Printables by JOSEF PRUSA

Gridfinity Storage Box by Pred (now parametric)

Pred

VIEW IN BROWSER

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Summary

Parametric (almost) fully printed storage box for Gridfinity bins. Organize your organizers!

19.69 hrs	4 pcs	0.30 mm 0.20 mm	0.40 mm	PET	368 g	Prusa MK3/S/S+

Hobby & Makers > Organizers

Tags: parametric fusion360 stackable storagebox storagecontainer gridfinity

IMPORTANT

Read the description carefully before print!

Check the changelog at the bottom before printing, there might be updates to the model

The original model and the parametric one are not stackable with each other!

Prusa Mini version: https://www.printables.com/model/556604-gridfinity-storage-box-by-pred-for-prusamini

Now PARAMETRIC

Find the f3d file in the common folder below.

I did some changes compared to the original model.

- It is now parametric with bunch of options
- The base lost some weight and now can accept 6x2 magnets (if that is your thing)
- It got a front handle (optional) *
- Redesigned label holder
- Option for a hinge with an M3x30 screw

I don't like the handle, but that was a commonly requested feature. It for sure change or might even be removed in the next iteration. Also it steals a lot of space from the label, so it got smaller.

What can you change?

Dimensions

Of course the dimensions (number of bins in X and Y and height in Gridfinity units)

- X is limited to minimum 4 bins (the label and handle are barely usable in this size)
- Y is limited to minimum 3 bins
- Z is limited to minimum 6 units

Lower values will break the model!

Hinge size

You can now change how long the hinge is and also the Y position from the back of the box and the size of the axel. The wider the hinge axel the stronger it is, but also gets harder and harder to print without support.

The options are limited for the screw hinge!

Label size

Within reason :) For smaller boxes, this does not add much, but for bigger ones there is some room for customization.

Description (original model)

Let me introduce you the newest and shiniest iteration of Gridfinity storage box.

A 5x4 Gridfinity baseplate hidden in a 230 x 188 x 55mm box (Z+1.5mm stacking tab on top), secured by a grid of Gridfinity container bottom profiles in the lid, complete with a label holder.

The boxes are stackable and also can be secured to eachother by the catches.

To use it as a standalone box, you'll need 2 catches (on the front), to fully stack and secure multiple boxes together, I recommend 6 catches in total, but optionally can be used with only 4 (however just for the looks, I prefer to have 6).

All parts are fully printed, no need to use any bolts and nuts.

Inspired by the Gridfinity Project Case and Rugged Box (Parametric) and several other commercially available boxes, like Makita's MakPac and Festool Systainer.

Print instructions

I printed all parts in (Prusament) PETG using a 0.4mm nozzle and 2 walls and strongly recommend PETG.

You can increase the wall thickness if you want, in exchange of more material usage and slightly longer print time. The Base, lid and the hinge can benefit from the more thicker walls.

Base

- Recommended profile: 0.3mm DRAFT
- I recommend adding supports to the bottom of the locking tabs and the label catch*. (~2m filament) (* only in the original model)
- Place it right side up

Lid

- Recommended profile: 0.3mm DRAFT
- I recommend adding supports next to the hinge slot for the long bridging
- Change the bridging angle to 45 degrees (Print Settings → Infill → Advanced → Bridging Angle)
- Place it right side up

Hinge (printed)

- Recommended profile: 0.2mm QUALITY
- 3 walls, 100% infill
- Should print fine without supports but if it fuses completely, add supports to the bottom of the cylinders.
- Place it standing on the bed

Hinge (screw)

- You can print it the same way the printed version (bolt head part facing down), or print the two parts separately and use appropriate support for cleaner result.
- You'll need an M3x30 bolt and an M3 nut per hinge.

Latch

- Recommended profile: 0.2mm QUALITY
- Supports might be needed on the bottom of the tabs on the side
- Place it flat face down

Label

- Recommended profile: 0.2mm QUALITY
- Place it flat face down
- You can add text or other modifiers in the slicer or edit the model in your choice of mesh massager
- Keep a 2-3mm border untouched on the face around the perimeter

Handle (optional)

- Recommended profile: 0.2mm QUALITY
- Parametric only
- Print flat
- No supports needed (the filet might be ugly on one side, but that does not affect functionality if printed on a reasonably calibrated printer)
- You'll need 2 pieces of M3x14-16 bolts, no nut, screws into the plastic or the handle pin if printed parts are fine for you

Handle pin

- Recommended profile: 0.2mm QUALITY
- Can be a bit hard to insert, but should click in place and hold the handle securely (you might need a tool to push it in)

Bins inside

- Those are stackable 6U high Gridfinity bins, use recommended settings of your choice of bins
- See the Gridfinity section below
- My design of the bins: https://www.printables.com/model/592545-gridfinity-bin-with-printable-label-by-pred-parame

Assembly

1. Slide in the catches into the rails on the sides and the front of the base
2. Insert the 2 hinges into the holes on the back of the base
3. Carefully align the free ends of the hinges and secure the lid
4. Insert the label into the slot
5. Close the catches on the front
6. Optionally use 2 pieces of M3x14-16 bolts or the printed pins to secure the handle. The bolts screw into the plastic.

