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Subject: How to? - Full Color Sandstone printing  
Posted by [Conchas](#) on Tue, 25 Dec 2012 10:10:10 GMT  
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Sorry if this was already asked/answered before, but I didn't find it. :/

I use to model with Rhino 3D and submit my creations as .stl files.

Now I want to try textured models for Full Color Sandstone printing.  
I've an .stl file from the solid itself, and of course a texture bitmap (.png or .jpg) applied to my model in Rhino.

What do I need to do, in order to successfully submit and order my model?  
I guess the texture definition and parameters on how it is applied to my model, does not goes along with my .stl file, right !?

Thanks,  
Fernando

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Subject: Re: How to? - Full Color Sandstone printing  
Posted by [denali3ddesign](#) on Tue, 25 Dec 2012 16:07:24 GMT  
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Here's a start, follow the links in the article for more info:  
[http://www.shapeways.com/themes/full\\_color](http://www.shapeways.com/themes/full_color)

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Subject: Re: How to? - Full Color Sandstone printing  
Posted by [Fredd](#) on Tue, 25 Dec 2012 17:40:12 GMT  
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An stl file does not carry any texture or material data, just mesh data. From the link above, the types of file formats SW uses for color/texture uploads will be listed, as well as how to properly combine the texture/model file for uploading(Select both then compress into 1 file)

stl is a good format since there are several free programs that can fix mesh errors , you just cannot print out your texture at SW with it. I am sort of curious what file formats can Rhino export?

Keith

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Subject: Re: How to? - Full Color Sandstone printing  
Posted by [Conchas](#) on Tue, 25 Dec 2012 17:58:09 GMT  
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Thank you guys for you priceless hints and link above.

As far as I've investigated, Rhino exports to VRML but not for X3D. It is already a principle and one way to go!

I'll need time to experiment all this and learn a bit more about the topic.

As far as I learned from other foundries it would be also possible to print colored objects, from OBJ and MTL files (which Rhino also supports).

Although I don't know whether Shapeways also supports this method.

I must try both.

Best, Fernando

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Subject: Re: How to? - Full Color Sandstone printing  
Posted by [denali3ddesign](#) on Tue, 25 Dec 2012 18:05:18 GMT  
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Shapeways supports OBJ, but not for colored models. It is just an alternative for programs that do not export to STL.

Good luck!

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Subject: Re: How to? - Full Color Sandstone printing  
Posted by [Fredd](#) on Tue, 25 Dec 2012 18:56:11 GMT  
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Woot you having vmrl exporter!

The mtl file(Material Texture Library file is why SW cannot use the texture and materials you

assign, it cannot read it. The model needs to be UV unwrapped for the texture to print properly. Now if you just want the material colors you assign, or vertex painting to show up on the product, no UV unmapping is necessary.

Remember also that for a color upload, SW will scale the model to where the bounding box values will be in meters. You will have to scale it by .001.

So just scale it, export the vrml, select the file and texture file, zip both together into 1 compressed file, upload it. You can always load a stl into Netfabb to get its true bounding box dimensions. If you are using Inches for dimensions, some math might be required to turn the value from inch to cm, to get the proper bounding box values. An inch 1x1x1 cube would be the same as an cm 25.4 x 25.4 x 25.4 cube. This is something to check if bounding box dimensions appear odd if you open it in Netfabb. Also if you did not scale it, if its bb dimensions were 1 x 1 x1, and you scaled this by .001, you are going to get some really odd upload errors, a cube mm 1 x 1x 1.

Keith

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Subject: Re: How to? - Full Color Sandstone printing  
Posted by [Conchas](#) on Tue, 25 Dec 2012 20:12:05 GMT  
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Hmm...

All this seems a bit complicated to me. :/  
But this due to lack of experience for sure.

I'm still modeling the parts I want to apply the texture to. So it should take some days until I go through these hints in detail.  
I started asking already, as I anticipated it could take some time to gather all the relevant info, to study.

Thank you all for your expertize and help.

Fernando

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Subject: Re: How to? - Full Color Sandstone printing  
Posted by [Fredd](#) on Wed, 26 Dec 2012 23:08:27 GMT  
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Fernando, you could import the object file into Meshlab, and then have Meshlab convert it to a wrl.

