





3D FilaPrint Filament Guide

Customer live guide - complete with photos and printer settings

Why this guide?

With the multitude of printers on the market and the next generation of printers on the horizon, we wanted to create a "live" guide that offers our existing and new customers the opportunity to see and read how our filaments perform. What settings worked well, how successful prints were created and by whom.

There are a number of reasons why you may not achieve the perfect print when you first start on the road to 3D desktop printing, as different filaments require different settings. Sometimes what works perfectly well on one 3D printer may well need some fine tuning or flippin' great adjustments to work on another! In addition, information on how to 3D print is becoming more prevailant on the internet. You may have read one piece on one site that contradicted what was discussed on another. This guide should be used to find out what has worked and how, using our filaments, by the people who 3D print with them and that is you.

We are hoping that this guide may give you a head start if you are a beginner to 3D or some useful additional information if you are a seasoned "printerist", trying out a new filament.

The guide will be compiled using actual photos and information provided by 3D printer enthusiasts like yourself. We will be adding more content as time goes by, as long as you keep sending in your photos and settings, we will keep updating it. During these early stages of its creation this guide may well be updated daily.

Just click on any of the filament types or submitted colours in the Table of Contents and it will take you to a page where hopefully we have been able to inlcude some real world pictures of 3D prints and their settings, ones that you may even have created yourself!

Please be patient with us, as this is just the beginning of our own 3D printer information journey, so there may not be that many prints to look at. However you can change that right now, if you find this guide useful, then why not upload your own successful 3D print and share it with us. Just provide a clear photo with a few settings and enter the information on this page <u>http://3dfilaprint.com/filament-guide-submission-page/</u>.

In addition we are also becoming aware of all the possibilites and uses for 3D desktop printing. We are amazed on a weekly basis for what 3D printing is being used for, so if you want to advertise your website to all the other enthusiasts, then include a web address on the submission page.

If you do submit a successful print we will give you 100 3D FilaPrint loyalty points towards your next purchase from our shop.



A special thanks goes to Richard Horne of RichRap who kindly agreed for 3D FilaPrint to use his uniquely created images and text for the majority of the coloured nylon prints that you will see throughout the guide and for his knowledge and deep insight into the world of 3D printing. Using Richards words, laying a good foundation is the cornerstone of achieving a great print. There is no better place to start than here, <u>Extruder Calibration</u>. 3D printer calibration and hot-end PID control loop settings are no doubt two of the most important aspects of machine maintenance, if you are to achieve a successful, quality print.

If you are new to 3D printing then you may want to take a look at this.



For Tom at Tauman3D for explaining the correct way to use t-glase and how to achieve the best results for this excellent filament. <u>View here</u>.

We would also personally like to thank Simon of Reprapper Tech who is at the Hot End of the filament cycle, for his commitment to quality of product, professional service and attention to detail.

Plus a huge Thank You to all of you who have submitted a print.

What will you print today

To make an entry into the guide.. http://3dfilaprint.com/filament-guide-submission-page/



You can download the interactive PDF guide here.

View the HTML version here

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Catastrophic Failures :(

New Prints

These are the latest projects that have been added to the guide, click on the photograph for the respective info page.



































































































ABS 1.75mm

A sample of our filament - each ABS1.75mm colour will have a 3D FilaPrint test print as a guide.



Colours submitted using ABS 1.75mm: Blue Green to Yellow Green **Blue & White** Black White **Orange Transparent Purple** Conductive **Fluorescent Blue** Pink Silver Purple to Pink Thermalchange **Glow in The Dark Green** Gold Wood Colour Green

Black

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Black Key Ring with Holly written on it. Thingiverse: Kindly submitted by: Colin Website:http://www.3dprintni.com Using; Flashforge Creator Dual Extruder Type: Direct Drive MK7 Nozzle: 0.4 Settings: Extruder temp: 235 - Heated bed: 110 Kapton tape Print Speed: 50mm/s Travelling Speed: 60mm/s

Time to print: 39 minutes Notes:



Johnnys Travening Speed. Johnnys

Pictures and settings: Lenscap holder

Kindly submitted by "billyboyclyde" Using a: <u>MakerBot Replicator 2 X</u> Settings: Extrusion 230c and 110c platform with Kapton Tape Time to print: 38 minutes Notes: All standard settings



Pictures and settings: Aztec Chief Thingiverse: http://www.thingiverse.com/thing:205869

Kindly submitted by "Billyboyclyde" Website: Using a: <u>WoW!</u> Nozzle Size 0.4 Settings: Hot bed with Kapton tape 100c, extruder temp 230c Extrusion Speed: This was using the settings for fine print (maximum infill) Time to print: None supplied Notes: Found that having set the supports and fill in the UP! software to the minimum setting of 10% with the least amount of lines and fills, there was not a great deal of support to remove, which actually did come away easily. Still

would like to work out how i can set the application for zero supports.



Pictures and settings: Aztec God Thingiverse: <u>http://www.thingiverse.com/thing:205869</u>

Kindly submitted by "Keith" Website: Using a: <u>Duplicator 4</u> Geared Extruder: 7th generation hot end - Glass Bed Nozzle Size 0.4 Settings: Hot bed with Kapton tape 120c, extruder temp 230c Extrusion Speed: Time to print: 30 Minutes Notes: None

Pictures and settings: Prusa i3 single printed parts



Kindly submitted by "Keith" Website: Using a: Duplicator 4 Bowden Extruder: MK8 - Glass Bed Nozzle Size 0.4 Settings: Hot bed with Kapton tape 120c, extruder temp 230c Extrusion Speed: Time to print: 3 Hours Notes: None

Blue

3D FilaPrint Colour Guide - Our colour prints



Could you be the first to have a print displayed here go to <u>http://3dfilaprint.com/filament-guide-submission-page/</u> and earn your self some points and well as show the world what you have printed!

Pictures and settings:

Kindly submitted by " " Using a: Settings: Time to print: Notes:

Blue Green to Yellow Green

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings:

Kindly submitted by "billyboyclyde" Using a: <u>MakerBot Replicator 2 X</u> Settings: Extrusion 230c and 110c platform with Kapton Tape Time to print: 48 mins each Notes: All standard settings - but really needed 15% infill rather than the default 10%. The figures turn a yellow green by just body temperature alone!

Blue & White colours used

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Two colours used

Kindly submitted by "billyboyclyde" Using a: <u>MakerBot Replicator 2 X</u> Settings: Extrusion 230c and 110c platform with Kapton Tape Time to print: Over a period of a week! Notes: All standard settings

Blue to White

3D FilaPrint Colour Guide - Our colour prints



Pictures and settings: Own idea



Kindly submitted by "Chloe" Using a: <u>WoW!</u> Settings: Extrusion 240c and 90c platform with Kapton Tape Time to print: 58mins 25% Infil

Notes: Increased the infil as i wanted the letters to have some weight. This is part of my complete print of "Live Laugh Love". Which i created using the lettering in Tinkercad.

Conductive

3D FilaPrint Colour Guide - Our colour prints



Pictures and settings: Upside down vase Thingiverse: <u>http://www.thingiverse.com</u>

Kindly submitted by "Billyboyclyde" Website:

Using a: <u>UP!</u>

Nozzle Size 0.4

Settings: Hot bed with Kapton tape 95c, extruder temp 235c

Extrusion Speed: Using the UP! software, does not show speeds.

Time to print: 3 Hours 22minutes

Notes: This was printed on a raft and then turned upside down as it resembled a rocket launcher pad, dont know why it just seemed the right thing to do. The print was used to test a new batch of 1.75mm conductive filament.

Flourescent Blue

3D FilaPrint Colour Guide



Pictures and settings: Customizable Square Trays Thingiverse: <u>http://www.thingiverse.com/thing:43406</u>

Kindly submitted by "Billyboyclyde" Website: Using a: WoW! Based on the Up! 3D Desktop Printer Nozzle Size 0.4 Settings: Hot bed with Kapton tape 95c, extruder temp 235c Extrusion Speed: Using the UP! software, does not show speeds. Time to print: 32minutes, ran at normal settings, no raft, support set at 10%.

Notes: Sampling a few of our colours on the WoW! 3D dektop printer, retail price of around £595, no wonder they call it the WoW!



Pictures and settings: Romulan Warbird Thingiverse: <u>http://www.thingiverse.com/make:58121</u>

Kindly submitted by "Billyboyclyde"
Website:
Using a: Replicator 2X
Nozzle Size 0.4
Settings: Hot bed with Kapton tape 110c, extruder temp 240c
Extrusion Speed: Default speeds using the FINE settings in the latest
MakerWare with updated firmware, no support (apart from wingtips)
and no raft. Infill set at at 20% - 100% infill on wingtips

Time to print: Not sure as printed in three parts over two days - 2.5 hours per side. Notes: This model was scaled to 125%, the detail then started to come through. Very, very thin layer of acetone and ABS slurry (just a wipe with a lint free cloth).



