VERTEX BY MINT MOTIVE · GUIDE

The Skådis guide

The IKEA pegboard for makers: the slot pattern and board sizes, how printed parts hang, design rules and tolerances, printing and materials.

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Online, always up to date, with the calculators and the latest changes:
vertex.mintmotive.com.au/learn/skadis

The basics

SKÅDIS is IKEA's pegboard system. Instead of round holes it has tall, narrow slots in a staggered pattern, and accessories hang by hooking a tab through a slot and dropping a lip down behind the board. Because the slots are the same on every board, one printed accessory fits every SKÅDIS board, in any colour, forever.

SKÅDIS is IKEA's name and design. Parts made here and by the community are compatible with it, not official IKEA parts. Everything on this page is measured from real boards; boards vary slightly, which is why every number in the Skådis Studio is a setting and it starts with a fit test.

Boards

The boards are fibreboard with a folded edge that stands them off the wall, which leaves room behind for the lips of hooks. They come in three standard sizes and can be joined side by side or stacked with connectors.

Board	Size (W × H)	Notes
Narrow	36 × 56 cm	Fits between studs and beside desks.
Square	56 × 56 cm	The most common size.
Wide	76 × 56 cm	Above a workbench or desk.

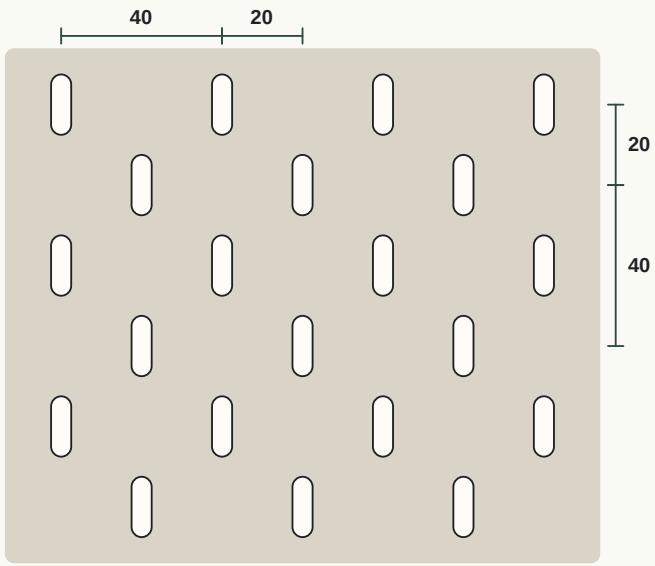
Painted boards (white, black and colours) measure about 5.2 mm thick; the unpainted wood-coloured ones about 4.8 mm. That 0.4 mm difference is why a lip that clicks tight on one board can rattle on another: design for 5 mm, and let people adjust.

Want a board in a size IKEA doesn't sell? The Skådis Studio prints pegboard panels with the same slot pattern, sized for your printer and with screw holes to mount them.

Dimensions

These drawings are to scale and use the same numbers as the Skådis Studio.

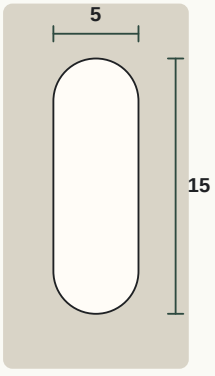
SKÅDIS SLOT PATTERN · TO SCALE · MM



Slots in one column are 40 mm apart. The rows in between are shifted 20 mm, so there is a slot every 20 mm on the diagonal.

The pattern: a 40 mm grid of slots, and a second 40 mm grid shifted 20 mm across and 20 mm down.

ONE SLOT · MM



Rounded ends, radius 2.5 mm.
Board: about 5.2 mm painted, 4.8 mm in wood.

