

Fillamentum Vinyl 303

(Polyvinyl chloride)

Printing temperature: 215 – 230 °C

Heated bed temperature: 80 – 90 °C

Speed: 40 – 60 mm/s

Part cooling fan: 0 – 50 %

Heated bed surface: PEI plate, mirror / glass

Adhesive: Magigoo, PVA based glue

Raft / skirt / brim: Brim 10 mm / raft

Heated chamber / enclosure: recommended

- Adhesion** - You can print Vinyl on standard PEI build plate. We recommend use brim, because Vinyl can shrink from build plate due to poorly cleaned build plate.
- Cooling** - For standard maximum part cooling fan speed is 15 % from 10th layer. If you are printing difficult parts / models with overhangs and supports, you can go up to 100 %. Be careful with the part cooling fan speed - too much flow can decrease bonding of layers.
- Printing** - Printing bridges with Vinyl could be challenging, therefore, we recommend using supports as it really helps and avoids print fails.
Stronger parts can be achieved by using temperature around 230 °C and part cooling fan off, where layers adhere more.
Printing very small features is hard. It is recommended to avoid it in the models, because printing small detail can cause clogging due to small flow off material.
- Storing** - Airtight bag with desiccant.
- Avoid clogging** - First heat up the bed, after temperature stabilization heat up the nozzle.
Nozzle temperature shouldn't be higher than 230 °C due to thermal sensitivity. Reduce material delay in the nozzle, at elevated temperatures keep feeding or set removing of filament immediately after printing is finished. The bed must be well calibrated - low level of nozzle may cause low flow and clogging. Clean the nozzle at the printing temperatures or lower - higher temperatures would cause clogging. Suitable material for cleaning nozzle is PLA Crystal Clear or Nylon FX256. Lowest recommended layer height is 0.15 mm.

SAFETY RECOMMENDATIONS FOR VINYL 303

Don't harm yourself:

- avoid breathing of toxic fumes
- harmful toxic fumes are emitted
- ventilate the room during printing
- printer with air filtration is appropriate (for example HEPA filters)
- pregnant women should stay away when Vinyl 303 is processed

Don't ruin your printer:

- don't use stainless steel nozzle, but the brass one
- stainless steel parts may corrode
- it is better to use Bowden type of printer

Good printing results:

- nozzle temperature: 215–230 °C, don't use higher than 235 °C
- bed temperature: 80 °C
- printing speed: 40–60 mm/s
- bed adhesive: Magigoo, PVA based glue
- minimum layer height: 0.15 mm
- control printing of first layers – if it doesn't look well, turn off the printer and change the settings of first layer
- printing of PVC is recommended for experienced printers, not for beginners!

Avoid clogging:

- first heat up the bed, after temperature stabilization heat up the nozzle
- reduce material delay in the nozzle, at elevated temperatures keep feeding or set removing of filament immediately after printing is finished
- the bed must be well calibrated – low level of nozzle may cause low flow and clogging
- clean the nozzle at the printing temperatures or lower – higher temperatures would cause clogging

ENJOY YOUR PRINTING!