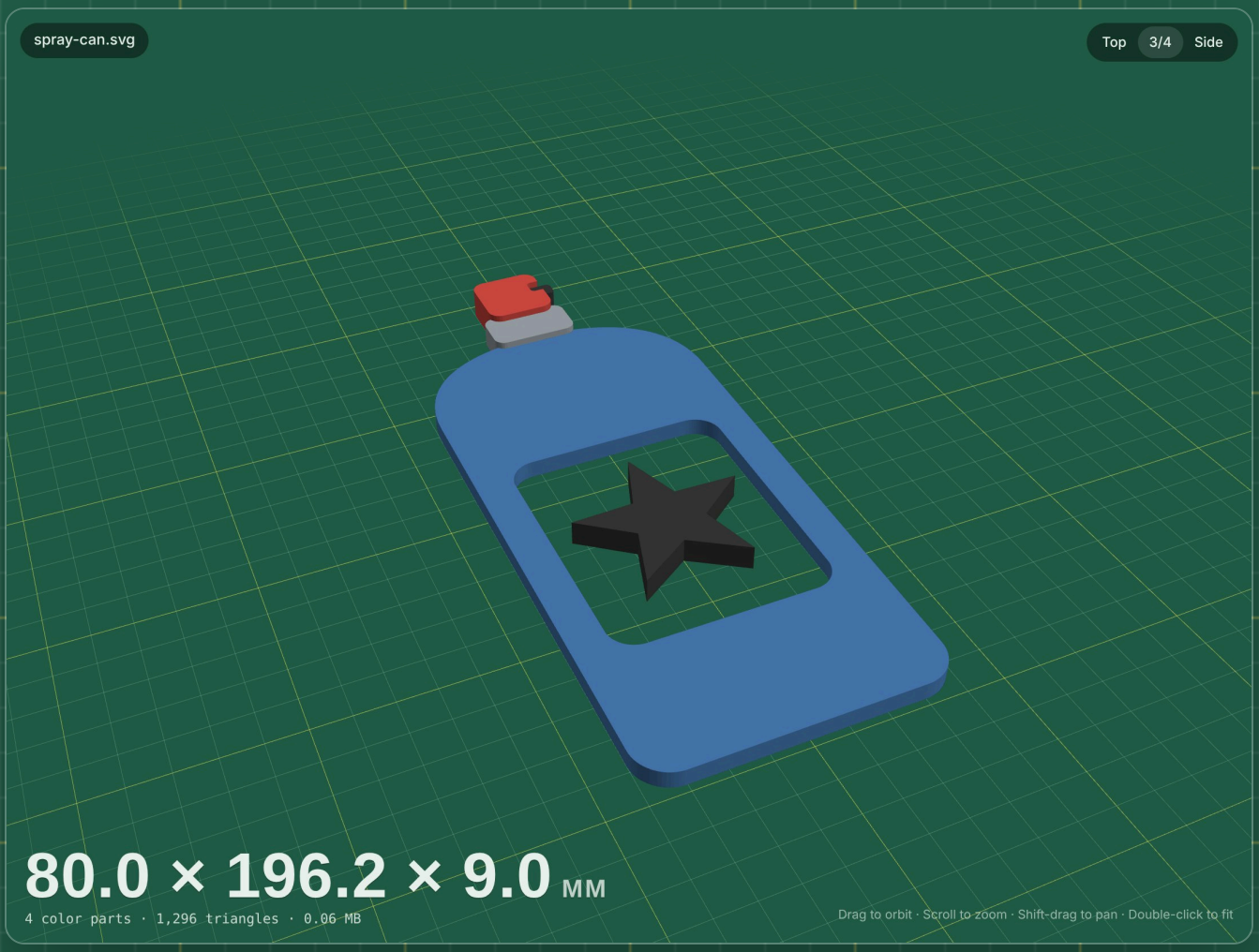
FEATURE GUIDE & OPERATING MANUAL

EXTRÜD

SVG to STL

Turn vector art into print-ready 3D parts, right in your browser.



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Vibe Coded by EDAYE for 7THBROTHER TOYS

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EXTRüD Operating Manual

Everything EXTRüD does, how each control works, and step-by-step recipes for signs, badges, multi-color prints, stamps and keychains.

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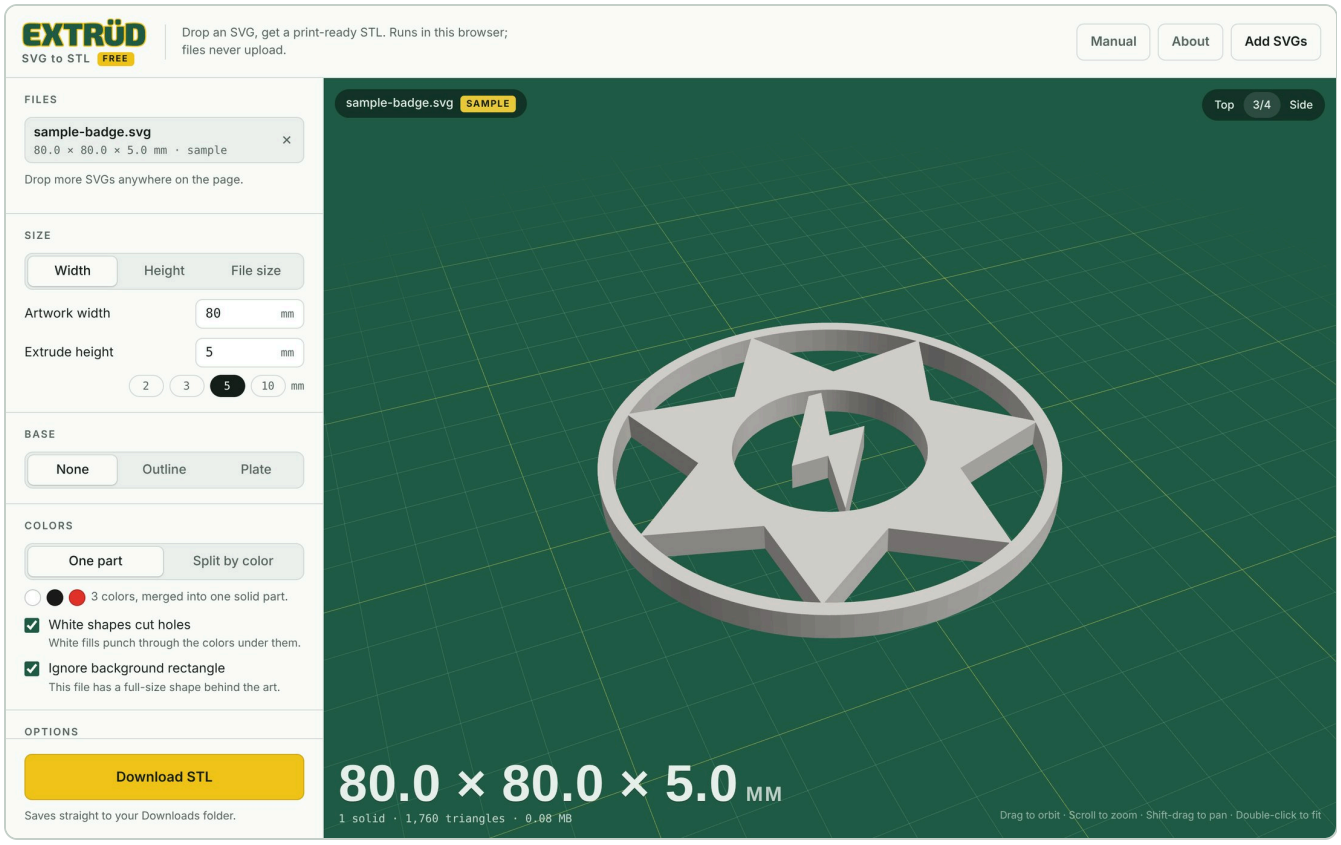
0	**5 mm**	**0.03 mm**	**<1.5 s**
files uploaded. Conversion runs on your own computer.	default extrude height, with 2, 3, 5 and 10 mm presets	sampling step at Fine detail (0.06 mm at Standard)	to convert a 1,500-shape file, split into three colors

