





NOTRE DAME PRINTING PARAMETER



Once we have finished the Notre Dame design, it is time to print it.

Problems we could find

When printing this structure, we could find two main problems: Stringing could appear when printing the windows and the arches. Bridging could also appear in the printing in the arches or the bell tower, depending on the size of the structure.

How can we solve Stringing problems?

Stringing is one of the most commons problems in 3D printing, it appears when the printhead moves between the different printing points, in that movement it extrudes some melted plastic that solidifies and creates a strand.

To avoid the "stringing" we highly recommend the following settings:

- The print retraction and speed retraction.
- The fuser temperature.
- The printing speed and trajectory.

How could we solve Bridging problems?

We define "Bridging" as the moment when our printer extrudes filaments in the air, without a support, creating imperfect layers that will affect to other layers that would be printed over them and to the final print result.







To improve or delete bridging problems is recommended:

- Reduce the printing speed.
- Reduce the filament extrusion temperature and increase the layer fan cooling speed.
- In the process of design, consider that the bigger the bridge distance is the higher the probabilities of something going wrong are.
- If it is impossible to print, we have to add brackets with the slicer.

How could we solve Overhanging problems?

The "overhanging" refers to that part of the structure that is completely suspending in the air. When printing overhangs, we can find similar problems to the ones of printing bridges. To avoid it we must consider the next things:

- Use supports to create an easily removable surface, where we can lay the overhangs.
- Reduce the extrusion temperature, printing and travel speed, and increase the cooling fan speed.
- When designing models with overhang, it is recommended that they never exceed 45 degrees with respect to its horizontal.



Printing parameters

Printing size → X:80mm Y: 20mm Z: 41mm

- Layer height → 0'18mm/s
- Printing speed → 30mm/s
- Trajectory speed → 40mm/s
- Infill pattern → Hexagonal
- Infill density → 30%
- **Expected time** \rightarrow 2h 2mins.