Galaxy Blue

3D FilaPrint Colour Guide - Our colour prints



Pictures and settings: Utah Teapot Thingiverse: <u>http://www.thingiverse.com/thing:821</u>

Kindly submitted by "Billyboyclyde" Website: Using a: Replicator 2X Nozzle Size 0.4 Settings: Hot bed with Kapton tape 110c, extruder temp 230c Extrusion Speed: All settings as default using makerware on a standard print Time to print: 1 Hours 55minutes

Notes: This was printed on a raft just to get the effect of grandma's woven tabelmat :)

Glow in The Dark Green

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: SkullKing Thingiverse: <u>http://www.thingiverse.com/make:58121</u>

Kindly submitted by "Billyboyclyde" Website: Using a: WoW! Nozzle Size 0.4 Settings: Hot bed with Kapton tape 110c, extruder temp 230c Extrusion Speed: Default speeds using the FINE settings Using the UP! 10% support used. Time to print: 4 hours 11 mins

Notes: ABS Slurry and finest infil used



Pictures and settings: Romulan Warbird Thingiverse: <u>http://www.thingiverse.com/make:58121</u>

Kindly submitted by "Billyboyclyde" Website: Using a: Replicator 2X Nozzle Size 0.4 Settings: Hot bed with Kapton tape 110c, extruder temp 240c Extrusion Speed: Default speeds using the FINE settings in the latest MakerWare with updated firmware, no support (apart from wingtips) and no raft. Infill set at at 20% - 100% infill on wingtips

Time to print: Not sure as printed in three parts over two days Notes: Very, very thin layer of acetone and ABS slurry (just a wipe with a lint free cloth).

Click on the picture below for a 360 view by SEND2SCAN



1.75mm Glow Green

Gold

3D FilaPrint Colour Guide - Our colour prints



Pictures and settings: Dentelle Pixels Lampshade

Layer by Layer : https://www.layerbylayer.com/ product/6526EC4D980A593DCABFCCE75DB90C6E Kindly submitted by "Billyboyclyde" Website: Using a: Makerbot Replicator 2X Nozzle Size 0.4 Settings: Hot bed with Kapton tape 110c, extruder temp 230c Extrusion Speed: Using the first edition of the makerware software Time to print: 4.5 hours ran at normal settings, no raft and no supports.

Notes: This was one of the shades available on Layer by layer, unfortunately i cannot locate it. This was going to be used with the all american jelly jar for a unique lampsahde.

Green



Pictures and settings: Scanned Toad Thingiverse: <u>http://www.thingiverse.com/thing:35595</u>

Kindly submitted by "Billyboyclyde" Website: Using a: WoW! 3D Dekstop printer Nozzle Size 0.4 Speed extruded : Used the default settings with maximum infil for a standard print, using the UP! software. Settings: Hot bed with Kapton tape 95c, extruder temp 230c Time to print: 1 Hour 44 minutes

Notes: No support or raft, this was printed from a scanned toad, so i think it has come out ok.



Pictures and settings: Headphone case Thingiverse: <u>http://www.thingiverse.com/thing:196327</u>

Kindly submitted by "Billyboyclyde" Website: Using a: WoW! 3D Dekstop printer Nozzle Size 0.4 Speed extruded : Used the default settings with maximum infil for a standard print, using the UP! software. Settings: Hot bed with Kapton tape 95c, extruder temp 230c Time to print: 44 minutes Notes: No support or raft, this printed pretty good for standard settings on

the WoW! printer .

Orange

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Tibetan prayer wheel Christmas ball ornament Thingiverse: <u>http://www.thingiverse.com/thing:192897</u>

Kindly submitted by "Billyboyclyde" Website: Using a: <u>Makerbot Replicator 2 X</u> Nozzle Size 0.4 Speed extrudind 90 m/s Speed Travelling 150 m/s Settings: Hot bed with Kapton tape 110c, extruder temp 230c Time to print: 1 Hour 44 minutes Notes: No support or raft, this is only the prayer wheel part of the thingiverse object. Only used 10% infill.



Pictures and settings: Utah Teapot Thingiverse: <u>http://www.thingiverse.com/thing:821</u>

Kindly submitted by "Billyboyclyde" Website: Using a: Replicator 2X Nozzle Size 0.4 Settings: Hot bed with Kapton tape 110c, extruder temp 230c Extrusion Speed: All settings as default using makerware on a standard print Time to print: 3 Hours 55minutes Notes: Should of done less than 10% infill as cannot now hold any tea!

Slight strining under the handle of the teapot.

Pink

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: His and Her Owls Thingiverse: <u>http://www.thingiverse.com/thing:18879</u>

Kindly submitted by "Billyboyclyde" Website: Using a: WoW! Based on the Up! 3D Desktop Printer Nozzle Size 0.4 Settings: Hot bed with Kapton tape 95c, extruder temp 235c Extrusion Speed: Using the UP! software, does not show speeds. Time to print: 7 hours 30 minutes, ran at normal settings, using a raft, support set at 10%. Used Tinkercad to create a back bookend plate then

just checked them through Netfabb.

Notes: In addition to the raft I also wiped a thin sheen of acetone on the bed, just before printing. It stuck like glue for the duration of the print! This is one of a pair that i have printed for a set of bookends. They have been filled to about 80% to give them some weight, you can see the <u>purple one here</u>.



Pictures and settings: Flexible Bracelet Thingiverse: Kindly submitted by: Colin Website:http://www.3dprintni.com Using; Flashforge Creator Dual Extruder Type: Direct Drive MK7 Nozzle: 0.4 Settings: Extruder temp: 235 - Heated bed: 110 Kapton tape with support Print Speed: 45mm/s Travelling Speed: 55mm/s Time to print: 31 minutes Notes:

Purple

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Customizable Square Trays Thingiverse: <u>http://www.thingiverse.com/thing:43406</u>

Kindly submitted by "Billyboyclyde" Website: Using a: WoW! Based on the Up! 3D Desktop Printer Nozzle Size 0.4 Settings: Hot bed with Kapton tape 95c, extruder temp 235c Extrusion Speed: Using the UP! software, does not show speeds. Time to print: 32minutes, ran at normal settings, no raft, support set at 10%.

Notes: Sampling a few of our colours on the WoW! 3D dektop printer, retail price of around £595, no wonder they call it the WoW!



Pictures and settings: His and Her Owls Thingiverse: <u>http://www.thingiverse.com/thing:18879</u>

Kindly submitted by "Billyboyclyde" Website: Using a: WoW! Based on the Up! 3D Desktop Printer Nozzle Size 0.4 Settings: Hot bed with Kapton tape 95c, extruder temp 235c Extrusion Speed: Using the UP! software, does not show speeds. Time to print: 7 hours 30 minutes, ran at normal settings, using a raft, support set at 10%. Used <u>Tinkercad</u> to create a back bookend plate

then just checked them through Netfabb.

Notes: In addition to the raft I also wiped a thin sheen of acetone on the bed, just before printing. It stuck like glue for the duration of the print! This is one of a pair that i have printed for a set of bookends. They have been filled to about 80% to give them some weight, you can see the <u>pink one here</u>.



Pictures and settings: Mouse Wedge

Thingiverse : See notes below Kindly submitted by "Billyboyclyde" Website: Using a: <u>WoW! 3D Desktop printer</u> Nozzle Size 0.4 Settings: Hot bed with Kapton tape 110c, extruder temp 230c. UP! software used. Time to print: 2 Hour and 50 minutes ran at normal settings, no raft and no supports. 30% infil.

Notes: Made sure i wiped the platfom with acetone, as each of the layers took one step back to create the wedge, so the first layer had to be a perfect stick! I used the mouse from http://www.thingiverse.com/thing:61909 then uploaded it to Tinkercad and created the door wedge. Downloaded it as an stl file then ran it through Notes: Made sure i wiped the platfom with acetone, as each of the layers took one step back to create the wedge, so the first layer had to be a perfect stick! I used the mouse from http://www.thingiverse.com/thing:61909 then uploaded it to Tinkercad and created the door wedge. Downloaded it as an stl file then ran it through Notestabb and voila. You can make the wedge as high as is required.

Purple to Pink Thermochange

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Tibetan prayer wheel Christmas ball ornament Thingiverse: <u>http://www.thingiverse.com/thing:192897</u>

Kindly submitted by "Billyboyclyde" Website: Using a: WoW! Based on the Up! 3D Desktop Printer Nozzle Size 0.4 Settings: Hot bed with Kapton tape 95c, extruder temp 245c Extrusion Speed: Using the UP! software, does not show speeds. Time to print: 5 hours!

support, still used supports for the whole of the print, all around it, however they did remove easily. The print was also set to maximum fill, so it does feel quite heavy (like the real prayer wheels i quess).



Pictures and settings: Aztec Chief Thingiverse: http://www.thingiverse.com/thing:205869

Kindly submitted by "Billyboyclyde" Website:

Using a: Makerbot Replicator 2 X Nozzle Size 0.4

Settings: Hot bed with Kapton tape 110c, extruder temp 240c Extrusion Speed: Default settings on standard print Time to print: oops forgot to check!

Notes: I wanted to print this out to see how well the Rep 2X did after having two new extruders sent to us from Makerbot (after 800 hours printing both plungers were beginning to fail). All

good now though! Although I had to raise the temp for our ABS to 240, normally default on 230. Also now wipe bed each time with a small lint free cloth, very slightly dampened with acetone and a rub of some old white abs "leftovers" (you can tell Christmas is coming).

The Chief was sat on the radiator, turning purple when the heater is off, bit like us in the office actually (bosses too mean to put the heating on :) Joking!

