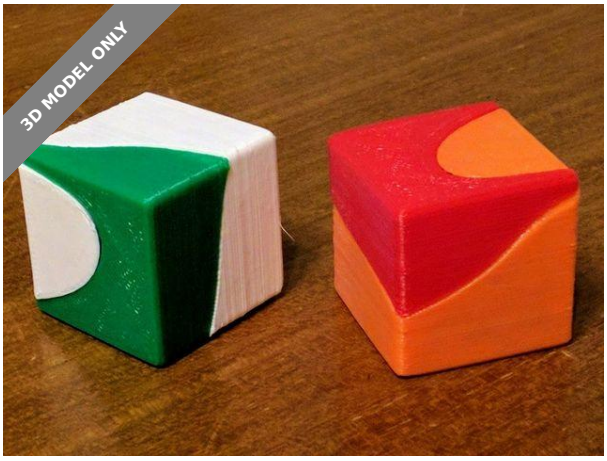
Printables by JOSEF PRUSA



Asymmetrical Cube Puzzle

jepler

VIEW IN BROWSER

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Summary

Another "two parts go together to form a cube" puzzle. Best if printed in two colors.

Toys & Games > Puzzles & Brain-teasers

Tags: puzzle openscad assemblyrequired cubepuzzle

Another "two parts go together to form a cube" puzzle. Best if printed in two colors.

Print instructions

Orient the model so that the face that looks like a letter "D" is face up, and it'll print without supports.</p> I find 33mm the perfect size of these, so consider scaling up 1.66x in your slicer.

If the fit is too tight or too free for your system, you have no recourse but to edit the .scad file. Find the ff= value in two places in screwcube() and modify it. The helix is displaced away from the Z axis by this value, so the gap is equal to twice the value.

I was heavily inspired by RoCMP's design, but I somehow overlooked that there was a .scad file in their Thing, so I made my own from scratch. My design is asymmetrical, which I like because there's one more wrong way to assemble the Thing.

The basic idea is: cut a cube into two identical parts, in this case by using a helix to divide 3-dimensional space into two half-spaces.

One of the difficulties in producing this design is the way OpenSCAD treats polygons—nearby, near-collinear points are eliminated. It turns out that RoCMP works around this in a clever way, by scaling up the helix. But linear_extrude looks bad when it is extruding something with big flat faces. I didn't find this workaround, so I ended up reimplementing the moral equivalent of linear_extrude in OpenSCAD language itself which was certainly an adventure in its own right.

Model files

helix.stl

helix.scad

Find source .stl files on Thingiverse.com

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