CHAPTER 01

What EXTRüD does

EXTRüD turns flat vector artwork into solid 3D parts you can print. Drop in an SVG, set a size and a height, and download a print-ready STL in millimetres. It replaces upload-and-wait converter websites with a tool that runs entirely on your own computer. It's free, with no account, no watermark and no limits.



EXTRüD on first launch. The sample badge is already converted: 80 mm wide, 5 mm tall, one solid part.

Features

Drag and drop, in batches

Drop one SVG or a whole set anywhere on the window. Each file gets its own entry in the file list.

Live 3D preview

Spin, zoom and pan the part on a millimetre grid before you download. Top, 3/4 and Side camera presets.

Exact sizing

Set the artwork's width or height in millimetres, or use the physical size stored in the SVG.

Height presets

5 mm by default, with one-tap 2, 3, 5 and 10 mm buttons, or type any height from 0.2 to 200 mm.

Bases
Add an outline backing that follows the artwork's silhouette, or a rounded rectangular plate.

Split by color
Every color becomes its own STL part for multi-filament printing, each with its own height if you want a layered relief.

Smart cleanup
White shapes cut holes, full-size background rectangles are ignored, hidden layers and effects are skipped.

Strokes and mirror
Outlines become solid at their stroke width. Mirror flips the part for stamps and molds.

Print-ready meshes
Every STL is a closed, watertight mesh in millimetres, sitting flat on the build plate.

Private and offline
Nothing is uploaded. The offline copy works with no internet connection at all.

Two ways to use it

EXTRüD works the same online and offline. Both have the same controls and save plain `.stl` files to your Downloads folder.

	ONLINE AT EXTRUD.ME	OFFLINE COPY (EXTRUD.HTML)
How to open it	Visit **extrud.me** in a modern browser.	Double-click EXTRUD.html on your computer.
Internet	Needed to load the page. Your files still never leave your computer.	Not needed at all.
Best for	Quick conversions on any computer or phone.	Daily work at your desk, or anywhere without a connection.

Keeping EXTRüD on your computer

1. **Download the file**
   At extrud.me, click **About** in the top bar, then **Download EXTRUD.html**.

2. **Give it a permanent home**
   Move EXTRUD.html out of Downloads into a folder you keep, such as Documents.

3. **Open it**
   Double-click the file to open it in your browser. On a Mac, if it opens in the wrong browser, right-click it in Finder and choose **Open With**.

4. **Keep it one click away**
   Bookmark the page with **⌘** **D** (**Ctrl** **D** on Windows), or drag the file onto your Dock or taskbar.

On your phone

Open extrud.me in your phone's browser. The 3D preview sits on top and the controls stack underneath, with the download button right under the file list. For an app icon on your home screen, use your browser's **Add to Home Screen**.

Tap **Add SVGs** to pick files from your phone. Drag one finger to orbit the part, pinch to zoom, and drag two fingers to pan.

GOOD TO KNOW

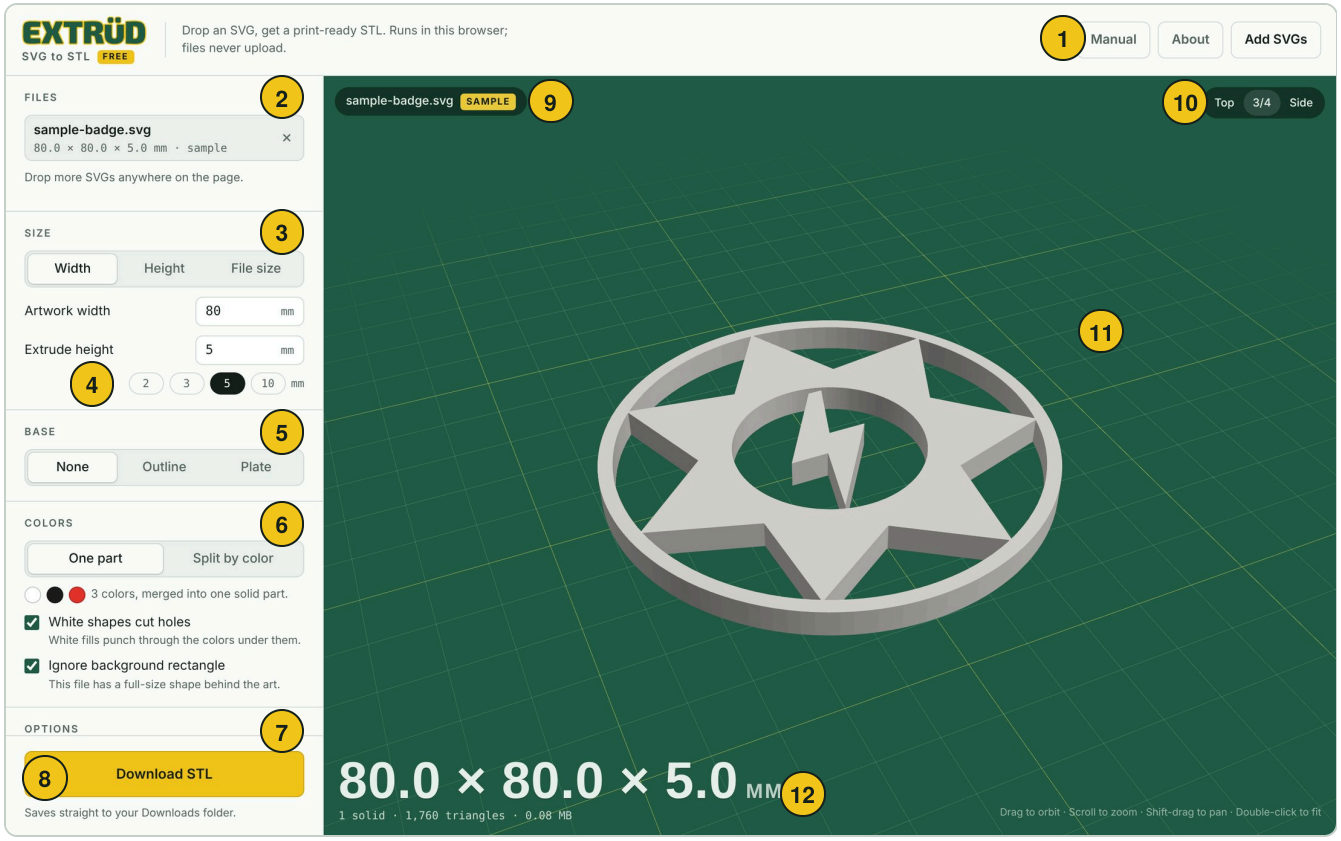
Your settings (size, height, base, colors, options) are remembered in that browser the next time you open EXTRüD. The files themselves are not stored; add them again each session.