Red

3D FilaPrint Colour Guide - Our colour prints



Above Our Red

Above Makerbot Red



Pictures and settings: Multi coloured chain Kindly submitted by: Colin Website:http://www.3dprintni.com Using; Flashforge Creator Dual Extruder Type: Direct Drive MK7 Nozzle: 0.4 Settings: Extruder temp: 235 - Heated bed: 110 Kapton tape Print Speed: 50mm/s Travelling Speed: 60mm/s Time to print: 3 Hours Notes:



Pictures and settings: Small Baby Model Kindly submitted by: Colin Website:http://www.3dprintni.com Using; <u>Flashforge Creator Dual</u> Extruder Type: Direct Drive MK7 Nozzle: 0.4 Settings: Extruder temp: 235 - Heated bed: 110 Kapton tape Print Speed: 50mm/s Travelling Speed: 60mm/s Time to print: 3 Hours 15 minutes Notes:



Pictures and settings: Model Building Thingiverse: Kindly submitted by: Colin Website:http://www.3dprintni.com Using; Flashforge Creator Dual Extruder Type: Direct Drive MK7 Nozzle: 0.4 Settings: Extruder temp: 235 - Heated bed: 110 Kapton tape Print Speed: 50mm/s Travelling Speed: 60mm/s Time to print: 1 Hour 40 minutes

Notes:





Pictures and settings: Phone Holder for the flashforge to record prints Thingiverse: http://www.thingiverse.com/thing:234660 Kindly submitted by: Colin Website:http://www.3dprintni.com Using; Flashforge Creator Dual Extruder Type: Direct Drive MK7 Nozzle: 0.4 Settings: Extruder temp: 235 - Heated bed: 110 Kapton tape with support Print Speed: 40mm/s Travelling Speed: 80mm/s Time to print: 39 minutes

Notes: Print at 0.1mm layer height with a raft and support, otherwise it

will not print the circular cutouts properly.

Silver

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Flexible Bracelet Thingiverse: Kindly submitted by: Colin Website:http://www.3dprintni.com Using; Flashforge Creator Dual Extruder Type: Direct Drive MK7 Nozzle: 0.4 Settings: Extruder temp: 235 - Heated bed: 110 Kapton tape Print Speed: 50mm/s Travelling Speed: 60mm/s Time to print: 22 minutes

Notes:



Pictures and settings: 3D Extruder Parts

Kindly submitted by: Neil Website: <u>www.3dprinterpunk.co.uk</u> Settings: Extruder temp: 235 - Heated bed: 105 Print Speed: 45mm/s Travelling Speed: 130mm/s Time to print: Notes: Printed on a glass bed using ABS juice.



Pictures and settings: A spacer for the flashforge so you can remove one extruder when it is not used Thingiverse: http://www.thingiverse.com/thing:234660 Kindly submitted by: Colin Website:http://www.3dprintni.com Using; Flashforge Creator Dual Extruder Type: Direct Drive MK7 Nozzle: 0.4 Settings: Extruder temp: 235 - Heated bed: 110 Kapton tape Print Speed: 30mm/s Travelling Speed: 45mm/s Time to print: 30 minutes

Notes:

Transparent

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Hands Thingiverse: <u>http://www.thingiverse.com/thing:16501</u>

Kindly submitted by "Billyboyclyde" Website: Using a: MakerbotReplicator 2X Nozzle Size 0.4 Settings: Warm bed with Kapton tape 115c, extruder temp 225c Extrusion Speed: 90 mm/s Travelling Speed: 180 mm/s Time to print: 4 Hours 34 minutes

Notes: None:

White

3D FilaPrint Colour Guide - Our colour prints





Kapton tape - with support Print Speed: NS Travelling Speed: NS Time to print: 4 Hours Notes:

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Pictures and settings: Batman Bust Thingiverse: <u>http://www.thingiverse.com/thing:241899</u>

Kindly submitted by: Arif Website: Using; <u>Reprap Huxley</u> Extruder Type: Bowden Nozzle: 0.5 Settings: Extruder temp: 230 - Heated bed: 110

Pictures and settings: Keyring with Holly

Kindly submitted by: Colin Website:http://www.3dprintni.com Using; Flashforge Creator Dual Extruder Type: Direct Drive MK7 Nozzle: 0.4 Settings: Extruder temp: 235 - Heated bed: 110 Kapton tape Print Speed: 50mm/s Travelling Speed: 60mm/s Time to print: 15 mins

Notes:



Pictures and settings: Christ the Redeemer - printed to show university students how supports work

Kindly submitted by "billyboyclyde" Using a: MakerBot Replicator 2 X Settings: Extrusion 230c and 110c platform with Kapton Tape Time to print: 1hr 40 mins Notes: All standard settings - 20% infill used



Pictures and settings: Abraham Lincoln's Head - printed to show university students how supports work

Kindly submitted by "billyboyclyde" Using a: <u>MakerBot Replicator 2 X</u> Settings: Extrusion 230c and 110c platform with Kapton Tape Time to print: 14hrs! Notes: All standard settings - 30% infill used



Pictures and settings: Stratum Vase 01 Thingiverse : <u>Stratum vase 01</u>

Kindly submitted by "billyboyclyde" Using a: MakerBot Replicator 2 X Settings: Extrusion 230c and 110c platform with Kapton Tape Time to print: 6 hours (if i remember correctl. Notes: All standard settings - 10% infill used. This was made in April 2013 and has travelled quite a bit since, demos, exhibitions etc. So it is not as white as it was when originally printed. Also made the mistake of not wiping the platform clean from using a coloured filament before this

print, as you can see from the base of the vase.
Wood Colour

3D FilaPrint Colour Guide - Our colour prints



Pictures and settings: Mouse Wedge

Thingiverse : See notes below Kindly submitted by "Billyboyclyde" Website: Using a: Makerbot Replicator 2X Nozzle Size 0.4 Settings: Hot bed with Kapton tape 110c, extruder temp 230c. Makerware software used. Extrusion Speed: Using the first edition of the makerware software Time to print: 1 Hour and 45 minutes ran at normal settings, no raft and no

supports. 15% infil.

Notes: Made sure i wiped the platfom with acetone, as each of the layers took one step back to create the wedge, so the first layer had to be a perfect stick! I used the mouse from <u>http://www.thingiverse.com/thing:61909</u> then uploaded it to <u>Tinkercad</u> and created the door wedge. Downloaded it as an stl file then ran it through <u>Netfabb</u> and voila. You can make the wedge as high as is required.

Yellow

3D FilaPrint Colour Guide - Our colour prints



Could you be the first to have a print displayed here go to <u>http://3dfilaprint.com/filament-guide-submission-page/</u> and earn your self some points and well as show the world what you have printed!

Pictures and settings:

Kindly submitted by " " Using a: Settings: Time to print: Notes:

ABS 3mm

A sample of our filament - each ABS 3mm colour will have a 3D FilaPrint test print as a guide.



Colours submitted using ABS 3mm: Orange Glow in the Dark Green Transparent

Glow Green

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Android Logo and Dog Tag . http://www.thingiverse.com/thing:130870

Kindly submitted by: Daniel Bull Website: <u>http://google.com/+DanielBull</u> Using a: Nop Head Mendel90 (RepRap) Geared Extruder Hot End Type: J Type Nozzle Size: 0.4 Settings: Hot glass bed 55c, Bowden extruder temp 190c

Print Speed: 40 mm/s Time to print: 1 hour and 15 minutes Notes: The Android logo is a straight print in the glowing ABS filament, the dog tag was printed in two parts; a base with raised lettering in black PLA and a glowing panel with cutouts for the letters using the glow in the dark ABS. The two parts then snapped together to complete the tag.

Its worth pointing out I found the glow in the dark ABS needs to be printed quite cool, its almost the same as PLA temperatures rather than typical ABS filaments. This may be advantageous to some who have printers which are optimised for PLA.

When printing the ABS I used standard A4 plain paper on my bed for adhesion. If you use paper with ABS be careful as its possible that higher temperature ABS filaments may be too hot and burn the paper. I personally found the glow in the dark filament runs cold enough that paper works fine though.

(Bed temp actually set at 70c theres a 15c drop through the glass)

Orange

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings:

Kindly submitted by "Paulo UK" Website: www.skyhook.tv Using a: Mendelmax 1.6 Hot End Type: J Head Nozzle Size: 0.4 Settings: Hot glass bed 110c, Geared Bowden extruder temp 240c - other platform materials used (see notes) Print Speed: 110 mm/s Travelling Speed: 150mm/s Time to print: 1 Hour 34 minutes

Notes: Nice filament. I need to up the bed temp by 10 degrees from my normal ABS settings to stop some warping, but printed well after this and seemed to handle overhangs really well!! Also used purple UHU on glass bed for adhesion.

Transparent

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Scripted Vase. https://www.thingiverse.com/thing:104694

Kindly submitted by: Daniel Bull Website: <u>http://google.com/+DanielBull</u> Using a: Nop Head Mendel90 (RepRap) Geared Extruder Hot End Type: J Type Nozzle Size: 0.4 Settings: Hot glass bed 115c, Bowden extruder temp 240c

Print Speed: 40 mm/s Time to print: 6 Hours Notes: Sliced using KISSlicer at 0.2mm with infill set to "Vase" and 2 loops. Bed temp was set at 130c (there is a 15c drop through the glass so the real

temp was 115c)

No smoothing has been applied which is why it is opaque. If you look at the photo through the base you can see it is transparent because the base is smooth. If you wished for a perfectly transparent print you would need to use the acetone vapour technique or similar.

