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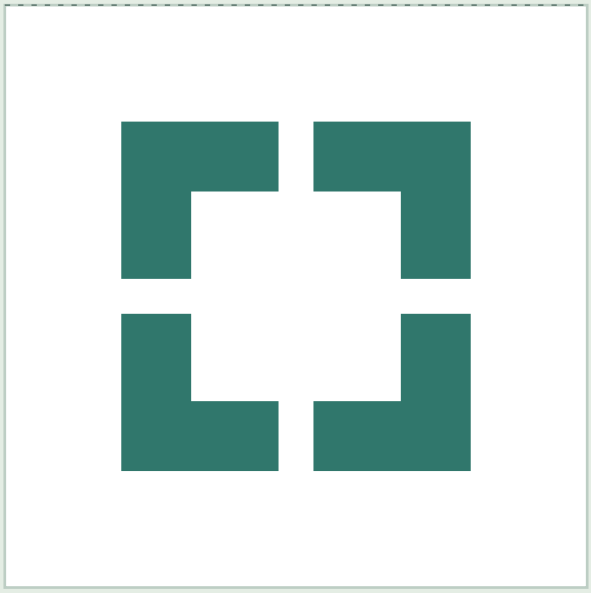
MAKE / PRINTING, STENCILS & COLOR

Design a Reusable Paper Stencil



FOUR WINDOWS / FOUR RETAINED BRIDGES

14 practical steps · Map · cut · repeat

Original diagrams and two printable maker records

Illustrative plans — not physical test results

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Before you start

A useful stencil is as much a design of material that stays as it is a design of material that leaves. This project makes a simple square ring in four separate L-shaped openings. Four bridges connect the central square to the surrounding sheet, preventing the middle from falling out. The result is a small reusable paper stencil for a few decorative impressions, not a permanent commercial stencil. Paper can absorb moisture, tear or curl, so reuse depends on its actual condition.

Materials: firm smooth cardstock or purpose-made paper stencil stock about 100 x 100 mm, matching scrap, a pencil and metric ruler, a cutting mat, suitable adult craft knife with an intact handle and straightedge designed for safe cutting, or a pre-cut stencil service if hand cutting is unsuitable; water-based stencil paint for paper, a small stencil brush or sponge, non-food tray, removable low-tack tape compatible with the paper, and trial sheets. Work in good light with stable support; keep fingers clear of the blade and do not cut while holding the paper in the air.

Plan the project

The template is a 100 x 100 mm sheet with an outer 60 x 60 mm square from (20,20) to (80,80), and a central retained 36 x 36 mm square from (32,32) to (68,68), measured from the upper left. The ring band is 12 mm thick. Leave 6 mm bridges centred on each side: x = 47 to 53 at top/bottom and y = 47 to 53 at left/right. Four L-shaped windows remain. The upper-left window has corners (20,20), (47,20), (47,32), (32,32), (32,47), (20,47). Reflect it horizontally and vertically for the other three.

Pattern 1 is a full-size 100 mm drawing, with a separate 50 mm print calibration line. Print at Actual Size (100%) and measure that line; if it differs, redraw with a ruler rather than cutting a scaled template. The retained outer sheet, four bridges and centre are all one connected piece. Only shaded openings are removed. This is illustrative geometry for the suggested stock, not a strength rating. If your stock tears at the bridges, enlarge the design or widen bridges on a fresh drawing.

Steps 01–02

1. Select the paper stock

Choose firm paper stencil stock that lies flat and cuts cleanly with the appropriate tool. Thin copy paper may tear after one wet pass, while thick card may need a tool you cannot safely control. Try a small offcut and follow the stock and tool guidance. If safe hand cutting is not practical, use a cutting service or a commercial stencil with connected bridges.

2. Prepare the safe cutting area

Place the cutting mat on a stable, well-lit table, away from the paint. Check the knife and straightedge for damage and follow the manufacturer’s use and blade-change instructions. Keep your non-cutting hand well away from the intended path. Use light controlled cuts away from yourself and reposition the sheet instead of twisting the blade. Cap or retract the tool before moving to the print area.

Steps 03–04

3. Check the printed template

Print Pattern 1 at Actual Size on suitable paper. Measure the separate 50 mm scale line and the square’s width. If the print has been reduced or enlarged, use the stated coordinates to redraw the pattern. Do not transfer an unchecked scale. The printed template is a guide; mark the actual stencil stock with its own upper-left origin.

4. Mark the outside and centre

Draw the 100 mm sheet outline, the 60 mm outer square and the 36 mm inner square. Mark x and y coordinates from the top-left reference. The ring thickness is (60 - 36) / 2 = 12 mm. Mark the inner square as KEEP, and shade the ring lightly. The centre stays in place; it is not an opening.

