

How-To Guides getting the best from your rollers & cutters

Modes, settings, and tips for prints that match the preview.

ROLLERCAD STUDIO · [ROLLERCAD.COM](https://rollercad.com)

RollerCAD

Getting the best from your roller

Choosing how RollerCAD reads your image

When you upload an image, you choose how RollerCAD interprets it. The three modes are shown right under the upload box, and RollerCAD never switches between them on its own – what you pick is what you get.

Artwork (the default)

For: SVGs, Illustrator exports, PNG line art, logos, black-and-white designs – most rollers.

Your shapes are kept exactly as drawn. Crisp edges stay crisp, curves stay smooth, and nothing about your image is altered. Brightness sets height: lighter parts of the image sit taller on the roller, darker parts sit lower. Working on a white background with dark linework? Flip **Invert** to choose whether your lines are raised or pressed in.

Pattern Colours

For: flat-colour patterns where you want *each colour at its own height* – say a three-colour floral where the leaves sit low, the stems higher, and the flowers highest.

RollerCAD finds the flat colours in your pattern and lists them as layers: top of the list = most raised, bottom = flat. Drag the arrows to reorder, nudge a slider to fine-tune a single colour's height. If your upload looks like flat artwork, RollerCAD will offer this mode with a ★ **Use Pattern Colours** button – it's always your choice to press it.

Depth Map

For: greyscale depth maps (from DepthPrep, Blender, AI generators) and photos.

Pure brightness-to-height: white is fully raised, black is flat, every grey in between lands proportionally. No colour processing at all. The Advanced channel buttons (Lum / R / G / B / Avg) live here for colour-coded tricks.

What each setting does

Outer Dia / Height — the size of the finished roller. 30–40mm diameter is standard for polymer clay; go longer (100mm+) for slabs.

Hollow Roller / Inner Dia — hollows out the centre to save resin or filament. Smaller inner diameter = thicker, stronger walls.

End Finish — the shape of the roller's ends. *Straight* is the classic square end.

Chamfered adds a small bevel so the rim doesn't dig tram-lines into your slab at the edge of a pass. *Rounded* does the same with a soft curve.

Repeat U / V — how many times the pattern tiles around the roller (U) and along its length (V). More repeats = smaller motifs.

Scale U / V and Offset V — stretch, shrink or slide the pattern to place it exactly where you want.

Black (mm) / White (mm) — the heights given to the darkest and lightest parts of your image. The *difference* between them is your depth range: a 2mm range gives bold, crisp impressions in clay; under 0.5mm may barely show.

Invert — swaps raised and recessed. Use it to turn a stamp into an emboss or vice versa.

Circ. / Height Segments — mesh quality. Max them out for the final roller; drop to ~400–600 only for quick tests.

Getting the best results

Give lines some body. Very thin lines make very thin ridges. As a rule of thumb, keep strokes at least **0.5mm at final roller size** — anything finer than about half a millimetre is below what most printers (and clay) can reproduce, so hairline strokes will taper away or soften in the print. If your pattern image is 2000px wide and wraps once around a standard roller, that's roughly a **10–15px stroke width**. Chunky lines press beautiful, readable impressions; hairlines don't.

Pointed tips are your artwork, faithfully. Where a leaf vein or flourish tapers to a point in your drawing, it tapers to a point on the roller — in width *and* height together. That's the drawing rendered honestly, and fine points soften naturally in printing and again in clay. If you want blunter detail, thicken the tips in your art tool.

Design seamless if you want an invisible wrap. A roller is a loop: the left edge of your pattern meets the right edge. If your pattern is designed to tile, RollerCAD blends the join invisibly. If it isn't, RollerCAD keeps your artwork exactly as drawn and the pattern simply ends where it ends — a clean cut, never a smeared or

doubled join. For repeating designs, most art tools can offset-wrap your canvas to check it tiles.

Use the depth-range tip. 0mm black → 2mm white is the sweet spot for clay. Deeper isn't automatically better: past ~2.5mm, tall thin features get fragile and clay starts to grab.