PLA 1.75mm

A sample of our filament - each PLA 1.75mm colour will have a 3D FilaPrint test print as a guide.



Colours submitted using PLA 1.75mm: Black Glow Green Fluorescent Blue Glow Blue Fluorescent Green White Christmas Green Red Purple Yellow Gold Coffee Silver

Black

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Owl

Kindly submitted by Jack Beck Using a: RepRap Pro Huxley Settings: 0.2 layer height, infill 30%, kapton tape on bed, bed temp 58, extruder 180 Time to print: just over 3 hours (printed slowly for accuracy) Notes: printed very well, a fan would have helped the print with overhangs.



Pictures and settings: Watch http://www.thingiverse.com/thing:30414 Kindly submitted by "itsjackbeck" Website: http://www.emakershop.com/Seller=5000

Using a: RepRap Pro Huxley - Bowden Extruder - 0.3mm Nozzle Settings: kapton tape on bed, bed temp 58, extruder 190 Print speed: 50mm/sec - Travelling speed 125mm/sec Time to print: 39 minutes Notes: Very easy to print all printed in one piece! I also used glow in the dark green filament for the face. The print turned out great and is

comfortable to wear

Blue

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Splash http://www.thingiverse.com/thing:34851

Kindly submitted by: Luke Turner (@Enlightx) Website: <u>http://www.enlightx.co.uk/</u> Using a: Mini Kossel Printer Hot end Type: E3D V4 Cold bed with Kapton Tape Extrusion Temp: 240c Nozzle Size 0.4 Print Speed: Not known Time to print: Not known Notes: None

Christmas Green

3D FilaPrint Colour Guide





Pictures and settings: Garden Frog

Kindly submitted by "billyboyclyde" Using a: Makerbot Replicator 2 X Settings: 0.2 layer height, 10% infill, kapton tape on bed, bed temp 60, extruder temp 210 Default extruder and speed settings on a standard print Time to print: 1 hours and 40 minutes Notes: Was taken from a scanned image on Thingiverse. A slight seperation of a couple of layers just underneath the chin (is it a chin on a frog)?, but

otherwise a good print.

Coffee

3D FilaPrint Colour Guide





Pictures and settings: Bottle opener Thingiverse: <u>http://www.thingiverse.com/thing:18479</u>

Kindly submitted by "Steve Dodgson" Website: <u>http://2print3d.com</u> Using a: Sumpod X3D Hot end Nozzle Size 0.5 Settings: Cold default bed with Blue Painters Tape, Bowden extruder temp 190c Print Speed: 40 mm/s Travelling Speed: 130mm/s Time to print: 30 Minutes Notes: None

Fluorescent Blue

3D FilaPrint Colour Guide





Pictures and settings: RichRap Chains in Reprapper Trans PLA Stack

Kindly submitted by "Richard Horne (RichRap)" Website: http://richrap.com/ Using a: 3DR Delta Printer Nozzle Size: 0.4 Settings: Blue painters tape on cold bed, extruder temp 205 Time to print: 32 minutes Notes: It is a collection of the Translucent colours. I needed to increase the extrusion temperature a little from the default of 192 Degrees C. Print speed was 180mm/Sec. Printed as a set of three parts in each colour, no retraction

as the travel moves are 450mm/sec.

Fluorescent Green

3D FilaPrint Colour Guide





Pictures and settings: Squirly Vase

Kindly submitted by "billyboyclyde" Using a: Makerbot Replicator 2 X Settings: 0.2 layer height, 10% infill, kapton tape on bed, bed temp 60, extruder temp 210 Extruder speed 80mm Travel speed 140mm Time to print: 1 hours and 17 minutes Notes: Set the shells for 3 rather than the standard 2. The print is very light and almost translucent.

Glow Blue

3D FilaPrint Colour Guide





Pictures and settings: Vase

Kindly submitted by "billyboyclyde" Using a: Makerbot Replicator 2 X Settings: 0.2 layer height, 20% infill, kapton tape on bed, bed temp 60, extruder temp 210 Default extruder and speed settings on a standard print Time to print: 4 hours and 14 minutes Notes: One of the best prints that i have created, beautifully smooth print.

Gold

3D FilaPrint Colour Guide





Pictures and settings: Bottle opener Thingiverse: <u>http://www.thingiverse.com/thing:132632</u>

Kindly submitted by "Steve Dodgson" Website: http://2print3d.com Using a: Sumpod X3D Hot end Nozzle Size 0.5 Settings: Cold default bed with Blue Painters Tape, Bowden extruder temp 190c Print Speed: 50 mm/s Travelling Speed: 130mm/s Time to print: 25 Minutes

Notes: None

Glow Green

3D FilaPrint Colour Guide





Pictures and settings: Yoda

Kindly submitted by "itsjackbeck" Using a: RepRap Pro Huxley Settings: 0.2 layer height, 40% infill, kapton tape on bed, bed temp 58, extruder temp 180 Time to print: 2 hours and 30 minutes Notes: happy with the print, a fan may have helped when printing the ears but they printed much better than expected.

Purple

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Flower Pot

Kindly submitted by "Billyboyclyde" Using a: Makerbot Replicator 2 X Shells: 2 Settings: 0.2 layer height, infill 10%, kapton tape on bed, bed temp 60, extruder 210 Standard print settings on Replicator 2 X Time to print: just over 1 hour and 10 mins Notes: Very clean print,

Red

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Box with lid

Kindly submitted by Brainscan Website: Using a: Mendelmax 1.5 Ramps 1.3 J-Head Nozzle Size 0.3 Settings: Hot default bed 55c, Extruder temp 200c Print Speed: 50 mm/s Travelling Speed: 100mm/s Time to print: 1 Hour Notes: My first print. I used PVA glue on the heatbed and it stuck like

mad. I have no other experience to compare this too, yet.

Pictures and settings: 3D FilaPrint Sign Kindly submitted by Neil Using a: Not Supplied Nozzle Size: Not Supplied Settings: Cold default bed, Bowden extruder temp 196c Print Speed: 61mm/sec



Time to print: Not Supplied Notes: I would call the Red (An Orange / Red) when it's Printed - Just my own View :)

But It prints very well & i could use this colour but i will call it Orange on my website.



Pictures and settings: Flower Pot

Kindly submitted by "Billyboyclyde" Using a: Makerbot Replicator 2 X Settings: 0.2 layer height, infill 10%, kapton tape on bed, bed temp 60, extruder 210 Time to print: just over 1 hour and 35 mins Notes: None



Pictures and settings: Threaded Filament Dust Filter Thingiverse: Filter <u>http://www.thingiverse.com/thing:153807</u>

Kindly submitted by "Steve Dodgson" Website: http://2print3d.com Using a: Sumpod X3D Hot end Nozzle Size 0.5 Settings: Cold default bed with Blue Painters Tape, Bowden extruder temp 190c

Print Speed: 40 mm/s Travelling Speed: 130mm/s Time to print: 22 Minutes Notes: None

Silver

3D FilaPrint Colour Guide





Pictures and settings: Perfume bottle Yr9 school CAD exercise Kindly submitted by wijbabbey Website: http://www.barkingabbeyschool.co.uk/index.html Using a: Replicator 2 Nozzle Size 0.4 Settings: Cold default bed, Bowden extruder temp 230c Print Speed: None Given Time to print: Lid 5 hours Body 7.5 hours Notes: Support traces can affect the final finish. The preview option in Makerware helped choose the best orientation on the bed. This was very succesful on the lid bed, the body support traces were extremely difficult

to remove.

All settings were as default except that infill was reduced to 5% to help reduce material and time.



Time to print: 8 Hours Notes:

Pictures and settings: CCTV Camera Housing Thingiverse: http://www.thingiverse.com/thing:234660 Kindly submitted by: Colin Website:http://www.3dprintni.com Using; Flashforge Creator Dual Extruder Type: Direct Drive MK7 Nozzle: 0.4 Settings: Extruder temp: 205 - Heated bed: 58 Kapton tape with support Print Speed: 50mm/s Travelling Speed: 60mm/s

White

3D FilaPrint Colour Guide





Pictures and settings: Bigigloo

Kindly submitted by "billyboyclyde" Using a: Makerbot Replicator 2 X Settings: 0.2 layer height, 15% infill, kapton tape on bed, bed temp 60, extruder temp 210 Default extruder and speed settings on a standard print Time to print: 2 hours and 12 minutes Notes: The stl fil was a very small size, increased the scale by 800%! There was only a couple of loose strands under the entrance of the igloo and the hole at the top was not quite sealed (guess the inuits need room

for the smoke to come out).