Steps 05–06

5. Preserve the four bridge strips

Mark the top and bottom bridge at x = 47–53 mm and the side bridges at y = 47–53 mm. Each connects the central square to the outer sheet across the ring. Erase or cross out any proposed cut across these strips. Inspect the pattern as a connected network. If a bridge is too narrow for your stock, adjust it before making any cut.

6. Mark four separate L-shaped windows

Use the given upper-left coordinates to draw the first L-shaped window. Reflect around x = 50 for the upper right, y = 50 for the lower left, and both for the lower right. Shade only those four areas as REMOVE. The four windows never touch each other; the bridges occupy the gaps. Compare your marks with Pattern 1 before cutting.

Steps 07–08

7. Cut a scrap corner first

Practise on an unrelated offcut of the same stock using the suitable cutting tool and mat. Cut a straight line and a right angle with light controlled passes, without driving the blade into the surface beyond what is needed. Keep hands out of the path. If the stock buckles or the tool requires force, stop and select an alternative rather than attempting the final template.

8. Remove each window in turn

On the mat cut the outline of one marked window at a time, stopping precisely at corners so the blade does not enter the retained bridges. Turn the stock to maintain a comfortable cutting direction. Lift out the opening without pulling against uncut fibres; finish any incomplete cut safely on the mat. Leave the outside frame and the centre intact. Repeat for all four windows.

Steps 09–10

9. Check the connected stencil

Place the knife in its safe storage. Lift the dry stencil by its outside edges over the table and inspect the four bridges, centre and cut corners. No part of the centre should have detached. If a bridge tears, do not continue printing with a loose centre. Redraw with wider bridges or stronger appropriate stock; a new stencil is preferable to patching a weak bridge in a wet print area.

10. Set up a trial impression

Place the stencil over matching scrap paper. Use removable tape on the outer margin if compatible, and check the sheet lies flat. Apply a small amount of compatible paper paint to a brush or sponge; remove excess on a separate palette. Dab perpendicular to the surface through each opening. Avoid brushing under the edge or flooding the paper bridges.

Steps 11–12

11. Lift and inspect the first print

Release the tape and lift the stencil carefully from its outside edge without smearing the wet print. The four painted L-shapes should be separated by unpainted gaps corresponding to the bridges. Inspect the actual print for bleeding, a shifted centre, missing corners or paper tearing. Let it dry before comparing it with the design. Record the method and any needed adjustment.

12. Repeat with one adjustment

If the first print is suitable, make another on dry scrap after confirming the stencil is flat and usable. If bleed appears, try a thinner film or more secure outer-edge placement, changing one factor at a time. Do not wipe or soak paper stencil stock unless the manufacturer specifically permits it; replace wet or swollen stock instead. Compare the repeat for clarity.

Steps 13–14

13. Use and store the stencil

When the trials support the intended method, use the stencil for a small paper decoration. Keep wet prints separate until label-specified drying is complete. Allow the stencil to dry flat only as appropriate for the stock; discard it if it becomes soft, curled or torn. Store a sound dry stencil in a flat labelled folder. Preserve the master pattern for recutting.

14. Record the design and limits

Complete the two maker records: stock, actual scale check, bridge widths, four retained connections, paint, first and repeat observations, and the stencil’s condition. Choose REPEATABLE FOR CRAFT, CHANGE/REMAKE or HOLD. Reuse is a condition-based decision, not a promised number of impressions. Do not claim durability, archival preservation, food contact or safety certification.

Fix, care and preserve

Centre falls out. Remake with four intact bridges; do not paint with loose islands.

Bridge tears. Use wider bridges or stock you can safely cut.

Paint bleeds. Reduce the compatible paint film and dab vertically.

Stencil shifts. Secure the outer margin using compatible removable tape.

Paper curls. Retire the damaged stencil; recut from the master.

Source & evidence boundary

Original Steadleaf English prose, calculations, vector artwork, diagrams and maker records. The following sources provide factual context, not certification of this design. Follow actual product instructions and local disposal guidance.