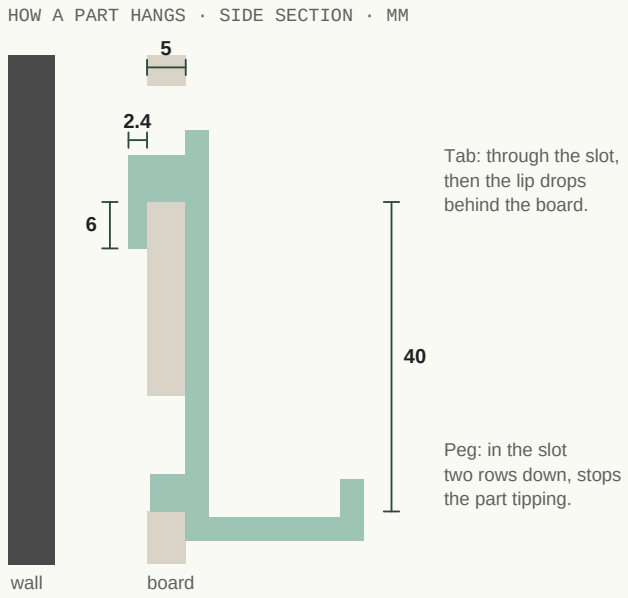
Tabs through a slot: 4.5 mm thick, so they slide in and can pivot.

One slot: 5 mm wide, 15 mm tall, rounded ends.

Part	Measurement	Value
Slot	Size	5 × 15 mm, 2.5 mm radius ends
Grid	Same column, next slot	40 mm below
Grid	Next column	40 mm across
Grid	Offset rows	20 mm across and 20 mm down
Board	Thickness	~ 5.2 mm painted, ~ 4.8 mm wood

Printed tab	Thickness through a slot	4.5 mm (4.6 mm for a snug fit)
Printed tab	Height in the slot	6 mm (leaves room to tilt it in)
Printed lip	Drop behind the board	6 mm, 2.4 mm thick
Clearance	Around tabs and pegs	0.3 mm a side (a setting)

How parts hang



Tilt the part, push the tab through a slot, and let it drop: the lip hooks behind the board and the weight of whatever it holds pulls it tight.

- Top tabs carry the load. One tab is fine for a light hook; anything wider than about 40 mm should have a tab in two columns, so it can’t twist.
- Lower pegs stop tipping. A short peg (no lip) in the slot 40 mm below the tab takes the push of the load back into the board. Without it, a loaded shelf rotates forward and the tab levers on the slot.
- Use the offset rows. A part that is 20 mm off-grid (the offset slots) is just as valid, which gives you 20 mm steps on the diagonal for fine positioning.
- Keep the lip short. The lip has to fit through the slot while the part is tilted, so tab height + lip drop must stay under the 15 mm slot height with some room to swing.

Designing your own parts

Most failed Skådis prints fail for the same handful of reasons. These rules are what the Skådis Studio follows; stick to them in your own CAD and parts fit first time.

1. Start from the grid. Put tabs exactly on 40 mm centres (or 20 mm on the diagonal). Parts that span columns must be (columns - 1) × 40 mm between tab centres, not “about 80 mm”.
2. Tabs 4.5 mm thick, 6 mm tall. Thicker won’t go in; thinner rattles. Offer a 4.6 mm “snug” version for painted boards.
3. Round what goes through the slot. Round or chamfer the tab’s leading edge and the bottom of the lip so they slide in without catching.

4. Fillet the tab where it meets the back plate. That inside corner is where a loaded hook snaps. A 1–2 mm fillet more than doubles its strength.
5. A back plate of 3 mm or more sitting flat on the board spreads the load and stops the part rocking.
6. Design for the print orientation (below): the tab must be printed along its length, never standing up.
7. Test with a fit piece. Print one tab, a lip and a peg before a four-hour shelf. The Skådis Studio's Fit test item does exactly that.
8. Label your clearance. When you share a model, say which board it was tested on (painted or wood) and the tab thickness, so people can pick the right version.

Width calculator

How wide can a part be for a given number of columns, and where do its tabs go?