Wood Colour

3D FilaPrint Colour Guide





Pictures and settings: Owls Thingiverse: http://www.thingiverse.com/thing:132938 Kindly submitted by "Billyboyclyde" Website: Using a: MakerbotReplicator 2X Nozzle Size 0.4 Settings: Warm bed with Kapton tape 65c, extruder temp 195c - with raft Extrusion Speed: 80 mm/s Travelling Speed: 190 mm/s Time to print: 4 Hours 55 minutes Notes: None

Yellow

3D FilaPrint Colour Guide





Pictures and settings: Vase

Kindly submitted by "Steve Dodgson" Website: http://2print3d.com Using a: Sumpod X3D Hot end Nozzle Size 0.5 Settings: Cold default bed with Kapton tape, Bowden extruder temp 190c Print Speed: 40 mm/s Travelling Speed: 130mm/s Time to print: 3 Hours Notes: None

PLA 3mm

A sample of our filament - each PLA 3mm colour will have a 3D FilaPrint test print as a guide.



Colours submitted using PLA 3mm: White Red Fluorescent Yellow Gold Glow Blue Black Fluorescent Blue Glow Green Green Orange Pink

Black

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Ultimaker Robot https://www.youmagine.com/designs/official-ultimaker-robot

Kindly submitted by: Corey Website: Using a: <u>Ultimaker 2</u> Glass Hot Bed 65c Nozzle Size: 0.4 Extrusion Temp 220 No supports or rafts Settings: Print Speed 65mm/sec Travelling speed: 150mm 0.1 Layer Height Time to print: 25 Minutes Notes:



Pictures and settings: Custom Battery Tray for Octo Copter

Kindly submitted by "Paulo UK" Website: www.skyhook.tv Using a: Mendelmax 1.6 Hot End Type: J Head Nozzle Size: 0.5 Settings: Hot glass bed 80c, Bowden extruder temp 185 Print Speed: 110 mm/s Travelling Speed: 150mm/s Time to print: 50 minutes Notes: None

Fluorescent Blue

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Retro font Word Pen Thingiverse: http://www.thingiverse.com/thing:45576 Kindly submitted by "Richard T" Website: Using a: Reprap prua i2 - Direct Drive - Hot End Type: J Head Nozzle Size: 0.4 Settings: Hot glass bed 60c, Bowden extruder temp 200c - Using Blue painters tape Print Speed: 30 mm/s - Travelling speed 100 mm/s Prin time: 60 minutes

Notes: This is the biggest item I have yet printed and caused no issues. Printed at 0.2 mm per layer with a 0.35mm initial layer. This is my first spool of PLA having used ABS in the past. Must say it seems a lot easier to print with this than the ABS and this material is tolerant of a wide range of extruder temperatures

Fluorescent Yellow

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings:

Kindly submitted by "Paulo UK" Website: www.skyhook.tv Using a: Mendelmax 1.6 Hot End Type: J Head Nozzle Size: 0.2 Settings: Hot glass bed 70c, Bowden extruder temp 185 - other platform materials used (see notes) Print Speed: 110 mm/s Travelling Speed: 150mm/s Time to print: 6 minutes Notes: I always forget to mention that i use Purlp UHU glue stick on the bed and it is far the best i have found for first layer extrusion. The neon

yellow PLA by 3D FilaPrint is awesome. It prints beautifully and the colour is better and brighter after extrusion. I will uplaod a picture of a better model. NB: The gaps in the model pictured are down to my print settings rather than the PLA.

Glow Blue

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Custom Christmas Deccy

Kindly submitted by "Paulo UK" Website: www.skyhook.tv Using a: Mendelmax 1.6 Hot End Type: J Head Nozzle Size: 0.5 Settings: Hot glass bed 80c, Bowden extruder temp 185 Print Speed: 110 mm/s Travelling Speed: 150mm/s Time to print: 6 minutes Notes: Not a great print by any means, but this not due to the filament. My x axis was slipping and I could only print very low profile prints for a while! Fixed Now.

Glow Green

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Dragon - Adalinda: The Singing Serpent http://www.thingiverse.com/make:65772 Kindly submitted by: Corey Website: Using a: <u>Ultimaker 2</u> Glass Hot Bed 65c Nozzle Size: 0.4 Extrusion Temp 215 No supports or rafts Settings: Print Speed 50mm/sec Travelling speed: 150mm Time to print: 7 Hours Notes: Layer height 0.1 Infill 5% Brim used

Gold

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Tealight Holder Thingiverse: <u>http://www.thingiverse.com/thing:104694</u>

Kindly submitted by "lvor O'Shea" Website: : <u>http://numbersixreprap.blogspot.ie/2013/11/having-vase-phase-with-video.html</u> Using a: Mendel90 Nozzle Size: 0.4 Settings: Sliced in Slic3r using spiral Vase setting...2mm layer height / .5 width. Speed 40mm/sec Time to print: Not submitted Notes: Didnt take to clean glass. I had to increase the first layer temperature from

185c to 195c. I suspect i may have to coat the glass with PVA solution.

Green

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Stripe 3 Scripted vases http://www.thingiverse.com/thing:104694 Kindly submitted by: Corey Website: Using a: <u>Ultimaker 2</u> Glass Hot Bed 65c Nozzle Size: 0.4 Extrusion Temp 230 No supports or rafts Settings: Print Speed 120mm/sec Travelling speed: 150mm Time to print: 2 Hours Notes: Layer 0.1 Shell 0.8 Infill zero

Wanted to see how fast i could print the vase so a much higher hotend temp and managed a speed of 150 could have gone faster but needed to let the layers cool enough before laying the next...

Orange

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: The Colonel http://www.thingiverse.com/thing:108867

Kindly submitted by: Corey Website: Using a: <u>Ultimaker 2</u> Glass Hot Bed 65c Nozzle Size: 0.4 Extrusion Temp 215 Settings: Print Speed 70mm/sec Travelling speed: 150mm Time to print: 5 Hours Notes: Layer height 0.1 infill zero. Support used.

Red

3D FilaPrint Colour Guide - Our colour prints



Above Our Red

Above Makerbot Red



Pictures and settings: Spaceships & Astros http://www.thingiverse.com/thing:172422

Kindly submitted by: Corey Website: Using a: <u>Ultimaker 2</u> Glass Hot Bed 65c Nozzle Size: 0.4 Extrusion Temp 230 No supports or rafts

Settings: Print Speed 70mm/sec Travelling speed: 150mm 0.1 Layer Height. Infill: 0 Time to print: 2 Hours Notes:



Pictures and settings:

Kindly submitted by "Paulo UK" Using a: Mendelmax 1.6 Nozzle Size: 0.4 Settings: Hot glass bed 70c, extruder temp 185 - other platform materials used Time to print: 34 minutes

Notes: Good Colour, behaved very well on my default PLA settings. Colour slightly weakens after extrusion, but is still nice.

White

3D FilaPrint Colour Guide - Our colour prints





Pictures and settings: Ultimaker Robot https://www.youmagine.com/designs/official-ultimaker-robot

Kindly submitted by: Corey Website: Using a: <u>Ultimaker 2</u> Glass Hot Bed 65c Nozzle Size: 0.4 Extrusion Temp 220 No supports or rafts Settings: Print Speed 70mm/sec Travelling speed: 150mm 0.1 Layer Height Time to print: 25 Minutes Notes:



Pictures and settings: Luxo Jnr http://www.thingiverse.com/thing:130870

Kindly submitted by: Daniel Bull Website: <u>http://google.com/+DanielBull</u> Using a: Nop <u>Head Mendel90 (RepRap</u>) Geared Extruder Hot End Type: <u>J Type</u> Nozzle Size: 0.4 Settings: Hot glass bed 55c, Bowden extruder temp 195c Supports Used Print Speed: 40 mm/s Time to print: 9 Hours

Notes: Excuse the teeth marks in the ball its on load from my Border Terrier ;)

Sliced using KISSlicer at 0.2mm. No scaffolding used except for the lamp bell. Bed temp actually set at 70c, theres a 15c drop through the glass)

Diluted PVA applied to the glass with a brush and allowed to dry to a mist before printing.



Pictures and settings: PLA Cube Gears V3. http://www.thingiverse.com/thing:130870

Kindly submitted by: Daniel Bull Website: http://google.com/+DanielBull Using a: Nop Head Mendel90 (RepRap) Geared Extruder Hot End Type: J Type Nozzle Size: 0.4 Settings: Hot glass bed 55c, Bowden extruder temp 195c

Print Speed: 40 mm/s

Time to print: 7 hours and 45 minutes

Notes: Sliced with KISSlicer using 3 loops and 25% circular fill (probably a bit overkill I would use less next time) and no supports/ scaffolding.

Bed temp was set at 70c (there is a 15c drop through the glass so the real temp was 55c)

Diluted kids PVA applied to the glass with a brush and allowed to dry to a mist before printing.



Pictures and settings: Mendel90 spool brackets for 3DFilaPrint spools. https://plus.google.com/+DanielBull/posts/PQiwxh7pd3x

Kindly submitted by: Daniel Bull Website: http://google.com/+DanielBull Using a: Nop Head Mendel90 (RepRap) Geared Extruder Hot End Type: J Type Nozzle Size: 0.4

Settings: Hot glass bed 55c, Bowden extruder temp 195c

Print Speed: 40 mm/s

Time to print: 9 hours and 20 minutes

You can downlaod the stl files here http://3dfilaprint.com/customer-download-page/

Notes: These brackets are a direct swap-in replacement for the ones supplied by Nop Head in his Mendel90 kit. They change the spool holder so it fits the ~200mm x ~69mm spools supplied by 3DFilaPrint.