The tolerances are a bit tight for the catches, you might need to file off a bit of material from the tabs on the sides of the catches if they prove to be too hard to close. They should close without noticeably deforming the base or the lid while properly securing the lid and/or the box on top.

Gridfinity

Zach Freedman laid the bases of this organization system and shared as is an open source project. To print the containers inside (or similar ones), search for “Gridfinity bins” or similar on almost any model sharing site.

In order to lock the bins with the lid in place (and prevent the items in the bins spilling out), fill the full height in each place you use. The lid accommodates for the stacking lip, which adds 4.4mm to the bin's height on top of the 42mm.

Gridfinity website: https://gridfinity.xyz

Or use my design: https://www.printables.com/model/592545-gridfinity-bin-with-printable-label-by-pred-parame

Updates

2023-08-05	STEP files added

2023-08-07	Added Gridfinity section to description Added a stronger hinge (Hinge_4mm), which has a wider inner axel (thus the whole axel is wider and can be printed with more walls (or infill 100%) for added strength.
2023-08-08	Removed the stronger hinge temporarily due to clearance issues. To make it work the base and lid also needs to be modified, thus it will be only available in the parametric fusion file later.
2023-08-17	The first public version of the parametric model (Parametric V1 folders) added with pre-generated 3mf models for some sizes
2023-08-20	Slight changes for the latch which makes it easier to open and close, also closes a bit more securely (use the 3MF file from the common files folder, the F3D will be updated later)
2023-09-22	Small adjustments mainly as a response to some comments from you. • There was a mistake with the alignment holes on the bottom, they got widened a bit • The hinge has a few small changes and the print instructions are updated • A printable pin for the handle was added (optional), the hole is the same and accepts bolt • Removed the magnet holes from the 3mf files (still present in the f3d if somebody wants to re-add them change the MagnetHoleDepth and MagnetHolDiameter parameters)
2023-09-23	Sample gcode added (Sliced with PrusaSlicer 2.6.1) Label STEP files added
2023-11-09	Warnings when box height changed fixed. F3D file updated.

Model files

Parametric V1 - Common Files and F3D

24 files

gridfinitystoragebox_parametric-v11.f3d

Fusion 360

gridfinitystoragebox_hinge.3mf

2pcs per box. Slightly redesigned, use this if the old one does not work for you!

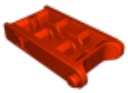
gridfinitystoragebox_hinge_old.3mf

The old design, kept here for those who like this more, use the new one above!

gridfinitystoragebox_screwhinge_m3x30.3mf

gridfinitystoragebox_latch.3mf

2-6 pcs per box. Print with the flat side flat on the bed and add supports to tabs on the side



gridfinitystoragebox_handlepin.3mf

2pcs per box.

gridfinitystoragebox_4xy_label.step

gridfinitystoragebox_4xy_label.3mf

Print flat on the bed and add text/graphics as needed. Leave a 3-5mm border on the side empty

gridfinitystoragebox_4xy_handle.3mf

gridfinitystoragebox_5xy_label3mf.step

gridfinitystoragebox_5xy_label.3mf

☐ Print flat on the bed and add text/graphics as needed. Leave a 2mm border on the side empty

gridfinitystoragebox_5xy_handle.3mf

gridfinitystoragebox_6xy_label3mf.step

gridfinitystoragebox_6xy_label.3mf

☐ Print flat on the bed and add text/graphics as needed. Leave a 2mm border on the side empty

gridfinitystoragebox_6xy_handle.3mf

gridfinitystoragebox_7xy_label3mf.step

gridfinitystoragebox_7xy_label.3mf

☐ Print flat on the bed and add text/graphics as needed. Leave a 2mm border on the side empty

gridfinitystoragebox_7xy_handle.3mf

gridfinitystoragebox_5xy_label_m2.3mf

gridfinitystoragebox_5xy_label_m2_5.3mf

gridfinitystoragebox_5xy_label_m3.3mf

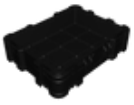
gridfinitystoragebox_5xy_label_m4.3mf

gridfinitystoragebox_5xy_label_m5.3mf

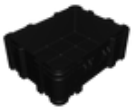
gridfinitystoragebox_5xy_label_m6.3mf

Parametric V1 - 4x3 5 files

gridfinitystoragebox_4x3_lid.3mf



gridfinitystoragebox_4x3x6u_base.3mf



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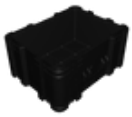
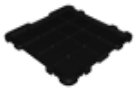