Phone layout. Preview on top, controls below.

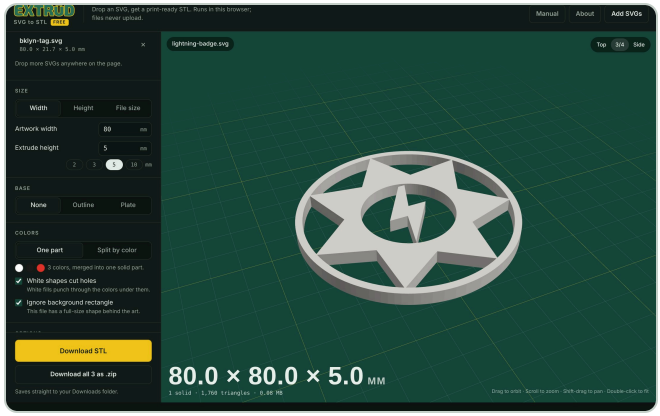
CHAPTER 02

Interface tour

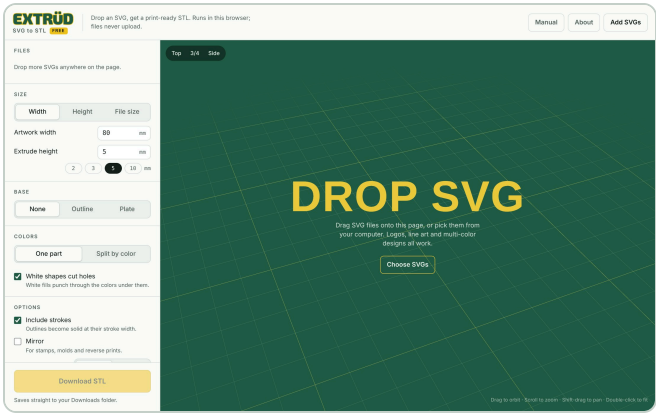
Three zones: the header, the settings rail on the left, and the 3D preview on the right. Settings apply to every loaded file.



1. **Top bar.** **Manual** opens this guide, **About** has the offline download, suggestions and credits, and **Add SVGs** picks files.
2. **Files.** Every loaded SVG with its finished size. Click one to preview it; click × to remove it.
3. **Size.** Scale by artwork width, height, or the size stored in the file. Extrude height sits here too.
4. **Height presets.** One tap sets the extrude height to 2, 3, 5 or 10 mm. The active preset is filled black.
5. **Base.** None, Outline (follows the art) or Plate (rounded rectangle), with thickness, margin and corner radius.
6. **Colors.** One part merges everything; Split by color makes one part per color. Knockout and background switches live here.
7. **Options.** Include strokes, Mirror, and Detail (Standard or Fine). Scroll the rail to reach it.
8. **Download.** Saves the selected file. Shows **Download all** when two or more files are loaded.
9. **File chip.** The name of the file in the preview. The yellow tag marks the built-in sample.
10. **Camera.** Jump to a Top, 3/4 or Side view of the part.
11. **3D preview.** The part on a cutting-mat grid. Each square is 10 mm; the yellow lines are every 50 mm.
12. **Readout.** Overall size in millimetres (width × depth × height, base included), then part count, triangle count and STL file size.

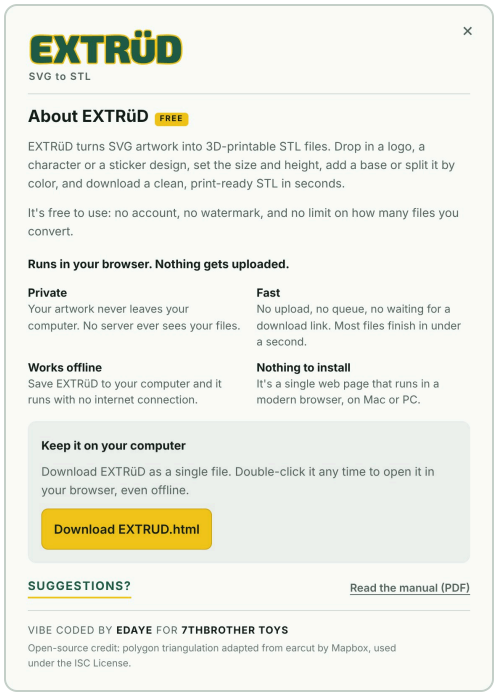


Dark mode. EXTRüD follows your system's light or dark appearance automatically.



Empty state. With no files loaded, the stage invites you to drop SVGs or choose them.

The About panel



The About panel on extrud.me.

Click **About** in the top bar to open it. It holds:

- **What EXTRüD is**, and why running in your browser keeps your files private.
- **Download EXTRUD.html**, to keep a copy that works offline (see chapter 01).
- **SUGGESTIONS?**, a short form for ideas and bug reports. Type your message, add your email only if you'd like a reply, and press **Send suggestion**.
- **Read the manual**, which opens this guide. The **Manual** link in the top bar does the same.
- **Credits** for the app and the open-source code it uses.

Press **Esc**, click ×, or click outside the panel to close it.

CHAPTER 03

Quick start

Six steps take you from an SVG on your desktop to an STL ready for the slicer. The defaults already produce a good part, so most jobs only need steps 1, 2 and 6.

---

1 Drop your SVG

Drag the file from Finder onto any part of the EXTRüD window and let go when the green **DROP TO EXTRUDE** screen appears. The sample disappears and your file is converted right away.

2 Set the size

Under **Size**, leave **Width** selected and type the width you want for the artwork, for example `80` mm. The depth follows automatically so nothing stretches.

3 Set the height

Tap a preset (`2`, `3`, `5` or `10` mm) or type your own extrude height.

