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Section: 3

3D print Process (FFF, SLA, SLS, DIW?): FFF

3D print material (ABS, PLA, PETG?): PLA

3D modeling software: SolidWorks

Slicer Software: Cura

Scaling applied (1:1, 1:2): 1:1

Extruder temperature: 210 (C)

Build plate temperature: 60 (C)

Layer height: 4mm

Estimated total print time: 1 hour 48 minutes

Estimated mass of material used: 4 grams

3 dimensions from CAD model:

Lower Diameter: 1 in

Upper Diameter: 1.97 in

Height: 2.25 in

3 Measured dimensions:

Lower Diameter: 1.01 in

Upper Diameter: 1.95 in

Height: 2.31 in

Notes on how print turned out:

Initially when I started to print my cup, it did not stick to the bed of the printer very well. I found out that this was because I had the extruder temperature too high so it was melting the material too fast. So after stopping, clearing the bed of the printer and restarting the print the lower temperature used seemed to allow the part to stick better. Another problem showed up after the initial layer on the bed. The fan wasn't working and since my piece started off relatively small, the plastic wasn't cooling fast enough as more was added on top of it which caused the material to become lumped. I think this is what caused the height to be off by more than +/- .02 inches. Overall, I think it was a successful 3D print.