

Nano Detail materials: standard vs HD finish?

Posted by MoFo - 2012/11/13 15:27

Hopefully a straightforward question: what's the difference between the standard finish and HD finish with Nano Detail materials? I can't seem to find anything in the materials section of the site.

Specifically, I'm printing a small, highly detailed part to use as a master for resin casting. It's about 13mm tall, with a wall thickness of about .3mm. Because of all the fine surface detail, I'm looking for something that will do smooth, clean prints, since any sort of post-processing would eliminate all that detail. Basically, NOT happy with Shapeways' FUD and I'm looking for something closer to production-ready. Is standard Nano Detail going to be good enough, or do I need to go HD... for nearly triple the price. :(

On a related note, other than impact resistance, burnout or heat deflection, is there any appreciable difference between the various nano detail materials in terms of print resolution? I guess, given the thinness and delicate nature of the part, I should probably go with ND Impact, but if another material would give a better finish, I'm all ears. <http://kraftwurx.com/images/fbfiles/images/Milled.jpg>

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Re:Nano Detail materials: standard vs HD finish?

Posted by MoFo - 2012/11/13 15:28

Obverse <http://kraftwurx.com/images/fbfiles/images/q.jpg>

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Re:Nano Detail materials: standard vs HD finish?

Posted by ottoxii - 2012/11/18 16:12

I have printed some small detailed parts in nano detail before. see one example:

<http://www.kraftwurx.com/3d-model-printing/forum/25-how-to/439-how-to-3d-printing-scale-miniatures>

it is printed in nano detail high temp material
it has a lot of very small details (0.1 mm), the nano detail print is much cleaner, crisper and less brittle than anything i have done in shapeways FUD . there are no visible layers without any kind of finishing. I think that process should be fine for your part as well. the only critical point in your part could be the slightly curved shape of it - you should take care about part orientation during the printing process because very slight curves tend to show printing layers even in very high resolution prints ...

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Re:Nano Detail materials: standard vs HD finish?

Posted by MoFo - 2012/11/22 21:58

I saw your print - looks awesome, and it's actually one of the things that attracted me to the Envisiontec printers. Even your ultra-close-up shots would be better than the FUD prints I've had from Shapeways.

Right now, the part is oriented vertically (see below). I *think* that should be the optimal set-up, although I do expect to see some minor layering. Hopefully a light coat of pimer will be all that's needed to level everything out.

Of course, that's assuming I can actually, successfully manage to complete an order. I keep getting errors with the checkout process. :angry:

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Re:Nano Detail materials: standard vs HD finish?

Posted by Marco CM - 2012/11/28 11:26

Hello Mofo, Normally all Nano-Detail materials are 3d printed at 50um resolution. When the HD finish is selected for Nano-Detail materials, the model will be 3d printed at 20um resolution! This is ideal for extremely small parts. I would suggest using the HD finish with the Nano-Detail High-Temp material. This is the same material used on the 28mm figurines and 20mm battle ships.

Nano-Detail High-Temp (HTM140) with HD finish selected will produce the highest detail resolution 3d prints currently possible with today's technology. Let me know if you have any other questions.

(UPDATE 7/12/13: All Nano-Detail materials are now 3d printed at the highest detail possible by default. There is no longer any need to apply the HD finish and it has been removed. All parts 3d printed in the Nano-Detail materials will be 3d printed at the maximum resolution possible by default.)

-Marco CM

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Re:Nano Detail materials: standard vs HD finish?

Posted by MoFo - 2012/11/28 12:32

Thanks. I'll actually be casting in RTV, rather than vulcanized rubber, so temperature isn't really an issue (though rubber compatibility could be). Would something this thin in Nano Detail high temp be robust enough to withstand the shipping process?

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Re:Nano Detail materials: standard vs HD finish?

Posted by ottoxii - 2012/11/28 16:14

Nano Detail should of course withstand the shipping process.

Maybe you should take care about the vulcanisation process.

I heard about one case in which a chemical reaction between the shapeways FUD resin and RTV caused

a lot of trouble.

Maybe it is better to make a test with one little piece of Nano Detail material first ...

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Re:Nano Detail materials: standard vs HD finish?

Posted by Marco CM - 2013/07/12 09:36

(UPDATE 7/12/13: All Nano-Detail materials are now 3d printed at the highest detail possible by default. There is no longer any need to apply the HD finish and it has been removed. All parts 3d printed in the Nano-Detail materials will be 3d printed at the maximum resolution possible by default.)

-Marco CM

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Re:Nano Detail materials: standard vs HD finish?

Posted by Paul Bica - 2014/07/25 00:31

Hello everybody! Can you tell me please if these Nano Detail materials from above are actually Nano White/Black/Crystal materials? I saw that the option HD is still available for these materials. A print with HD option activated for Nano materials can be compared with Nano Ultra/Amber Resin prints in terms of details? Do you have pictures of Nano Black for example with HD option activated? I want to make a master for a silicon mold of a scale model airplane. Thanks!

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