4 Choose a base, if you want one

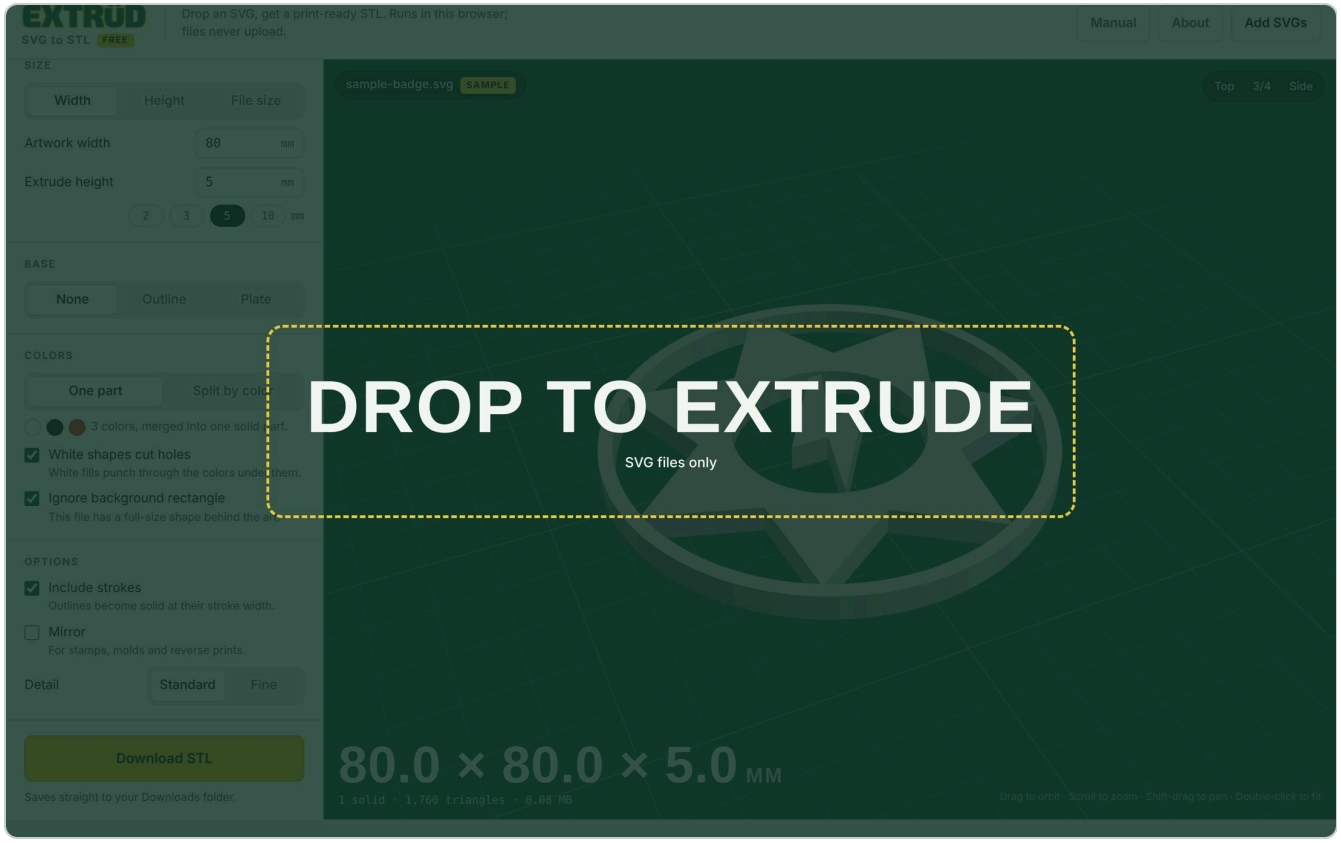
Pick **Outline** for a backing that hugs the shape, or **Plate** for a rectangle. Set its thickness and margin.

5 Decide on colors

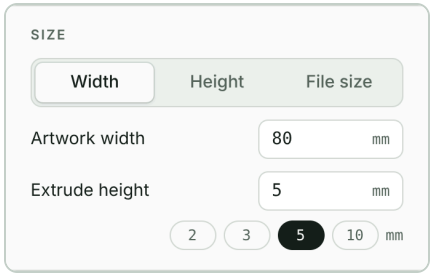
Keep **One part** for a single-filament print. Choose **Split by color** to get a separate part for every color in the design.

6 Check and download

Spin the preview, confirm the size in the readout, then click **Download STL** (or **Download parts (.zip)** in split mode).

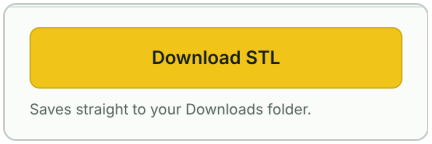


Step 1. Dragging files over the window shows the drop screen. Only `.svg` files are accepted; anything else is ignored with a short message.



Steps 2 and 3. Size mode, width and extrude height with presets.

Step 4. Outline base, 2 mm thick with a 3 mm margin.

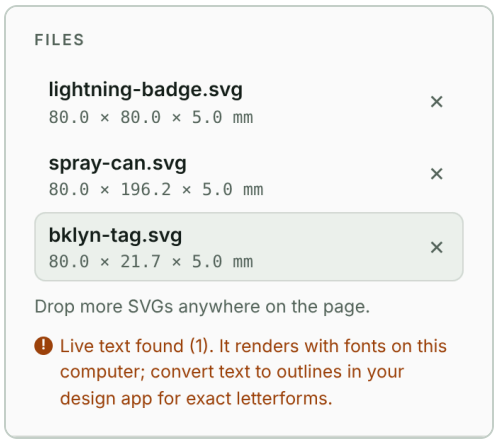


Step 6. The download button. The note below it says where the file goes.

CHAPTER 04

Working with files

EXTRüD holds as many SVGs as you load. Settings in the rail apply to all of them, while a few choices (which colors to include, their heights, and the background switch) belong to each file.



The file list. Three files loaded; the selected one shows a live-text warning.

Adding files

Drop files anywhere on the window, or click **Add SVGs** in the header and pick one or more files. Each new file is added to the list and the first one is selected and converted.

The first time you add your own files, the built-in sample is removed.

Switching and removing

Click a file name to preview it. Under each name you see its finished size, or *Not extruded yet* if it hasn't been converted so far. Click × to remove a file.

When settings change

Any change re-converts the selected file automatically. Number fields wait a moment after you stop typing. Other files update when you select them or when you use **Download all**.

File warnings

When EXTRüD notices something in a file that could change the result, it lists a warning under the files. Warnings never stop a conversion.

WARNING	WHAT IT MEANS	WHAT TO DO
Live text found	The file contains editable text. It is drawn with fonts installed on the computer, so a missing font is replaced by a different one.	Convert text to outlines in your design app (see chapter 10).
Embedded bitmap image skipped	A photo or raster image was placed in the SVG. Only vector shapes can become 3D, so it was removed.	Trace the image into vectors first.
Gradient fills are treated as one solid color	Gradients become a single solid area, shown in the list with the gradient's first color.	Nothing, unless you want separate parts for parts of the gradient.

WARNING	WHAT IT MEANS	WHAT TO DO
Embedded HTML content was removed	The SVG contained a `foreignObject` block, which cannot be converted.	Rebuild that element as vector shapes.

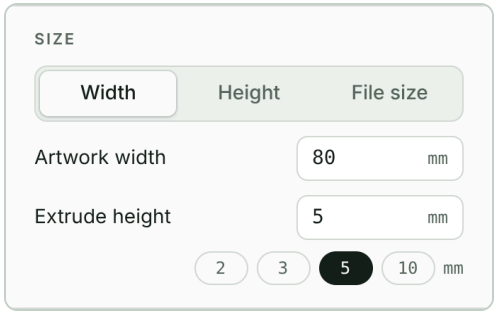
Live text in action. This file uses editable text, so it was drawn with a font found on the computer. For the exact letterforms, outline the text before exporting.