A poster here used it for a maya(object file) , seems to work.

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Subject: Re: How to? - Full Color Sandstone printing  
Posted by [Conchas](#) on Mon, 07 Jan 2013 03:23:54 GMT  
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Thank you guys!

With the help of your hints, I've succeeded to import a multicolor model after a few attempts.

I've exported a VRML file (.wrl extension) from Rhino and packed it with the texture image file. The VRML was exported as version 2 and I've enabled some options (texture coordinates, pack textures). Although I don't know if these options make some effect since I had to include the texture into the zip file anyways (doesn't work without it - hence I think the packed textures is not supported by SW).

Best, Fernando

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Subject: Re: How to? - Full Color Sandstone printing  
Posted by [Fredd](#) on Mon, 07 Jan 2013 04:25:24 GMT  
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Your correct Fernando. Now if you sent someone else a copy of a rhino file, and you wanted then to see the textured model, packing the texture into the program would be the only way whoever opened the file could see it textured. I am glad you succeeded in the workflow needed to upload your model properly here. That is the major problem, learning how to do it. (Well doing it properly.) Besides the modelling stuff needed for a model to properly print(which is a bigger pain.)

Keith

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Subject: Re: How to? - Full Color Sandstone printing  
Posted by [Conchas](#) on Mon, 07 Jan 2013 04:34:19 GMT  
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Fredd wrote on Mon, 07 January 2013 04:25 Besides the modelling stuff needed for a model to properly print(which is a bigger pain.)

Hmm...

Is there any literature about this, so that I can offset my learning curve and potentially save myself from some "easily" avoidable mistakes?

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Subject: Re: How to? - Full Color Sandstone printing  
Posted by [Fredd](#) on Mon, 07 Jan 2013 16:22:58 GMT  
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There are some really good tutorials here <http://www.shapeways.com/tutorials/> You can even pick up tips from reading those concerning other programs.

Best tip I can give you is before you start modeling decide what material you want it printed in, and know the min/max properties of it. It is a shame to spend a lot of time then realize you used under the min for wall thickness, then have to redo it. And if you are unsure about a parts printability, ask here.

Keith

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Subject: Re: How to? - Full Color Sandstone printing  
Posted by [Conchas](#) on Mon, 07 Jan 2013 20:05:22 GMT  
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Thanks Fredd!

I knew several of these documents. Though you're talking on potential limitations about getting the colors right.

In fact I have designs that I want to use in colored textures and plain colors, thus possible with different materials.

For these, I'm doing two versions of each model. One with larger walls and another with thinner ones.

Best, Fernando

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Subject: Re: How to? - Full Color Sandstone printing  
Posted by [Fredd](#) on Mon, 07 Jan 2013 22:07:12 GMT

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Before I forget, besides UV texture maps, you can use vertex paint and material diffuse colors to apply color to the same models. This is an ugly experiment to demonstrate,  
[http://images.shapeways.com/model/picture/674x501\\_742854\\_612634\\_1350591440.jpg?key=c0fa3437b8a49ddf9ee91abbcf86b4c0](http://images.shapeways.com/model/picture/674x501_742854_612634_1350591440.jpg?key=c0fa3437b8a49ddf9ee91abbcf86b4c0)

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Subject: Re: How to? - Full Color Sandstone printing  
Posted by [Conchas](#) on Tue, 08 Jan 2013 15:56:44 GMT  
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Thanks Fred!

However the link you sent seems to be incomplete.

I must say I was pleasantly surprised with the results I've achieved so far, because I was not expecting them to be so good so fast and that easy.  
Once I've read that SW only supports UV mapping, I was afraid I would not be able to succeed in my intentions, because I did not have an "unfolded object" texture file and was not able to make one easily. It is a camouflage pattern.

However I discovered the pattern fits nicely at Rhino, using a cylindrical projection, and for my surprise WS reproduced it very well even without being an UV mapping.

Best, Fernando

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Subject: Re: How to? - Full Color Sandstone printing  
Posted by [Conchas](#) on Wed, 09 Jan 2013 01:25:46 GMT  
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I just seen you had meanwhile updated the link.  
I was reading your post from the mail notification, and that's likely why I was still seeing the wrong link.

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