Test Report

Date: _____

Location

Country: _____ City: _____

Room where the printer is used in:

☐ Labor ☐ Factory (shop floor)
☐ Garage ☐ Storage room ☐ Office
☐ Living room ☐ Other, _____

Setting of the room:

☐ air conditioned (temperature, humidity)
☐ forced ventilation ☐ manual airing
☐ no airing

3D Printer

Fabricate: _____ Year of purchase: _____

Used nozzle diameter [mm]: _____

Used material (type, colour, brand): _____

General conditions

Start time: _____ Finish time: _____

Room temperature [°C]: _____ Room temperature [°C]: _____

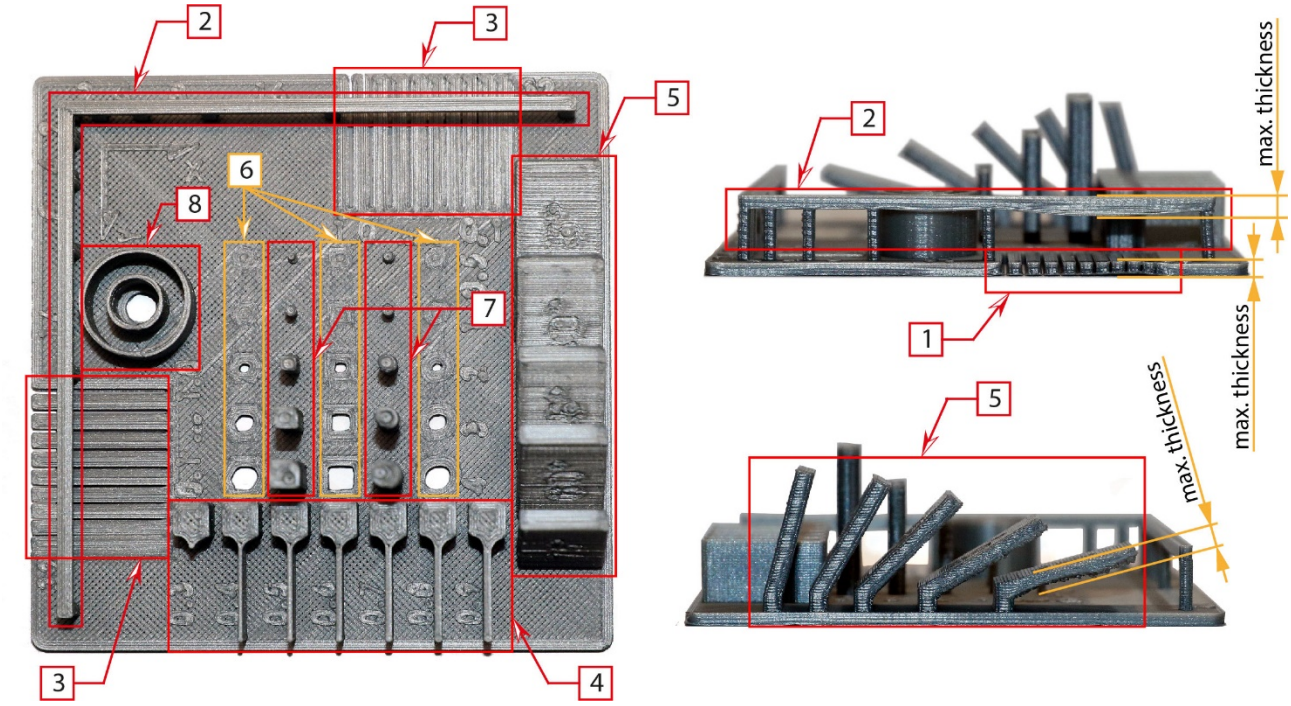
Room humidity [% r.H.]: _____ Room humidity [% r.H.]: _____

Own notes

_____

_____

Evaluation of the print of the test object



1. Warping

In direction X:

Base plate:	☐ no	☐ little	☐ heavy	max. thickness [mm]: ____
Arrangement of slots:	☐ no	☐ little	☐ heavy	max. thickness [mm]: ____

In direction Y:

Base plate:	☐ no	☐ little	☐ heavy	max. thickness [mm]: ____
Arrangement of slots:	☐ no	☐ little	☐ heavy	max. thickness [mm]: ____

2. Bridging

As a benchmark, look at the photo on page 1. Bridging of distances from 2, 4 and 8 mm are perfect. Bridging of distance 16mm has a "little sag" and 32mm is described as "bad".