CHAPTER 05

Size, height and base

These controls set the physical dimensions of the part. All values are in millimetres, and the readout on the stage always shows the true overall size of what you will download.

Size



Size mode, value and extrude height.

Width (the default, 80 mm) scales the artwork so its visible width matches the number you type. **Height** does the same for the artwork's top-to-bottom size. The other direction always follows proportionally.

EXTRüD measures the *visible artwork*, not the SVG's canvas. Empty space around the drawing, ignored backgrounds and knocked-out white areas don't count, and a base adds to the overall size without changing the artwork size.

File size uses the physical size written in the SVG. The field turns grey and shows the resulting artwork width.

FILE SIZE AND ILLUSTRATOR

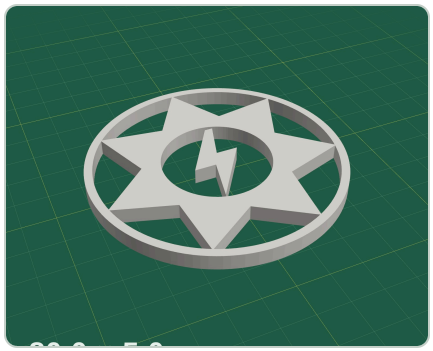
EXTRüD reads units such as `mm`, `cm`, `in` and `pt` exactly. Sizes without units are read as pixels at 96 per inch, the web standard. Illustrator writes sizes as pixels at 72 per inch, so Illustrator files can come out about 25% small in File size mode. Use Width or Height whenever the exact size matters.

Extrude height

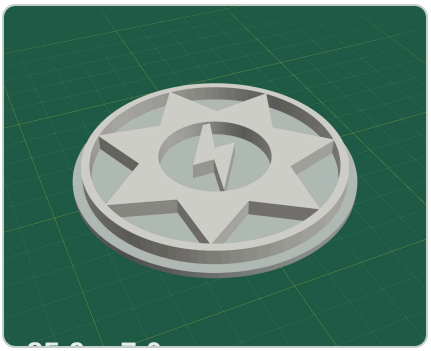
The extrude height is how tall the artwork stands, from 0.2 to 200 mm. The default is **5 mm**. The preset buttons under the field set `2`, `3`, `5` or `10` mm in one tap, and the active one is filled black. Typing a value that isn't a preset simply leaves all four unselected.

With a base, the artwork stands on top of it, so the total height is the base thickness plus the extrude height. A 2 mm base with 5 mm artwork reads 7.0 mm in the readout.

Base



None. 80.0 × 80.0 × 5.0 mm. The artwork alone.



Outline. 86.1 × 85.9 × 7.0 mm. A 2 mm backing 3 mm beyond the art.

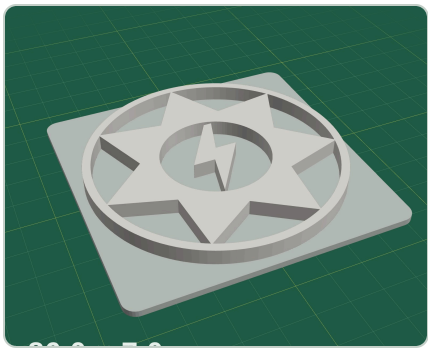


Plate. 86.0 × 86.0 × 7.0 mm. A rounded rectangle with a 4 mm corner radius.

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Base thickness	0.2–50 mm	2 mm	How thick the base is. The artwork starts on top of it.
Margin	0–100 mm	3 mm	How far the base extends beyond the artwork on every side.
Corner radius	0–100 mm	4 mm	Rounds the plate's corners. Only shown for Plate; it is reduced automatically if it won't fit.

Outline traces the silhouette of the whole design at the margin distance, like the white border on a die-cut sticker. It fills every enclosed hole, so it makes a solid backing behind letters and cut-outs. **Plate** draws a rectangle around the artwork's bounds plus the margin.

LIMITATION

Because both bases are solid, they close off any hole drawn in the artwork, including a keyring hole. To make a keychain with a hole, build the backing into the design instead; the recipe in chapter 09 shows how.

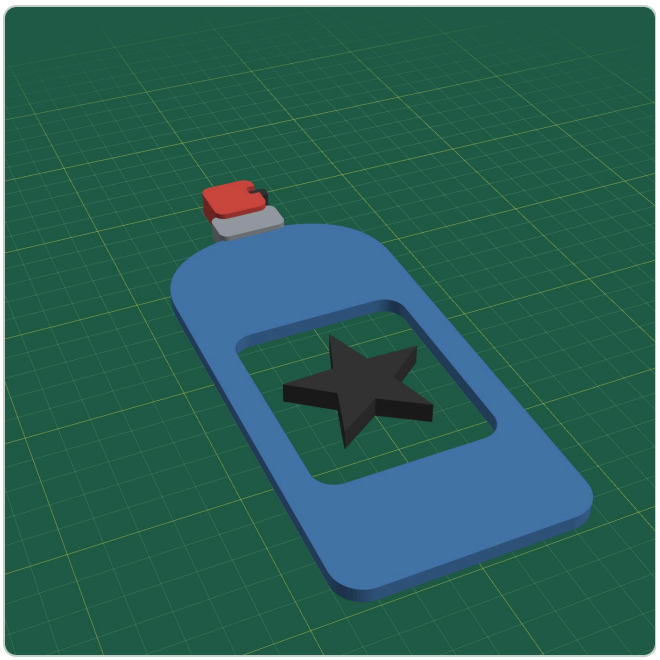
CHAPTER 06

Colors

EXTRüD reads every fill and stroke color in the file. You can merge them into one solid part, or keep each color as its own part so a multi-material printer can print them in different filaments.

One part or split by color

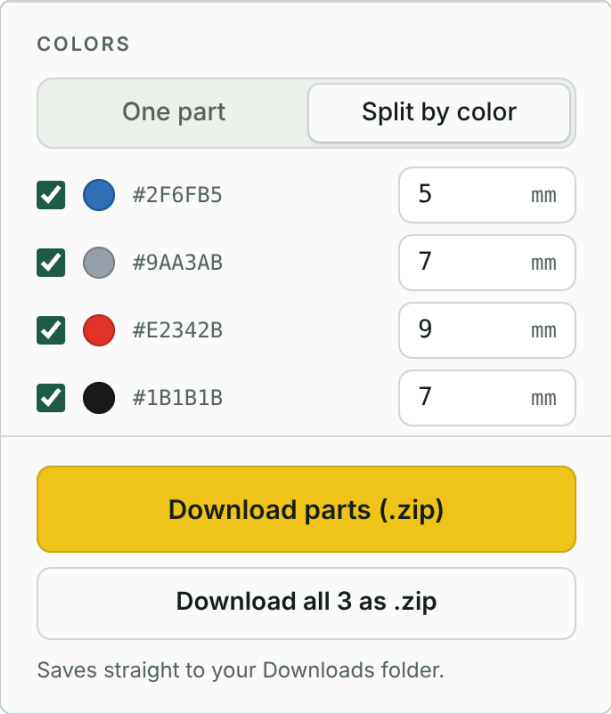
One part. Every color merges into one solid. The white label window is cut out.