Each bracket is made up of a male and female half, similar to Nop Heads original design and you need two brackets in total, one for each side. There is also an extended dust trap which needs to be printed which is fitted to the left hand bracket as per Nop Head's original design. All the nuts, bolts and bearings can be reused from the original spool holders, no additional components are required and also the bolts go through the same holes so no additional drilling is required. The original spool brackets can be swapped back at any time.

If printing in PLA make sure you have a few loops so its strong, I used 3 loops personally on the 0.4mm head and have not had any issues with strength.

Time shown to print is in PLA with circular 25% infill, 0.2mm layer height and 3 loops.

I sliced with KISSlicer, and the time breakdown was 1:40 per female bracket, 2:20 per male bracket, 1:20 for the dust filter.

Bed temperature was actually set at 70c (there is a 15 degree loss through the glass on a Nop Head Mendel90 so its really 55c). I also used diluted kids PVA for adhesion which I allow to dry to a mist before printing and wipe off with a damp cloth afterwards.

For more details please check my G+ feed here: https://plus.google.com/+DanielBull/posts/PQiwxh7pd3x



Pictures and settings: Minions with expressions http://www.thingiverse.com/make:54737

Kindly submitted by: Mark Handford Website: <u>http://www.cylindric.net</u> Using a: MakerFarm <u>8" Prusa i3</u> Geared Extruder Hot End Type: J Head

Nozzle Size: 0.3 Settings: Hot glass bed 60c, Extruder temp 180c - other platform materials used N/A Print Speed: 30 mm/s Travelling Speed: 130mm/s Time to print: 45 minutes Notes: Not had any problems with the filament, no spitting or popping, and the size seems pretty consistent too.



Pictures and settings: White Thingy

Kindly submitted by "Paulo UK" Website: www.skyhook.tv Using a: Mendelmax 1.6 Geared Extruder Hot End Type: J Head Nozzle Size: 0.4 Settings: Hot glass bed 85c, Bowden extruder temp 200c - other platform materials used N/A Print Speed: 110 mm/s Travelling Speed: 155mm/s Time to print: 40 minutes

Notes: None required
Pink



Pictures and settings: Flower http://www.thingiverse.com/thing:84075

Kindly submitted by: Corey Website: Using a: <u>Ultimaker 2</u> Glass Hot Bed 65c Nozzle Size: 0.4 Extrusion Temp 215 Settings: Print Speed 70mm/sec Travelling speed: 150mm Time to print: 5 Hours Notes: Layer height 0.1

infill 100%. No support. The flower stem was also printed using 3D FilaPrint Green PLA

Taulman 3D Filaments

Prints submitted using Taulman 3D Filaments;

In addition to the print submissions that you may find here in the guide, there is also a superb Nylon Colouring blog that has been created by Richard Horne of RepRap. As Richard has been designing, building and using 3D printers since 2010. Taulman 3D believed that Richard was the man for the Nylon colouring job and boy they made the right decision, take a look at thesethen <u>click here</u> to read Richards blog (if you havent already :)



Coloured Nylon By Richard Horne

Colour Tye Dyeing by Richard Horne Part 1



Colour Tye Dyeing by Richard Horne Part 2



Nylon 618 1.75mm Nylon 618 3mm Nylon 645 1.75mm t-glase 1.75mm t-glase 3mm

Nylon 618 1.75mm

3D FilaPrint Colour Guide



Notes:



Pictures and settings: Nylon Battery Case

Kindly submitted by "billyboyclyde" Using a: MakerBot Replicator 2 X Settings: Extrusion 220c and 80c platform with Blue Painters Tape and a quick spray of Trésemme just before (30 seconds) the print started

curl, thought it may peel off the bed. Prematurely cancelled the print.

Nylon 618 3mm

3D FilaPrint Colour Guide



Pictures and settings:

Kindly submitted by "someone" Using a: Settings: Time to print: Notes:

Nylon 645 1.75mm

3D FilaPrint Colour Guide



Pictures and settings:

Kindly submitted by "someone" Using a: Settings: Time to print: Notes:

t-glase 1.75mm

3D FilaPrint Colour Guide





Pictures and settings: Wine Glass

Kindly submitted by "Billyboyclyde" Website: Using a: Makerbot Replicator 2 X Nozzle Size: 0.4 Settings: Hot Kapton bed 55c, Extruder temp 212c - other platform materials used none Print Speed: 90 mm/s Travelling Speed: 150mm/s Shells: 2 Infill: 15% Time to print: 3 hours (i think, as i quickly noticed before i switched off) Notes: It took a little while to get the right temperature first. The sides are the glass are only one single pass wide, hence why it almost looks like glass. Should have spent a bit more time levelling the bed exactly (had been using the printer quite a lot without re-levelling. As the print rose higher, the inbalance became obvious and i was trying to adjust the platform whilst printing! That is why you can see the imperfections in the print.

t-glase 3mm

3D FilaPrint Colour Guide



Pictures and settings:

Kindly submitted by "someone" Using a: Settings: Time to print: Notes:

Orbi-Tech Filaments



Prints submitted using Orbi-Tech Filaments

Bendlay 1.75mm Benday 3mm LayBrick 1.75mm LayBrick 3mm Laywoo D3 1.75mm Laywoon D3 3mm

Bendlay 1.75mm

3D FilaPrint Colour Guide





Pictures and settings:

Kindly submitted by "billyboyclyde" Using a: Makerbot Replicator 2X Settings: Extrusion 240c - Platform - 110c with Kapton Tape Time to print: 2 hours 40 minutes Notes: No additional settings or equipment required. Just did not bend very much when printed. Was told that it needed to be less than 5mm thick to bend.

Bendlay 3mm

3D FilaPrint Colour Guide



Pictures and settings:

Kindly submitted by "someone" Using a: Settings: Time to print: Notes:

LayBrick 1.75mm

3D FilaPrint Colour Guide



An excellent Blog on Laybrick - Definitely worth the read







Pictures and settings: Puritan House http://www.thingiverse.com/thing:31644/ Kindly submitted by: John W Website: Hot end Type: Makerbot Replicator 2X Extrusion Temp: 190c Nozzle Size 0.4 Platform: Cold Bed - Blue Painters tape Print Speed: 45mm/sec Travelling speed: 75mm/sec Infill: 10% - 2 Shells - 0.3mm Layer Height Time to print: See notes **Notes:** A smooth, creamy coloured, hard, springy and fairly brittle filament. I found my 10metre sample was slightly oval having diameters around 1.72mm and 1.62mm. LayBrick was designed for printing large architectural models so it seemed appropriate to print a building of some sort. I chose The Puritan, a 1920's era American build-it-yourself house. Yes, I know it was mostly made of wood, but it looks cool and is quite intricate for testing purposes.

To print the entire house with 10metres of filament meant I had to scale the original model to 40% After a quick test I settled on basic settings as follows... Extruder Temp 190C with no build plate heat, 10% infill, 2 shells, 0.30mm layer height Extruding at 45mm/s, Travelling 75mm/s, printed on blue tape.

My initial test was to print a small box 30x20x10mm with a single shell. It printed perfectly and was accurate to .05mm in each dimension. The filament flowed smoothly and the single walls built precisely with excellent adhesion between layers and no oozing.

Straight on to the First Floor which went well until the front left corner started to look a bit scrappy. The mullions (the vertical bars) in the window frames at this scale were *very* thin, I could see the stop-start extrusion at these points was giving a stringy effect as the mullions were still very soft. It was an unusually warm day so I opened the windows to get a bit more cooling. Bridging over the windows, 1st floor interior doors (10mm), and the staircase, which was unsupported, was very good.

The 2nd floor mullions (maybe due to the cooling from the open windows?) were fine, although I broke one while trying to 'install' a window frame! I was too impatient; LayBrick is quite soft for some time after printing. It actually feels and 'sounds like' like damp clay.

It sticks well to blue tape but is easily removed, it is, however, best left on the build plate for half an hour to harden before removal and for several hours more before sanding or removing any spurious filament, especially on your mullions!

The roof was uneventful until the chimney stack. I noticed it wobbling more with each layer, so I applied some direct cooling, (me blowing hard!) which seemed to help.

I'm happy to say that I had estimated the maximum build size fairly well, having just 700mm of filament left upon completion; although I was getting worried watching the 10% hexagonal fill being applied, I'll bet 5% would have been fine.

I had a few centimetres of Laywoo-D3 remaining from the Owl print and quickly printed a door and some windows. While the door wasn't bad, you could even see the individual panels, the windows, only 5mm wide, looked like 'Shreddies', the first layer was a bit too thin. I'm sure with a bit of perseverance (and filament) I could have made a much better job of them.

The photos were taken before any tidying up. The banding is mainly due to the intentional planking effect and the window shutters on the actual model. The small scale and 0.3mm layer height didn't help. Even so, I was quite pleased with the result; the photos are a bit harsh, the true colour is cream not white, as usual it looks better in the flesh.

In retrospect, (I'm quite good at retrospect), since the scale was so small, I should have used a finer layer height. Due the detailing of the planking/shutters and the window frames this model needs to be printed at full scale.