Health Canada, Arts and crafts safety

https://www.canada.ca/en/health-canada/services/home-garden-safety/use-arts-crafts-materials-safely.html

Canadian Conservation Institute, Caring for paper objects

https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/paper-objects.html

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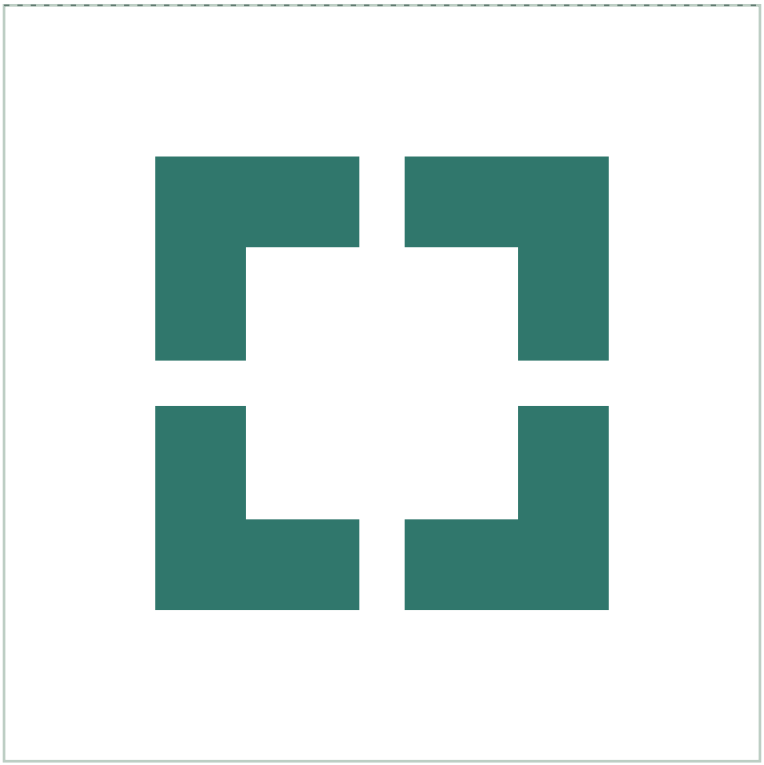
Full-size square-ring cutting template

100 x 100 mm sheet. Remove four shaded L windows; keep centre, bridges and outer frame. Outer square 60 mm; centre 36 mm; bridges 6 mm. Verify 50 mm scale before transferring.

A / ACTUAL-SIZE CUTTING TEMPLATE — SHADED = REMOVE



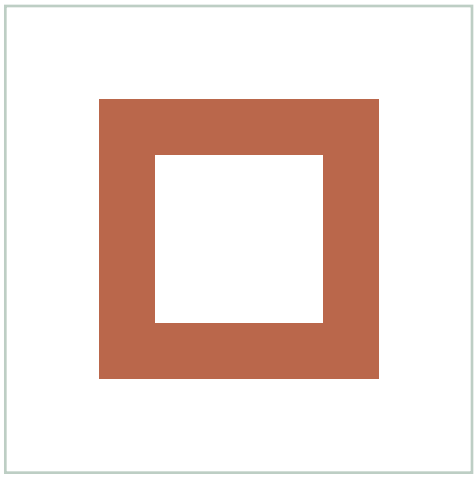
100 x 100 mm sheet · Keep all white areas

50 mm calibration line — print at Actual Size

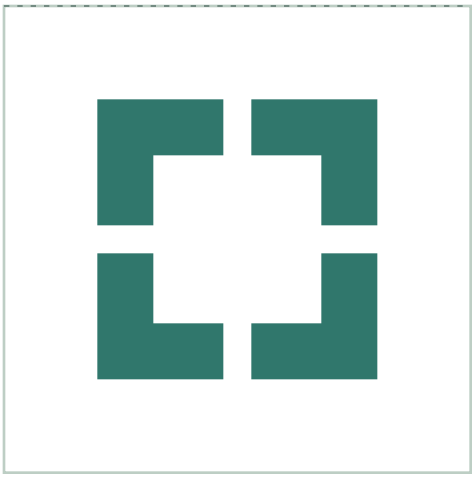
Island, bridge and painted result

Compare an unsupported centre with four retained bridges. Four openings make four separate painted L-shapes. Apply a thin film vertically and lift from the margin.

A / RETAIN THE CENTRE



NO BRIDGE — CENTRE DETACHES



KEEP THE BRIDGES

The shaded openings make the print. White bridges are retained, so their gaps remain unpainted.

Stencil geometry and stock

Enter actual observations only. Mark missing information UNKNOWN or NOT CHECKED. This is a craft record, not a safety or performance certificate.

Stock / thickness or product

Actual 50 mm scale check

Outer and inner square dimensions

Actual four bridge widths

Scrap cutting observation

Four windows / connected centre

Paint and applicator / label

Decision: PROCEED / CHANGE / HOLD

Trial and reuse

Enter actual observations only. Mark missing information UNKNOWN or NOT CHECKED. This is a craft record, not a safety or performance certificate.

First impression / bleed or lift

Single adjustment / method

Repeat impression / actual result

Bridge and edge condition

Drying or cure / date

Disposition: REPEATABLE FOR CRAFT / CHANGE-REMAKE / HOLD

Storage / replacement trigger

Date / unresolved issues