Split by color. Blue body 5 mm, grey valve and black star 7 mm, red cap 9 mm, each a separate part.

One part is the default. The rail shows a swatch for each color found, followed by a note that they merge into one solid. Use it for single-filament prints.

Split by color turns every color into its own part and its own STL file. Where colors overlap in the artwork, the color on top wins, so the parts fit together like puzzle pieces and never overlap each other. A base, if you add one, becomes one more part.



Split-mode color list for the spray can, with a different height for each color.

The color list

In split mode each color gets a row: a checkbox, its swatch and hex code, and its own height field.

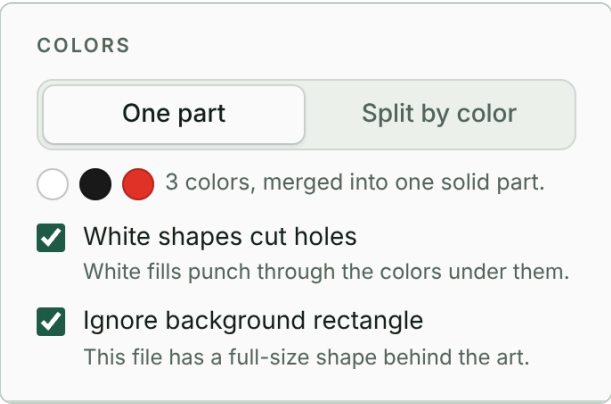
- **Checkbox.** Unchecked colors are left out of the download. They still cover whatever lies beneath them, so they leave an opening in the colors below.
- **Height.** Starts at the main extrude height. Change it to raise or lower that color. Every color starts at the same floor (the top of the base, or the build plate) and rises to its own height.

Color choices belong to each file, so two designs can use different heights.

White shapes cut holes

Many designs fake holes by drawing white shapes on top of colored ones. With **White shapes cut holes** switched on (the default), white and near-white areas punch through everything beneath them instead of becoming solid. In split mode the white row starts unchecked and is labelled *cuts holes*; tick it if you actually want a white part.

If a design is entirely white, such as a white logo made for dark shirts, the switch is ignored and the white artwork is extruded as a solid part.



One-part mode for the sample badge: three colors found, white cutting holes, a detected background ignored.

Ignore background rectangle

Exported artwork often sits on a filled rectangle the size of the whole canvas. When the first visible shape in a file covers at least 97% of the drawing, EXTRüD treats it as a background, leaves it out, and shows the **Ignore background rectangle** switch for that file.

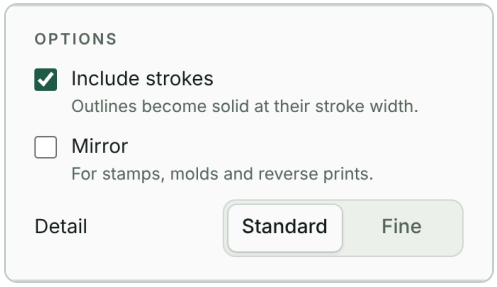
Switch it off if that rectangle is meant to be part of the print, such as a sign's backing.

CHAPTER 07

Options and the 3D preview

The Options group controls how outlines, orientation and detail are handled. The preview stage lets you inspect the result from any angle before you download.

Options



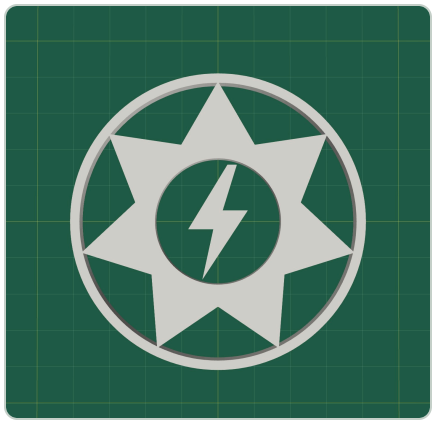
The Options group: strokes, mirror and detail.

Include strokes

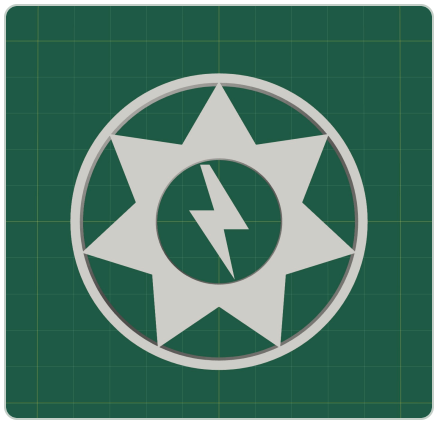
On by default. Outlines drawn with a stroke become solid at their stroke width, scaled along with the artwork. Switch it off to extrude only filled areas. Line art made only of strokes needs this switch on.

Mirror

Flips the part left to right. Use it for rubber or clay stamps, molds, and anything printed face-down so it reads correctly once it's flipped over.



Mirror off, Top view.



Mirror on. The bolt now leans the other way.

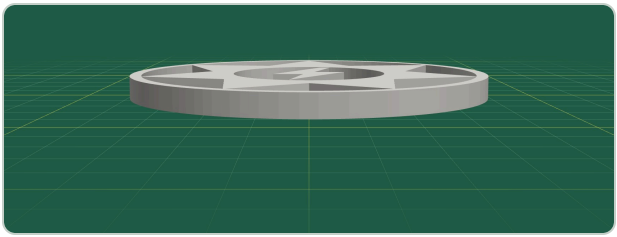
Detail

DETAIL	SAMPLING	WHEN TO USE IT
Standard	16 per mm (0.06 mm step), up to 4,096 across	The default. Far finer than a 0.4 mm nozzle can print, and quick.
Fine	32 per mm (0.03 mm step), up to 6,144 across	Very small parts, tiny lettering, resin printing, or very large parts where Standard's limit reduces sampling.

Small artwork always gets at least 1,600 samples across, so a 20 mm badge is sampled even more finely. Very large parts are limited by the maximum: a 300 mm sign samples at about 13.6 per mm in Standard and 20 per mm in Fine.

Using the 3D preview

TO DO THIS	MOUSE OR TRACKPAD	PHONE OR TABLET
Orbit around the part	Drag	Drag one finger
Zoom	Scroll, or pinch on a trackpad	Pinch
Pan	Shift-drag, right-drag, or ⌘-drag	Drag two fingers
Fit the part to the view	Double-click the preview	Tap a camera button
Standard views	**Top** looks straight down, **3/4** is the default angled view, **Side** looks across the build plate to check heights.	



Side view. Useful for checking layered heights and base thickness.

The camera keeps its angle while you adjust settings. It re-fits automatically when you switch files or the size changes a lot.

The readout and progress pill

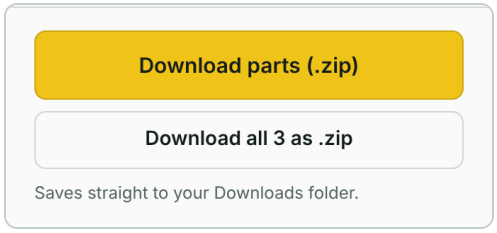
The large figures at the bottom left are the overall size of the download in millimetres: width × depth × height, including any base. Below them you see the part summary (for example *3 color parts + base*), the triangle count and the STL file size.