LayBrick was easy to use and has a nice texture, it looks and feels like clay and sands well. While clay-like soft after extrusion it eventually 'dries' quite hard. Some active cooling would be advantageous on small free-standing features. Material Usage:

1st Floor: 3.75m 13g 35' 2nd Floor: 2.60m 9g 45' Roof: 2.60m 9g 35' Total: 8.95m 31g 1h 55'



Pictures and settings: Square Vase - Own Custom design

Kindly submitted by: RainingHeavy Website: Hot end Type: Bowden Extruder Extrusion Temp: 180c Nozzle Size 0.5 Platform: Cold Bed - Other materials used Print Speed: 10mm/sec Travelling speed: 100mm/sec Time to print: Approx 1 Hour and 40 Mins Notes: Custom design vase, made as a solid part in solidworks. 2 perimeters, 0.15mm layer height printed on masking tape. Didn't want to stick to kapton and I don't have blue painters tape. Would have printed at 40mm/sec but min layer time was set wrong. Slight blobbing on the inside from ooze, it doesn't seem to retract well. Great finish. Feels "soft and warm", it's odd stuff. Looks like modelling clay. Vase is ~50mm square by 75 tall and used up essentially all of the 5M bundle.

I would certainly recommend this stuff



Pictures and settings: Unique Forms

Kindly submitted by "Matt Smith of <u>http://uniqueforms.net</u> Using a: Settings: Time to print: Notes:

LayBrick 3mm

3D FilaPrint Colour Guide



Cextrudable.me

An excellent Blog on Laybrick - Definitely worth the read



Pictures and settings: Ultimaker Robot https://www.youmagine.com/designs/official-ultimaker-robot

Kindly submitted by: Corey Website: Using a: <u>Ultimaker 2</u> Glass Hot Bed 60c Nozzle Size: 0.4 Extrusion Temp 215 No supports or rafts Settings: Print Speed 40mm/sec Travelling speed: 150mm 0.1 Layer Height. Infill: 15% Time to print: 40 Minutes Notes: Layer height 1.5

I had major issues with this material finding the sweet point for the Ultimaker 2, I suffered from

major under extrusion on my first print of a cup, it started off ok but when i returned i had major under extrusion (lesson learned don't walk away from a print using new material) This used up the majority of the 5m sample i had. The temp i used was 200 degrees.

This left me with just enough to print my Ultimaker robot which was a success using a temp of 215 as you can see from the picture i got a lot of very fine strings which is not a problem because this material can be sanded and smoothed off or even brush off the fine strings easily.

With a bit more playing the results could have been improved even more which i will do when i get more of this material as i like the fact you cant even see the layers...

Laywoo D3 1.75mm

3D FilaPrint Colour Guide





Pictures and settings: Owl Statue Kindly submitted by: John W Thingiverse: <u>http://www.thingiverse.com/thing:18218</u>

Using a: Makerbot Replicator 2X

Notes: The original stands at 15cm. tall and would consume around 80g of material at 10% infill and take 6 hours to print. We had 10metres (approx 22g) to play with so we would be printing a scaled down version at 7.5cm.

The diameter of the Laywoo-D3 filament, having quite a quite rough surface, measured between 1.40mm and 1.87mm at individual points, however measured longitudinally over 30mm lengths it was roughly (pun intended), 1.70 to 1.80mm.

While the filament came coiled with a 75mm radius, I found that it would happily coil at 50mm but would spring back to its original radius, you don't

really want to re-spool it a tighter radius than supplied. It is quite brittle and would snap easily at a radius of around 15mm. Beware getting it into a tangle! I managed to snap it mid-way through the final print trying to de-tangle.

Seeing that the recommended temperature settings were 180 to 245 Celsius, which would give a variation of colour in the finished object between light and a quite dark 'mahogany', I opted to use my Makerbot Replicator 2x with standard settings, 230 Celsius, no build plate heat, layer height 0.2mm, 2 shells, 10% infill extruding at 90mm/s on blue tape.

On the first attempt, it was clear that we were under-extruding and I aborted on the second layer. Adjusting the 'feedDiameter' from the standard setting of 1.77 to 1.70, the first few layers went well, but as the print progressed we were still under-extruding. However, I let it run, I liked the effect it was having, it looked like an ancient carving that had been dug out of a peat-bog! However, as we approached the relatively unsupported edges of the body it all 'went west' and I again aborted the print. See photo 'Attempts 1 and 2'.



I had intended to print the owl as large as possible using 10 metres of filament (larger base in photo); at this point I am glad that I opted to print two owls, because now it was likely that I had only enough filament left to print one!

With 'feedDiameter' now set to 1.60, off we go again. Pretty good, all went well until halfway through when I noticed that we had an overlapping loop on the spool which had tightened. 'Oh, dear!', I exclaimed, 'what an unfortunate thing to happen when you have only just enough filament to finish the item.', or words to that effect!

Inevitably, I broke the filament while untangling; it is very springy; delicacy and patience (not my best virtues) are required to pull 5metre lengths of springy, brittle filament through the tangled loops.

I had already been informed several times that dinner was over and mine was now stone cold (as usual), so, since the print had continued quite happily during the de-tangle, and was looking good, I estimated how long it would run before I would need to 'change filament' (to continue with the broken-off section), and presented myself for feeding. Deciding not to tempt fate, I returned, food in hand (on a plate) to watch the build. It really is no different to a 'TV dinner' and often the viewing is considerably more exciting.

Changing filament to continue with the section I had broken off was uneventful, and the print continued to completion in 2 hours and 24 mins. with 973.27mm (approx) of filament to spare! What a relief!

See photo 'Final'. I'm no photographer; a bird in the hand is worth two in a photo.

Once the optimum extrusion rate was established, Laywood-3D printed very nicely. At a 0.2mm layer height the texture of the material masked the visibility of individual layers, the printed item had a very nice feel, and yes, it does smell like wood. We did have a few 'dropped stitches' on the overhangs and the feet showed some bridging which would probably be rectified by modifying the 'retract' settings. Fill was set to 10% and the item was quite strong, however, I did not test to destruction.

Overall, a very pleasing result, I will definitely be using Laywoo-D3 again, perhaps for furniture for my nieces doll's house? I would like to try variations of temperature during a print to get that realistic looking wood annual-rings effect which I have seen done elsewhere.

With 10 metres (22g) to play with, the finished article was 77mm tall and weighed in at 12g, using approx 6 metres of filament. Aborted attempts consumed 6gm (3 metres) and we had just less than 1metre, 2g, remaining.

Laywoo D3 3mm

3D FilaPrint Colour Guide



Other Premium Filaments

<TODO>: When new filaments have been successfully tested by our customers we will add them to this section.

NinjaFlex

3D FilaPrint Colour Guide







There is a great post here on NinjaFlex<u>http://goo.gl/qmBgAH</u>

NinjaFlex White 1.75mm NinjaFlex White 3mm NinjaFlex Red 1.75mm

NinjaFlex White 1.75mm

3D FilaPrint Colour Guide





Pictures and settings: Flexible Spanner Kindly submitted by Deepak Website: http://3deeeeprinting.blogspot.co.uk/ Using a: Nozzle Size 0.4 Settings: See notes below Print Speed: See notes below Time to print: Not confirmed Notes: this ninjaflex stuff is AMAZING... worked

perfectly on the leapfrog creatr by setting the speed at 25mm/s constant... I have added my settings that work (based on existing filaflex settings). You can download my settings from here http://3dfilaprint.com/customer-download-page/ You can download Slic3r from here http://slic3r.org/download

NinjaFlex White 3mm

3D FilaPrint Colour Guide





Pictures and settings: Christmas Tree By Roman_Hegglin

Kindly submitted by: Luke Turner (@Enlightx) Website: http://www.enlightx.co.uk/ Using a: Prusa I3 Single Plate Hot end Type: E3D V4 Cold bed with Kapton Tape Extrusion Temp: 240c Nozzle Size 0.4 Print Speed: 40mm/sec Travelling speed: 130mm/sec Time to print: Approx 1 Hour Notes: Printed at 0.15 Layerheight in Vase Mode. Trick with Ninjaflex is to print your object slow (40mm/sec) and also disable retraction. This is due to filament kinking up when moving to fast or reversing. File Location : http://www.thingiverse.com/thing:34851

NinjaFlex Red 1.75mm

3D FilaPrint Colour Guide





Pictures and settings: Octopus Kindly submitted by Rainingheavy Website: Using a: RepRaPro Huxley Extruder Type: Bowden Nozzle Size: 0.5 Settings: Hot bed 35c Extruder temp: 210c Default bed with Kapton Tape Print Speed: 15mm/sec Travelling speed: 100mm/sec Time to print: 3Hrs 7mins

Notes: First layer at 215C and 40C bed. 0.2mm layer height. All speeds set to 15mm/sec, retract 2mm, fill density 0.35, honeycomb. Cut using Slic3r.

This stuff sticks to Kapton like glue, a heated bed is not necessary.

Due to the Bowden extruder and the soft, flexible filament, ooze is unavoidable, but fairly easy to clean off. Prints came out great at 0.2. Slight stringing and blobbing; due to ooze. Colour and detail is good. Surprising how quickly you get through a 10M bundle...

