

**This model was tested in Cura 2.7.0. and print on an Ultimaker 2 in PLA material.**

**Note:**

- You can print **new joints** from Version 3 and Version 4 with 20-30% infill.
- With the **new joints** from Version 3 and Version 4 you can up scale or down scale the whole model.
- All parts of connectors should be printed at 100% infill.

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To avoid printing problems, we recommend the following **settings:**

**Quality**

Layer Height: 0.1 mm

Initial Layer Height: 0.3 mm

Line Width: 0.4 mm

Wall Line Width: 0.4 mm

Outer Wall Line Width: 0.4 mm

Inner Wall(s) Line Width: 0.4 mm

Top/Bottom Line Width: 0.4 mm

Infill Line Width: 0.4 mm

Skirt/Brim Line Width: 0.4 mm

Support Line Width: 0.4 mm

Initial Layer Line Width: 100%

**Shell**

Wall Thickness: 0.8 mm

Wall Line Count: 2

Outer Wall Wipe Distance: 0.2 mm

Top Surface Skin Layers: 0

Top/Bottom Thickness: 0.8 mm

Top Thickness: 0.8 mm

Top Layers: 8

Bottom Thickness: 0.8 mm

Bottom Layers: 8

Top/Bottom Pattern: Lines  
Bottom Pattern Initial Layer: Lines  
Top/Bottom Line Directions: [ ]  
Outer Wall Inset: 0 mm  
Compensate Wall Overlaps: Check  
    Compensate Outer Wall Overlaps: Check  
    Compensate Inner Wall Overlaps: Check  
Fill Gaps Between Walls: Everywhere  
Horizontal Expansion: 0 mm  
Initial Layer Horizontal Expansion: 0 mm  
Z Seam Alignment: Shortest  
Ignore Small Z Gaps: Check

## **Infill**

Infill Density: 20%

Infill Line Distance: 4 mm  
Infill Pattern: Grid  
Infill Line Directions: [ ]  
Infill Overlap Percentage: 10%  
    Infill Overlap: 0.04 mm  
Skin Overlap Percentage: 5%  
    Skin Overlap: 0.02 mm  
Infill Wipe Distance: 0.1 mm  
Infill Layer Thickness: 0.1 mm  
Gradual Infill Steps: 0  
Infill Before Walls: Check  
Minimum Infill Area: 0 mm<sup>2</sup>

## **Material**

Enable Retraction: Check  
Retraction Extra Prime Amount: 0 mm<sup>3</sup>  
Retraction Minimum Travel: 0.8 mm  
Maximum Retraction Count: 90  
Minimum Extrusion Distance Window: 6.5 mm  
Nozzle Switch Retraction Distance: 20 mm  
Nozzle Switch Retraction Speed: 20 mm/s

Nozzle Switch Retract Speed: 20 mm/s  
Nozzle Switch Prime Speed: 20 mm/s

## **Speed**

Print Speed: 50 mm/s  
Infill Speed: 50 mm/s  
Wall Speed: 40 mm/s  
Outer Wall Speed: 30 mm/s  
Inner Wall Speed: 40 mm/s  
Top/Bottom Speed 20 mm/s  
Support Speed: 30 mm/s  
Support Infill Speed: 30 mm/s  
Travel Speed: 120 mm/s  
Initial Layer Speed: 30 mm/s  
Initial Layer Print Speed: 30 mm/s  
Initial Layer Travel Speed: 72 mm/s  
Skirt/Brim Speed: 30 mm/s  
Maximum Z Speed: 0 mm/s  
Number of Slower Layers: 2

## **Travel**

Combing Mode: All  
Avoid Printed Parts when Traveling: Check  
Travel Avoid Distance: 0.6562 mm

## **Cooling**

Enable Print Cooling: Check  
Fan Speed: 100%  
Regular Fan Speed: 100%  
Maximum Fan Speed: 100%  
Regular/Maximum Fan Speed Threshold: 10 s  
Initial Fan Speed: 0%  
Regular Fan Speed at Height: 0.27 mm  
Regular Fan Speed at Layer: 2  
Minimum Layer Time: 5 s  
Minimum Speed: 10 mm/s

## **Support**

Enable Support: Check

Support Placement: Everywhere

Support Overhang Angle: 50°

Support Pattern: Zig Zag

Connect Support ZigZags: Check

Support Density: 15 %

Support Line Distance: 2.3333 mm

Support Z Distance: 0.3 mm

Support Top Distance: 0.3 mm

Support Bottom Distance: 0.3 mm

Support X/Y Distance: 0.8 mm

Support Distance Priority: Z overrides X/Y

Minimum Support X/Y Distance: 0.2 mm

Support Stair Step Height: 0.3 mm

Support Stair Step Maximum Width: 5.0 mm

Support Join Distance: 2.0 mm

Support Horizontal Expansion: 0.2 mm

Support Infill Layer Thickness: 0.1 mm

Use Towers: Check

Tower Diameter: 3.0 mm

Minimum Diameter: 3.0 mm

Tower Roof Angle: 65°

## **Build Plate Adhesion**

Build Plate Adhesion Type: Brim

Skirt/Brim Minimum Length: 250 mm

Brim Width: 8.0 mm

Brim Line Count: 15

Brim Only on Outside: Check

## **Mesh Fixes**

Union Overlapping Volumes: Check

Merged Meshes Overlap: 0.15 mm

## **Special Modes**

Print Sequence: All at Once

Surface Mode: Normal

## **Experimental**

Extra Skin Wall Count: 0

**Disclaimer:** This model will look outstanding if printed on SLA/SLS 3D printer. The accuracy of the model printed on FFF printer can vary from the result shown in the pictures.