While a file converts, a small pill at the top of the stage shows the current stage: *Measuring*, *Rendering*, *Tracing*, *Color 2 of 4*, *Base*, then *Building mesh*. Most files finish in well under a second.

CHAPTER 08

Downloading and slicing

EXTRüD writes binary STL files in millimetres. Each part is centred on the origin and sits flat at Z = 0, so it lands in the middle of the build plate when you import it.



Split mode with three files loaded.

Download the selected file

In One part mode the button reads **Download STL** and saves one STL holding the artwork and any base.

In Split by color mode it reads **Download parts (.zip)** and saves a zip with one STL per part.

Download all

With two or more files loaded, **Download all as .zip** converts every file with the current settings and saves them together as `EXTRUD_batch.zip`. Files with nothing to extrude are skipped, and a message says how many.

File names

```
# One part
spray-can.stl

# Split by color: base first, then each color by hex code, in the order they appear in the file
spray-can_parts.zip
  spray-can_01_base.stl
  spray-can_02_2f6fb5.stl
  spray-can_03_9aa3ab.stl
  spray-can_04_e2342b.stl
  spray-can_05_1b1b1b.stl

# Download all: one STL per file, or one folder per file in split mode
EXTRUD_batch.zip
  lightning-badge.stl     spray-can.stl     bklyn-tag.stl
```

Files with the same name get `-2`, `-3` and so on, so nothing is overwritten inside the batch zip.

ON A PHONE

Your browser may ask you to confirm each download. On an iPhone, finished downloads land in the Files app, in the Downloads folder.

Opening the parts in your slicer

One part

Drag the STL into your slicer, such as Bambu Studio, OrcaSlicer, PrusaSlicer or Cura. If you added a base, the file holds two touching bodies, the base and the artwork; the slicer treats them as a single object.

Multi-color parts on a multi-material printer

1. **Unzip the parts**
   Double-click the `_parts.zip` file to get its folder of STLs.

2. **Import them together**
   Select every STL in the folder and drag them into your slicer in one go. Bambu Studio, OrcaSlicer and PrusaSlicer ask whether to load the files as a single object with multiple parts; choose yes. They are already aligned, so they snap into place.

3. **Assign filaments**
   In the object list, give each part its filament. The hex code in each file name tells you which color it came from.

4. **Slice and print**
   Slice as usual. Because the parts never overlap, each area prints in exactly one color.

Bringing a part into Blender

EXTRüD files make good starting blocks for sculpts, figure stands and logo bases. Before importing, open **Scene Properties › Units** and set **Unit Scale** to 0.001 and **Length** to Millimeters, so one Blender unit equals one millimetre. Then use **File › Import › STL**.

CHAPTER 09

Workflows

Seven recipes for the jobs EXTRüD handles best. Settings not listed stay at their defaults.

1. Logo plaque or shop sign

Size	Width, 120 mm
Extrude height	3 mm
Base	Plate, 3 mm thick, 6 mm margin, 5 mm corner radius
Colors	One part, or Split by color to print the logo and plate in different filaments

2. Badge, magnet or sticker-style emblem

Size	Width, 50–70 mm
Extrude height	2 mm
Base	Outline, 2 mm thick, 2.5 mm margin
Tip	For a fridge magnet, add a shallow round recess for the magnet in your slicer or Blender.

3. Multi-color print on a multi-material printer

Colors	Split by color. Untick any color you don't want printed.
Base	Optional. It downloads as its own part, so it can be a separate filament too.
Heights	Keep every color the same height for a flat, inlaid look.
Then	Follow the slicer steps in chapter 08.

4. Layered relief

Give each color a different height to build a stepped, 2.5D piece, like the spray can in chapter 06. It works in a single filament too, since the steps alone carry the design.

Colors	Split by color, with heights rising toward the most important elements, for example 2, 3.5 and 5 mm
Base	None, or a thin Plate to hold loose pieces together

5. Keychain with a keyring hole

Bases fill holes, so build the backing into the artwork. Draw the keychain backing, with its ring hole, as one color, and the design on top as another.

Base	None
Colors	Split by color: backing color 2 mm, design color 4 mm
Result	A 2 mm backing with a clean hole, with the design standing 2 mm proud. Print it in one or two filaments.

6. Rubber, clay or ink stamp

Options	Mirror on
Extrude height	2–3 mm
Base	Plate, 3 mm thick, 4 mm margin
Tip	Use Fine detail for small lettering, and keep raised lines at least 0.8 mm wide.

7. A batch of logos for a product line

Drop the whole set of SVGs at once, set size, height and base one time, click through a few files to check them, then press **Download all as .zip**. Every file is converted with the same settings and saved in one zip.

CHAPTER 10

Preparing your SVGs

EXTRüD reads most SVGs as they are. A few habits at export time make the results exact and save reprints.

Exporting from your design app

APP	TURN TEXT INTO SHAPES	EXPORT
Adobe Illustrator	**Type › Create Outlines**	**File › Export › Export As…** and choose SVG, or **Save As** SVG. Internal CSS and presentation attributes both work.
Inkscape	**Path › Object to Path**	Save as Plain SVG or Inkscape SVG. Inkscape stores millimetre sizes, so File size mode is exact.
Affinity Designer	**Layer › Convert to Curves**	Export and choose SVG.
Procreate	Procreate exports pictures, not vectors. Trace the drawing first, with **Object › Image Trace** in Illustrator or **Path › Trace Bitmap** in Inkscape, then export that as SVG.	

Design rules for FDM printing

These rules of thumb assume a 0.4 mm nozzle. Check sizes at the size you will actually print.

- **Raised lines and details:** at least 0.8 mm wide, ideally 1.2 mm or more.
- **Gaps, counters and holes:** at least 0.5 mm, or they close up when printed.
- **Raised lettering:** about 3 mm tall or more for clean letters.
- **Strokes:** printed width = stroke width × (target width ÷ artwork width). Artwork 400 units wide extruded at 80 mm gives 0.2 mm per unit, so a 4-unit stroke prints 0.8 mm wide.

How EXTRüD treats common SVG features

IN YOUR FILE	WHAT HAPPENS
Clipping paths and masks	Respected. Only the visible part is extruded.
Symbols and reused elements	Supported, including scaled symbols.
Hidden layers	Ignored, exactly as they look in your design app.
Transparency	Shapes at least half opaque are extruded; fainter ones are skipped.
Drop shadows, blurs, blend modes	Ignored, so effects don't turn into blobs.
Gradients	Treated as one solid color.
Even-odd and nonzero fill rules	Honored, so compound paths keep their holes.

IN YOUR FILE	WHAT HAPPENS
Tiny specks and pinholes	Islands under 0.02 mm² are dropped and holes under 0.01 mm² are filled; both are far below what a printer can make.
Embedded images, scripts, animation	Removed before conversion.

CHAPTER 11

How it works

EXTRüD lets your browser draw the artwork, then traces what it drew. Whatever you see in a browser is what gets extruded, including clip paths, masks, CSS styles and strokes.