NinjaFlex Blue 1.75mm

3D FilaPrint Colour Guide





Pictures and settings: NinjaFlex Hand Kindly submitted by Mark http://www.thingiverse.com/thing:242639

Using a: <u>RepRaPro Tricolour</u> Extruder Type: Bowden Nozzle Size: 0.5 Settings: Hot bed 50c Extruder temp: 215c Default bed with Kapton Tape Print Speed: 75mm/sec Travelling speed: 150mm/sec Time to print: 3 minutes per joint

Notes: Although I have flagged this as a successful print with a bed

temperature of 50 degrees, the Ninja-Flex did attach itself so firmly that it lifted my Kapton tape when I tried to remove it so I would suggest trying a cold bed.

MadeSolid



Our vision is to advance the capabilities of 3D printers through better materials. We balance our products with superior mechanical properties while promoting its ease of use. With the help of early beta users and a crowdsourcing campaign, we have been able to release several products that gives 3D printer users access to advanced materials.

Printer Compatibility and Settings

FDM Printers for PET+: Leapfrog Creatr | Makerbot Replicator / Replicator 2 / Replicator 2X | MakerGear M2 | Type A Machines Series 1 | Ultimaker Ultimaker Original / Ultimaker 2 | Up! Up! Mini | Up! Plus 2

SLA Printers for MS Resin: <u>B9 Creator</u> | <u>Formlabs Form 1</u> | <u>mUVe 3D</u> FFF Printers

Our <u>PET+ material</u> is for filament based printers (FFF/FDM technology). Here are the printer settings for 3D printers that are compatible, though there are many other printers that will work with PET+. <u>PET+ Best Practices and Tips</u>

There are a lot of different FFF style printers and settings out there, but there are some general practices we found that have worked best:

- # Extrusion temp 220-255C
- # If layers are not adhering to each other well, try extruding at a higher temperature
- # Clear PET+ has a higher melting point than the opaque's. Try printing at a higher temperature
- # Adheres well to heated bed at 60C and for non-heated beds on blue painters tape.
- **#** You can also try printing on a glass build plate with a glue stick applied

For a more glossy/transparent look, try increasing your layer height to 0.2mm or higher

Leapfrog

Creatr

Makerbot Replicator

Extrusion Temperature: 250°C - 255°C *Layer Height(s):* 0.1 - 0.3mm

Réplicator 2

Extrusion Temperature: 250°C - 255°C *Layer Height(s):* 0.1 - 0.3mm

Replicator 2X

Extrusion Temperature: 250°C - 255°C *Laver Height(s):* 0.1 - 0.3mm

MakerGear

M2

Extrusion Temperature: 245°C for block style, 225°C for heater core style *Extrusion Multiplier:* 0.96 *Layer Height(s):* 0.15mm *Extrusion Diameter:* 0.35mm *Fan:* 100% on layer 2 *Heated Bed:* 60°C *Retract Distance:* 3.2mm *Retract Speed:* 3000mm/min *Coasting:* 2mm *Restart Distance:* -.05, 2mm, 3.2mm

Type A Machines

Series 1

Extrusion Temperature: 220°C - 230°C *Layer Height(s):* 0.15mm *Extrusion Diameter:* 0.35mm *Fan:* Off *Heated Bed:* 60°C *Retract Distance:* 4.5mm *Retract Speed:* 40.0mm/s

Ultimaker

Ultimaker Original

Extrusion Temperature: 240°C *Layer Height:* 0.2mm *Extrusion Diameter:* 2.85mm *Cooling Fan:* OFF *Print Speed:* 30mm/s *Infill Speed:* 60mm/s *Travel Speed:* 250mm/s *Retraction:* 25mm/s, 3mm

Ultimaker 2

Extrusion Temperature: 240°C *Layer Height:* 0.2mm *Extrusion Diameter:* 2.85mm *Cooling Fan:* OFF *Print Speed:* 30mm/s *Infill Speed:* 60mm/s *Travel Speed:* 250mm/s *Retraction:* 25mm/s, 3mm Up!

Up! Mini

Extrusion Temperature: 245C @ Normal/Fast Speeds *Resolution:* 0.2 to 0.4 Up! Plus 2

Settings coming soon

3D FilaPrint Colour Guide





Pictures and settings: Heatwave 3d Printable Typeface - Q & A letters Kindly submitted by: Billyboyclyde Thingiverse: <u>http://www.thingiverse.com/</u> <u>thing:276836</u>

Using a: Makerbot Replicator 2X Extrusion Temp: 250c Nozzle Size 0.4 Print Speed: 40mm/sec Travelling speed: 160mm/ sec

Warm bed 60c with kapton - acetone left over from

previous prints, but would not have used

Time to print: Approx 1 Hour and 40 mins each letter (i think)

Notes: The letters printed beautifully, this is a really easy filament to print with. The black i have tried at several different temps, but needs more work.

3D FilaPrint Colour Guide







Pictures and settings: Elephant - Voronoi Style <u>http://www.thingiverse.com/thing:287891</u>

Kindly submitted by: Corey Website: Using a: <u>Ultimaker 2</u> Glass Hot Bed 70c Nozzle Size: 0.4 Extrusion Temp 240 No supports or rafts Settings: Print Speed 40mm/sec Travelling speed: 150mm, 0.15 Layer Height. Infill: 100% Time to print: 6 Hours Notes: Used Glue stick on glass bed

Catastrophic Failures :(

Failed prints.

Before we start this section, we would like to bring to the discussion table, the question, how are we going to deal with the failed prints and the many metres of strands, rafts and sleeves that are being made to waste, whilst we are all enjoying this new technology, how should we tackle the waste that is created (perhaps when the new Filamaker is available, this may help to a degree). If you have any ideas of how we can get this topic going or you know of someone, a company or an organisation who is ready to take on this task. Then we would like you to submit your suggestion on the notes section of our Submission Page. For your information we have so far written to three local politicians, one industrial recycling company and not one of them showed any interest. Well, we think it is time they became interested!



In this exciting world of 3D Desktop printing we recognize not every single print is a success. We have been there when a print is at 90% and fails. Or when a project is left to print overnight only to wake up and choke on our cornflakes.

We wanted to add a section that pointed out some of the failures and what could be done to avoid them in the future. There are many reasons why a project fails to print, many of them avoidable, which we are going to highlight in this section.

In addition, maybe *you* have information that could be divulged to our readers to help them (and us) in the quest to achieve the perfect print. You can do this by uploading the information using our <u>Submission Page</u> and selecting the unsuccessful print option and input the reasons why it was not a success in the notes section at the bottom of the page.

Well here goes, time to re-live some of those cornflake moments.



Pictures and settings: Cuddleing Owls http://www.thingiverse.com/thing:50212

Kindly submitted by: Corey Website: Using a: <u>Ultimaker 2</u> Glass Cold Bed 20c Nozzle Size: 0.4 Extrusion Temp 210 No supports or rafts Settings: Print Speed 40mm/sec Travelling speed:

150mm 0.3 Layer Height. Infill: 15% Time to print: 10 Minutes Notes: I did not have much luck getting Laywood to work on my Ultimaker 2

I started off using low temperature 210 degrees and a layer height of 0.2 but the nozzle got clogged after a couple of layers, I then increased the temperature to 215, 220, 225, 230 using 0.2 layer height and still got a clogged nozzle after a couple of layers.

I then tried the same temperatures again using a 0.3 layer height and still got clogged nozzle maximum layers i got at 0.3 layers was about 8 before clogging.

Royal Crown

http://www.thingiverse.com/thing:80709



This was rescaled down to 50% of the original.

Unfortunately as the crown grew higher a couple of the spines kept getting slightly clipped as they grew taller, by the left nozzle, as they only had a 10% infill after 3 hours of printing one of the spines snapped off at the base. When i removed the print (before completion) another two spines split off quite easily. Next time i would have a greater infil and make 100% certain that the bed and nozzles are absolutelty levelled and aligned before attempting the print. What i did find was a very slight rub of acetone on the kapton bed meant no raft required and it stuck like glue.

VEND http://www.thingiverse.com/thing:45347



This is a much scaled down version of the VEND (75% reduced). The reason why this is a failure is becasue the internal clips and hinges within the coin mechanism are so small they cannot be fitted correctly, so although this looks pretty neat it is not actually functional from a coin/vend perspective, although it will still vend if you turn the handle.

http://www.thingiverse.com/thing:95428



This buddha print was doing well on my UP! until i realised that i had not made sure that i had enough time to continue the print and had to abort halfway through!

Mouse Wedge - Home made http://www.thingiverse.com/thing:95428



I should have ran this through <u>Netfabb</u> first! It was created by adding a mouse to a wedge shape using <u>Tinkercad</u> and then just downloaded as an stl file. If I had ran it through <u>Netfabb</u> it would have higllighted a possible issue with the wedge shape. For when it was printing the raft did not run the whole length of the print as if it wasnt sitting on the platform completely.

Owl Pen holder http://www.thingiverse.com/thing:18218



I used the owl project and just tinkered with it to create a hole down the back for my

pen. The Glow in the Dark Owl was going to be placed on the dashboard of my van, as i am always looking for pens in a hurry. The problem was that i should have used it without a raft as at the last stage it just slid off the bed, i will create it again without a raft and use a little ABS slurry this time.