Printing

- Print the tabs along their length. A tab printed standing up has its layer lines across it, and it snaps at the first heavy load. The Skådis Studio makes the tabs as small separate clips printed flat, so the layers always run along the tab. You push one through each hole in the back plate before hanging the part.
- Shelves, trays and double hooks print standing up, just as they hang, with the floor on the bed. Single hooks print on their side so the arm is strong along its length.
- Walls beat infill. Four walls (perimeters) and 20–30% infill make stronger hooks than two walls and 100% infill.
- Watch the elephant's foot on tabs printed flat: a squashed first layer makes a 4.5 mm tab 4.8 mm. Use your slicer's elephant foot compensation, or add 0.1 mm of clearance.
- No supports needed. A tab's lip hangs down behind the board, and nothing that hangs down can print attached without supports. Printing the tabs as separate flat clips solves that, and every part passes the studio's Check supports.

Materials and loads

Material	Good for	Watch out for
PLA	Light hooks, labels, desk organisers	Creeps under constant load: a loaded hook slowly bends over months, and softens in a hot garage.
PETG	Most tool hooks and shelves; the safe default	Strings a little; slightly flexible, which actually helps tabs survive knocks.
ASA / ABS	Garages, workshops, anything in the sun or heat	Needs an enclosure to print well.
PA / PC / CF blends	Heavy tools, power tools, long shelves	Dry the filament; CF blends need a hardened nozzle.
TPU	Soft cradles and non-scratch pads added to hooks	Not for tabs: too flexible to hold the lip behind the board.

The board is the weak point before a good printed part is: each slot is a thin bridge of fibreboard. Spread heavy things across several tabs and columns, and screw the board to studs or proper wall plugs. See the filament guide for every material in detail.

Fixing fit problems

Problem	Likely cause	Fix
Tab won't go in	Tab too thick, elephant's foot, or printed standing up	Reduce tab thickness 0.1 mm, turn on elephant foot compensation, lay it on its side.
Part rattles or falls out	Wood board (thinner), or tab too thin	Use the 4.6 mm snug tab, or reduce clearance.
Shelf tips forward	No lower peg	Add pegs two rows (40 mm) below the tabs.
Hook snaps at the tab	Layer lines across the tab, or a sharp inside corner	Print on its side; add a fillet where the tab meets the plate.
Lip won't swing through	Tab + lip taller than the slot allows	Shorter lip drop (5–6 mm) or a lower tab.
Two-column part won't seat	Tab spacing not a multiple of 40 mm	Put tab centres exactly (columns - 1) × 40 mm apart.

Skådis and Gridfinity

The two systems get on well. The Skådis Studio makes a Gridfinity shelf: a Skådis-mounted shelf with a Gridfinity baseplate on top, so any Gridfinity bin can live on the wall and come down to the bench. Note the grids don't line up (42 mm and 40 mm), so the shelf is sized in Gridfinity units and hung on the nearest Skådis columns.

Glossary

Slot One of the 5 × 15 mm openings in the board.

Tab The part of an accessory that goes through a slot.

Lip The downward hook on the end of a tab that catches behind the board.

Peg A short tab with no lip, lower down, that stops a part tipping.

Back plate The flat part that sits against the front of the board.

Offset rows The second grid of slots, shifted 20 mm across and down.

Fit test A tiny print with a tab, lip and peg to check your board before a big part.

Resources

- Skådis Studio: design hooks, shelves, tool holders, trays, Gridfinity shelves and your own pegboard panels, with a fit test, and download 3MF or STL.
- Skådis board on the forum: ask about fit, share parts, get help.
- Skådis parts on VERTEX made by the community.
- Search "Skadis" on Printables and MakerWorld for thousands of ready-made accessories; check the description for the tab thickness and which board it was tested on.
- IKEA's SKÅDIS range for boards, connectors and the official accessories.

Printed from VERTEX by Mint Motive. The online guide has the calculators, pictures and the latest changes.