1	2	3	4	5	6	7
Read and clean	**Render**	**Trace**	**Simplify**	**Triangulate**	**Extrude**	**Write STL**
Parse the SVG, remove scripts and images, expand symbols, list every color.	Draw each color layer in black and white at up to 32 samples per mm.	Follow every edge, placing points between samples for sub-sample accuracy.	Drop points that sit within about 0.02 mm of a straight line.	Fill each outline and its holes with triangles.	Build top, bottom and walls into one closed solid per part.	Save binary STL in millimetres, centred and flat on the bed.

```
SVG → render → coverage map → edge loops → polygons → triangles → watertight mesh → STL
```

Why render and trace

Converters that read SVG geometry directly have to re-implement every SVG feature, and they often stumble on overlapping shapes, strokes, clip paths and fill rules. EXTRüD hands drawing to the browser, which already gets all of that right, then works from the picture. Overlaps resolve themselves because the tracer only sees the final, flattened artwork, so the output never contains tangled or overlapping shells.

For split-by-color parts, each color is drawn black against white. Colors above it cover it exactly as they do in your artwork, which is why the parts tile together without gaps or overlaps.

Accuracy

Edges are placed between samples by interpolation, so they land well within a tenth of a millimetre of the true outline at Standard detail. That is several times finer than a 0.4 mm nozzle can reproduce. Sizes in the readout are measured from the finished geometry, and the width or height you type is matched exactly.

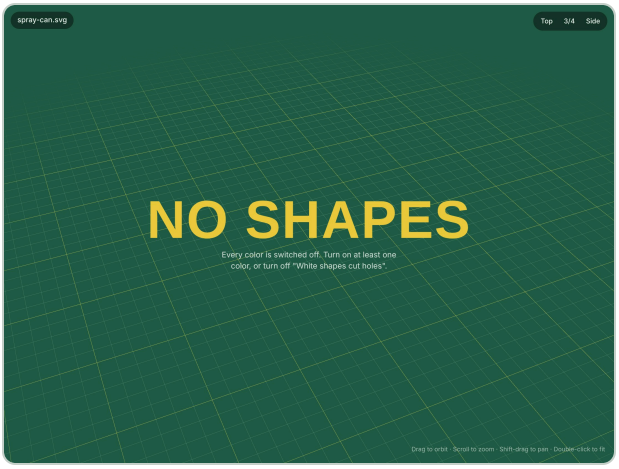
Mesh quality

Each part is closed and watertight, with outward-facing normals, so slicers accept the files without repair. Every test file, including a 1,500-shape stress test, was checked edge by edge for a closed mesh and correct volume.

CHAPTER 12

Troubleshooting

Most surprises come from how a file was drawn. Find the symptom below, then try the fix.



NO SHAPES. Shown here because every color was unticked in split mode.

When there is nothing solid to extrude, the stage shows **NO SHAPES** with the likely reason. If a file can't be read at all, it shows **CAN'T EXTRUDE** and the file is marked *Could not convert* in the list.

SYMPTOM	LIKELY CAUSE	FIX
NO SHAPES	Every color is unticked, the art is only strokes with strokes switched off, or everything is hidden.	Tick a color, switch on **Include strokes**, or check the file's layers.
Parts of the design are missing	They are white and **White shapes cut holes** is on, or they are less than half opaque.	Switch off White shapes cut holes, or make those shapes a solid color.
A big solid block covers everything	A background shape that wasn't detected, for example one smaller than the full drawing.	Delete or hide it in your design app.
A wanted background disappeared	It was detected as a background rectangle.	Switch off **Ignore background rectangle**.
Letters look different	Live text was drawn with a substitute font.	Convert text to outlines before exporting.
File size mode is too small	Illustrator stores sizes at 72 pixels per inch.	Use Width or Height mode.
Thin lines vanish in the print	They are thinner than the nozzle can print.	Thicken strokes to 0.8 mm or more at print size, or print larger.
Curves look faceted on very large parts	Standard detail has reached its sampling limit.	Switch Detail to Fine.

SYMPTOM	LIKELY CAUSE	FIX
Keyring hole is filled in	Bases fill every enclosed hole.	Use Base: None and draw the backing in the art (chapter 09, recipe 5).
Slicer loads parts as separate objects	They were imported one at a time.	Import all parts in one drag and load them as one object with multiple parts.
A suggestion won't send	No internet connection, or more than five suggestions in an hour.	Check your connection, or try again in an hour.
Preview is blank with a WebGL message	Chrome's graphics acceleration is off.	In Chrome, open **Settings › System** and turn on **Use graphics acceleration when available**. Downloads work either way.
Fonts in the app look plain	The offline copy is open without internet, so system fonts stand in.	Nothing to fix. Conversion is unaffected.

CHAPTER 13

Reference

Every setting with its range and default, and the technical details of what EXTRüD reads and writes.

Settings

SETTING	CHOICES OR RANGE	DEFAULT	APPLIES TO
Size mode	Width, Height, File size	Width	All files
Artwork size	1–2,000 mm	80 mm	All files
Extrude height	0.2–200 mm; presets 2, 3, 5, 10	5 mm	All files
Base	None, Outline, Plate	None	All files
Base thickness	0.2–50 mm	2 mm	All files
Margin	0–100 mm	3 mm	All files
Corner radius	0–100 mm (Plate only)	4 mm	All files
Colors	One part, Split by color	One part	All files
Include color	On or off, per color (split mode)	On; white off while cutting holes	Each file
Color height	0.2–200 mm, per color	Extrude height	Each file
White shapes cut holes	On or off	On	All files
Ignore background	On or off, shown when a background is detected	On	Each file
Include strokes	On or off	On	All files
Mirror	On or off	Off	All files
Detail	Standard, Fine	Standard	All files

Settings marked *All files* are remembered in your browser between sessions. Settings marked *Each file* last while the file is loaded.

Output

Format	Binary STL

Units	Millimetres
Orientation	Z up. Centred on the origin in X and Y, bottom at Z = 0.
Mesh	Closed and watertight, outward-facing normals, one solid per part
File size	84 bytes plus 50 bytes per triangle; shown in the readout before you download
Part order (split)	Base first, then colors in the order they first appear in the SVG

Processing

Where	Entirely in your browser. Files are never uploaded.
Sampling	Standard 16 per mm (max 4,096 across); Fine 32 per mm (max 6,144 across); at least 1,600 across for small artwork
Simplification	Points within about 0.35 samples of a straight line are removed
Cleanup	Islands under 0.02 mm² removed; holes under 0.01 mm² filled
White	Colors with red, green and blue all at 245 or higher (#F5F5F5 and lighter)
Background test	First visible filled rectangle or path covering at least 97% of the drawing
Speed (tested)	1,500-shape file: about 0.4 s as one part, about 1.3 s split into three colors
Browser	Built and tested in Google Chrome. The 3D preview needs WebGL.

Credits

EXTRüD is free software, vibe coded by **EDAYE** for **7THBROTHER TOYS**. Send ideas and bug reports with the **SUGGESTIONS?** form in the About panel. That form is the only part of EXTRüD that sends anything over the internet, and it sends only what you type into it.

Polygon triangulation is adapted from earcut by Mapbox, used under the ISC License.