

Parametric Modular Honeycomb Organizer



herr_brain

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updated 24. 3. 2022 | published 24. 3. 2022

Summary

Highly parametric OpenSCAD design intended to generate optimal honeycomb patterns for storage of, well... anything.

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Tags: [parametric](#) [modular](#) [honeycomb](#) [deskorganizer](#)
[openscad](#) [openscadlibrary](#) [markerholder](#)

A few months ago, I made a [remix](#) of [Geeky Faye Art's Modular Vertical Honeycomb Copic Marker Stand](#) in an attempt to optimize for print speed. While it was somewhat successful, the filament usage was still extremely high, and the print times still weren't as low as I would have liked. At the time, I decided that making the design any more efficient to print would require a ground-up redesign. This is that redesign.

But I didn't stop there. Instead of making a simple redesign of the original model, I made a small OpenSCAD library that can generate honeycomb patterns in a highly flexible manner. Unlike other honeycomb libraries I've seen, mine defines "cell" size based on inside diameter. This makes it optimal for organizer or storage applications since you can design your organizer to hold objects with a particular diameter. Note also that the outer walls of the honeycomb are half thickness. This allows multiple smaller honeycomb sections to be fit together without gaps.

I spent quite a bit of time optimizing print settings for speed and quality. The example designs have a 1.4mm wall thickness, which was chosen to be slightly above double the default perimeter thickness used for a 0.6mm nozzle in PrusaSlicer. Custom print settings are saved in the 3mf files. Unfortunately, I wasn't quite able to get sections to fit together perfectly due to a limitation in the way PrusaSlicer handles single perimeter walls.

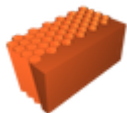
I want to make it clear that the models uploaded here are primarily meant to serve as examples demonstrating the use of my new honeycomb library (although they may be useful if all you want to do is store Copic markers). Remixes and new designs using this library are strongly encouraged!

Note: in order to generate the example models in OpenSCAD, you will need a copy of [dotSCAD](#). This is not required if you are only going to use honeycomb.scad.

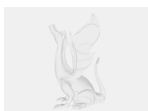
Model files



honeycomb-section.3mf



honeycomb-base.3mf



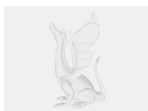
honeycomb.scad

☐ Honeycomb generation library (it's documented!)



honeycomb-section.scad

☐ Simple example design showing basic usage of honeycomb.scad (requires dotSCAD)



honeycomb-base.scad

☐ More complex example design using honeycomb.scad (requires dotSCAD)

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