

Manufacturing Guidance for 3D Printing (SLUHN Simulation Center, Filament Innovations)

Rev: 6.17.20

Mask Body and Grill Cover

Material:

FLEX45 3D printer filament, bio-based Thermoplastic Co-Polyester, MCPP, Netherlands

Number of parts at a time: 4 masks, 4 grills

Machine Parameters:

Nozzle Size: $\geq 0.15\text{mm}$

Print Temp: $\pm 220 - 260^\circ\text{C}$

Bed Temp: $\pm 90 - 110^\circ\text{C}$

Print Speed: Low

Fan Speed: 50-100%

Flow Rate: $\pm 100\%$

Retraction: Yes, $\pm 5\text{mm}$

Post Processing / Cleaning Instructions:

1. Remove parts from build plate
2. Deburr using a blade or deburr tool, removing all excess material and smoothing edges.
3. Use fine grit sand paper as needed to smooth edges
4. Wash using soapy water to remove oils and particulate
5. Disinfect by submerging or wiping with $>70\%$ Isopropyl alcohol for >3 minutes
6. Air dry

Elastic Strap Goggles Clip:

Material: PLA (Polylactic Acid)

Number of Parts at a Time: 72

Machine Parameters:

Hot end Temperature (C): 190-225

Bed Temperature (C): 0-60

Print Speed (mm/s): 0-100

Retraction Speed (mm/s): 35-60

Retraction Length (mm): 0.50-0.75

Post Processing / Cleaning Instructions:

1. Remove parts from build plate
2. Deburr using a blade or deburr tool, removing all excess material and smoothing edges.
3. Use fine grit sand paper as needed to smooth edges
4. Wash using soapy water to remove oils and particulate
5. Disinfect by submerging or wiping with $>70\%$ Isopropyl alcohol for >3 minutes
6. Air dry