Photos and AI textures belong in Depth Map mode — ideally after a clean pass through DepthPrep. If you'd rather simplify a photo into bold flat colours, Pattern Colours' posterise option does it in one click.

“Will my print come out like the preview?”

Yes — and you can check before spending anything. The live preview and the **Generate Full Quality** button show the *exact* mesh your STL will contain: same geometry, same detail, nothing added or removed at export. Rotate it, zoom in, inspect the edges. A credit is only used when you download the file — so look as long as you like, generate as many times as you like, and only export when you love what you see. What you preview is what you print.

CutterCAD

Getting the best from your cutter

From picture to cutter

Upload an SVG or a clean PNG and CutterCAD traces the outline of your shape into a 3D-printable cutter. Vector files (SVG) and crisp line art give the smoothest blades – the tracer follows your curves precisely, so what you draw is what cuts.

If your image has several shapes, choose how they're handled:

- **Largest only** – use the biggest shape and ignore the rest. Best for a single motif on a busy background.
- **Outline All** – every shape becomes an outline cutter; interior detail is skipped.
- **Cutter Set** – turn a sheet of shapes into a matching set of cutters in one go.

Cutter styles

- **Standard** – the classic: an outline blade that cuts your silhouette.
- **Imprint** – outline blade *plus* interior detail lines that press into the clay as the cutter cuts. Faces, petals, lettering – the details that make a shape read.
- **Donut** – for designs with enclosed holes: the interior blades are kept, so rings, letters like O and A, and window shapes cut cleanly.
- **Stamp** – a relief plate instead of a blade: press it into clay for an impression rather than a cut-through.

What each setting does

Longest side (mm) – the finished size of the cutter, measured across its longest dimension. Everything scales together, so one number sets the size.

Blade – Depth / Thickness / Tip Width / Chamfer Height. Depth is how far the blade reaches into the clay. Thickness is the body of the blade wall; Tip Width is the fine cutting edge (narrower = cleaner cut, wider = sturdier edge); the chamfer is the taper that joins tip to wall so the blade releases cleanly.

Imprint – Depth / Thickness / Extra Base Width. Imprint depth of 0 sits the detail lines flush with the blade edge, so details press in exactly as the outline cuts;

positive values hold them back for a shallower mark. Imprint thickness is the printed line width; extra base width gives fine detail lines a sturdy footing.

Handle — Depth / Extra Thickness / Grip Height. The comfortable part you push on. Deeper handles suit big cutters and enthusiastic pressing.

Stamp — Plate Thickness / Relief Height. For Stamp style: the backing plate's thickness and how proud the design stands off it.

Supports — Backing Plate and Bars. For lanky or delicate outlines, a backing plate or cross-bars keep the cutter rigid — like the struts on a bought cutter. Bar positions are adjustable so they avoid your detail.

Getting the best results

Trust the printability check. When your design has details too fine or gaps too tight to survive printing at your chosen size, CutterCAD tells you before you export — with the measurements, in millimetres. The fix is almost always one of: make the cutter bigger, simplify the shape, or thicken the lines in your artwork. (We'll always let you download anyway — it's your call — but the warning is measuring your actual file, so it's worth a look.)

Give detail lines some body. As with rollers: hairline strokes make hairline blades. Chunky, confident linework survives printing, cuts cleanly, and washes easily.

Mind enclosed shapes. Interior holes only cut if the style keeps them — that's what Donut is for. In Standard style, enclosed shapes are skipped by design.

Size drives everything. A motif that prints beautifully at 80mm may be impossible at 25mm — the blades and gaps shrink with it. If the advisory grumbles, try the same design a size up before redrawing anything.

Smooth curves come from clean sources. SVGs trace best. For PNGs, use high-resolution, hard-edged artwork — soft, blurry, or heavily compressed images give the tracer fuzzy edges to guess at.

“Will my print come out like the preview?”

Yes. The preview is built from the same file you download — same blades, same details, same supports. Credits are only used when you download, so inspect the preview as long as you like, resize and regenerate freely, and export when it's exactly right. What you preview is what you print.