gridfinitystoragebox_4x3x12u_base.3mf

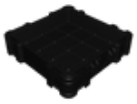
gridfinitystoragebox_4x3x15u_base.3mf

Parametric V1 - 4x4

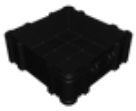
5 files



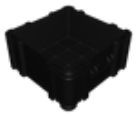
gridfinitystoragebox_4x4_lid.3mf



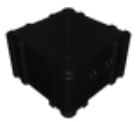
gridfinitystoragebox_4x4x6u_base.3mf



gridfinitystoragebox_4x4x9u_base.3mf



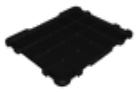
gridfinitystoragebox_4x4x12u_base.3mf



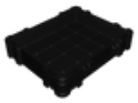
gridfinitystoragebox_4x4x15u_base.3mf

Parametric V1 - 5x4

5 files



gridfinitystoragebox_5x4_lid.3mf



gridfinitystoragebox_5x4x6u_base.3mf

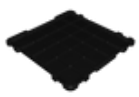
gridfinitystoragebox_5x4x9u_base.3mf

gridfinitystoragebox_5x4x12u_base.3mf

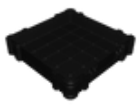
gridfinitystoragebox_5x4x15u_base.3mf

Parametric V1 - 5x5

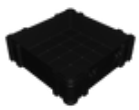
5 files



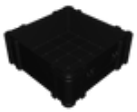
gridfinitystoragebox_5x5_lid.3mf



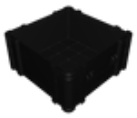
gridfinitystoragebox_5x5x6u_base.3mf



gridfinitystoragebox_5x5x9u_base.3mf



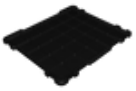
gridfinitystoragebox_5x5x12u_base.3mf



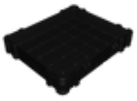
gridfinitystoragebox_5x5x15u_base.3mf

Parametric V1 - 6x5

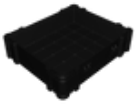
5 files



gridfinitystoragebox_6x5_lid.3mf



gridfinitystoragebox_6x5x6u_base.3mf



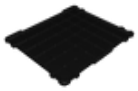
gridfinitystoragebox_6x5x9u_base.3mf

gridfinitystoragebox_6x5x12u_base.3mf

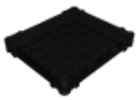
gridfinitystoragebox_6x5x15u_base.3mf

Parametric V1 - 7x6

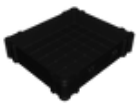
5 files



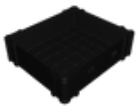
gridfinitystoragebox_7x6_lid.3mf



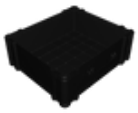
gridfinitystoragebox_7x6x6u_base.3mf



gridfinitystoragebox_7x6x9u_base.3mf



gridfinitystoragebox_7x6x12u_base.3mf



gridfinitystoragebox_7x6x15u_base.3mf

Original Design (not parametric, don't use it)

11 files

label.3mf

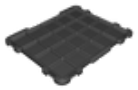
!! WILL NOT BE UPDATED !! Part of the original model, see parametric above

catch.3mf

!! WILL NOT BE UPDATED !! Part of the original model, see parametric above

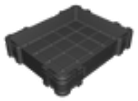
hinge.3mf

!! WILL NOT BE UPDATED !! Part of the original model, see parametric above



lid.3mf

!! WILL NOT BE UPDATED !! Part of the original model, see parametric above



base.3mf

!! WILL NOT BE UPDATED !! Part of the original model, see parametric above

label.step

!! WILL NOT BE UPDATED !! Part of the original model, see parametric above

catch.step

!! WILL NOT BE UPDATED !! Part of the original model, see parametric above

hinge.step

!! WILL NOT BE UPDATED !! Part of the original model, see parametric above

lid.step

!! WILL NOT BE UPDATED !! Part of the original model, see parametric above

base.step

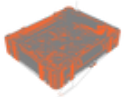
!! WILL NOT BE UPDATED !! Part of the original model, see parametric above

hinge_m3x25.3mf

!! WILL NOT BE UPDATED !! Part of the original model, see parametric above

Print files

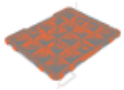
Parametric V1 - 5x4x6U PETG (Sample) 4 files



gridfinitystoragebox_5x4x6u_base_handlepin_04n_03mm... .gcode

PET 0.40 mm 0.30 mm 10.26 hrs 220 g Prusa MK4

5x4x6U base, multiple sizes available, parametric Fusion360 source file is available below



gridfinitystoragebox_5x4_lid_04n_03mm_petg_mk4_5h48m .gcode

PET 0.40 mm 0.30 mm 5.79 hrs 116 g Prusa MK4

5x4 lid, multiple sizes available, parametric Fusion360 source file is available below

gridfinitystoragebox_5xy_handle_latch_hinge_04n_02m... .gcode

PET 0.40 mm 0.20 mm 3.45 hrs 31 g Prusa MK4

All the gribbles with recommended supports

gridfinitystoragebox_5xy_label_m3_04n_02mm_petg_mk4... .gcode

PET 0.40 mm 0.20 mm 0.19 hrs 1 g Prusa MK4

Sample label for M3 bolts and nuts (empty 3MF and STEP files are available)

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