop4stuff on Sat, 04 May 2013 22:35:02 GMT
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I didn't have much luck with an ultrasonic cleaner for Shapeways SLS Strong & flexible parts, a toothbrush and finer, smaller detal brushes do the jpb ok but it still takes some time to get a model powder free.

Paul

Subject: Re: SLS powder problems
Posted by Mhagan on Mon, 06 May 2013 13:25:12 GMT

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If making small changes to the design is not possible, the best way is a dental pick, compressed air, and a stiff bristle brush.

The best way to get rid of the powder is to modify your design a bit. The powder likes to stick in sharp corners If you can fillet or radius the corners in the bottom of the grooves and the larger the width/depth ratio is, the easier the gap will be to clean.

Subject: Re: SLS powder problems
Posted by jbate on Mon, 06 May 2013 21:10:22 GMT
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Thank you all for the help,

The ultrasonic cleaner really just hindered me. I did find a lot of luck with the dental tools. While it did take time it was a lot easier and allowed me get all the small areas I needed.

I will talk with my boss, and see if next time we can make those areas a bit larger to prevent this from happening again. We do have a tumbler but it seems to be to agressive taking away the edges and modifying the shape. We probably just need to use a different material inside of the tumbler, or put it in for less of a duration.

Again thank you all