In direction X:

Distance of 2 mm:	☐ perfect	☐ little sag	☐ bad	max. thickness [mm]: ____
Distance of 4 mm:	☐ perfect	☐ little sag	☐ bad	max. thickness [mm]: ____
Distance of 8 mm:	☐ perfect	☐ little sag	☐ bad	max. thickness [mm]: ____
Distance of 16 mm:	☐ perfect	☐ little sag	☐ bad	max. thickness [mm]: ____
Distance of 32 mm:	☐ perfect	☐ little sag	☐ bad	max. thickness [mm]: ____

In direction Y:

Distance of 2 mm:	☐ perfect	☐ little sag	☐ bad	max. thickness [mm]: ____
Distance of 4 mm:	☐ perfect	☐ little sag	☐ bad	max. thickness [mm]: ____
Distance of 8 mm:	☐ perfect	☐ little sag	☐ bad	max. thickness [mm]: ____
Distance of 16 mm	☐ perfect	☐ little sag	☐ bad	max. thickness [mm]: ____
Distance of 32 mm:	☐ perfect	☐ little sag	☐ bad	max. thickness [mm]: ____

3. Arrangement of slots

To rate, hold the test object against a light source.

In direction X:

Slot of 1.0 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.9 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.8 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.7 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.6 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built

Slot of 0.5 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.4 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.3 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.2 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.1 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built

In direction Y:

Slot of 1.0 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.9 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.8 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.7 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.6 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.5 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.4 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.3 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.2 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built
Slot of 0.1 mm:	☐ perfect	☐ almost complete	☐ half complete	☐ not built

4. Arrangement of wall tests

Wall of 0.9 mm:	☐ perfect	☐ alright	☐ bad	☐ not built
Wall of 0.8 mm:	☐ perfect	☐ alright	☐ bad	☐ not built
Wall of 0.7 mm:	☐ perfect	☐ alright	☐ bad	☐ not built
Wall of 0.6 mm:	☐ perfect	☐ alright	☐ bad	☐ not built
Wall of 0.5 mm:	☐ perfect	☐ alright	☐ bad	☐ not built
Wall of 0.4 mm:	☐ perfect	☐ alright	☐ bad	☐ not built
Wall of 0.3 mm:	☐ perfect	☐ alright	☐ bad	☐ not built

5. Arrangement of overhangs

Above surface

Angle of 75 °:	☐ smooth	☐ less lines	☐ some lines	☐ rough	max. thickness [mm]: ____
Angle of 60 °:	☐ smooth	☐ less lines	☐ some lines	☐ rough	max. thickness [mm]: ____
Angle of 45 °:	☐ smooth	☐ less lines	☐ some lines	☐ rough	max. thickness [mm]: ____

Angle of 30 °: ☐ smooth ☐ less lines ☐ some lines ☐ rough max. thickness [mm]: ____

Angle of 15 °: ☐ smooth ☐ less lines ☐ some lines ☐ rough max. thickness [mm]: ____

Lower surface

Angle of 75 °:	☐ smooth	☐ less lines	☐ some lines	☐ rough
Angle of 60 °:	☐ smooth	☐ less lines	☐ some lines	☐ rough
Angle of 45 °:	☐ smooth	☐ less lines	☐ some lines	☐ rough
Angle of 30 °:	☐ smooth	☐ less lines	☐ some lines	☐ rough
Angle of 15 °:	☐ smooth	☐ less lines	☐ some lines	☐ rough

6. Arrangement of cut-outs

Round profiles

Size of 4 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ not built
Size of 3 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ not built
Size of 2 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ not built
Size of 1 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ not built
Size of 0.5 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ not built

Square profiles

Size of 4 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ not built
Size of 3 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ not built
Size of 2 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ not built
Size of 1 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ not built
Size of 0.5 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ not built

Hexagon profiles

Size of 4 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ not built
Size of 3 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ not built
Size of 2 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ not built
Size of 1 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ not built
Size of 0.5 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ not built

7. Arrangement of pillars

Round profiles

Size of	4 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ broken
Size of	3 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ broken
Size of	2 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ broken
Size of	1 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ broken
Size of	0.5 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ broken

Square profiles

Size of	4 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ broken
Size of	3 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ broken
Size of	2 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ broken
Size of	1 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ broken
Size of	0.5 mm:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ broken

8. Concentric circles

Centre hole:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ non-existent
Inner Circle:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ broken
Outer Circle:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ broken
Concentric of Circles:	☐ perfect	☐ slightly symmetrical	☐ unsymmetrical	☐ non-existent

Please, **include photos of** the place **where the 3D printer is standing and** photos of the **test object from every side** (above, front, sides, rear).

Please, could you tell me your experiences with the influence of different room temperatures and humidity values on the result of 3D printing? (i.e. limits, critical environment, reliability)

_____

_____

_____

_____

Thank you very much for supporting me with my master thesis! I highly appreciate it! If you like to receive the results of the thesis once it is finished, feel free to send me a message to markus.ehrlenbach@fh-kufstein.ac.at