



Vinyl Printer Guide

Roland BN-20



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Before You Start

What does a vinyl printer do?

A vinyl printer is a machine that prints designs onto vinyl using eco-solvent inks. Depending on the material and settings, it can produce full-color graphics, decals, stickers, and heat-transfer designs.

After printing, the material can be cut around the design shape to make custom pieces instead of just rectangles. A small blade moves over the material, and the pressure is adjusted, so it cuts the vinyl but doesn't cut through the backing paper.

What can you make with a vinyl printer?

With a vinyl printer, you can create a wide range of colorful and professional-looking projects, including:

- **Stickers & Decals:** Custom stickers, laptop decals, water bottle graphics, window decals.
- **Apparel Graphics:** Heat-transfer vinyl designs for T-shirts, tote bags, and hoodies.
- **Labels & Branding:** Product labels, packaging stickers, logo decals.
- **Posters & Small Signage:** Indoor signage, promotional graphics, display materials.
- **Canvas:** Printed canvas art, photo reproductions, and decorative wall pieces.
- **Stencils:** Custom stencils for painting, airbrushing, etching, or craft projects.

This makes it a popular tool for branding, personalization, creative projects, and small business production.

What to Expect

- **Average project time:** 45–90 minutes (including design setup and printing).
- **Skill level:** Beginner-friendly with patience and attention to detail.

You may need 1–2 test prints when learning. Staff can help with machine issues, but not full design preparations.

Software & Files

Vinyl printing projects are prepared in **CorelDRAW** and sent to the printer through **Roland VersaWorks Studio** on MakerSpace computers.

- **CorelDRAW**: Used to prepare artwork and define cut lines.
- **VersaWorks Studio**: Controls colour profiles, material settings, print quality, contour cutting, and printer communication.

Files must be properly prepared so the machine can distinguish between printed areas and cut paths.

Design Requirements

- Open and edit all files in **CorelDRAW**.
- Create cut paths using vector lines or shapes.
- Set all cut paths to the “**CutContour**” colour (see page 5 for details).

The maximum printing size width is **18 inches**. Designs must not exceed this width.

For more detail on CorelDRAW, see the **CorelDRAW Basics Guide**. For step-by-step VersaWorks instructions, see the **VersaWorks Studio Guide**.

Supplies & Material

All materials must be purchased from BPL; outside materials are not permitted.

Materials for Printing & Cutting

Pricing information is available at the MakerSpace front desk. Please check our website or ask staff for current rates and stock. Prices include tax.

Permanent Vinyl (Matte or Glossy)

- Best for long-lasting stickers, decals and labels. Suitable for indoor/outdoor use.
- This vinyl can be printed with the Quick Setting.

Static Cling Vinyl (White or Clear)

- Adheres without adhesive. Ideal for temporary window graphics.
- This vinyl can be printed with the Quick Setting.

WallFlair Vinyl

- Low-tack adhesive designed for painted walls. Easy to remove with minimal damage.
- This vinyl can be printed with the Quick Setting.

Paper Adhesive Sticker

- Great for product labels, packaging, sticker sheets, and large posters that can be mounted to foam core or similar backing.
- This vinyl can be printed with the Quick Setting.

Canvas for printing

- For printing only. Suitable for art prints and display graphics. This material cannot be cut.

Holographic Vinyl

- Thicker specialty vinyl with a reflective finish. May require adjusted cutting settings.
- This vinyl can be printed with the Quick Setting.
- Requires higher cut force often in the range of 140.

Heat Transfer Vinyl for printing

- Used for fabric projects like T-shirts and tote bags.
- This vinyl should be printed with standard print speed.
- Often cuts well with 35-60 grams of force.
- Requires additional preparation and heat application after printing which are described below.

Safety

Although the vinyl printer is safe when used properly, there are still a few important safety considerations:

Cut Risk

The printer includes a small blade used for cutting after printing.

- Do not place your hands inside the machine while it is operating.
- Never attempt to touch or adjust the blade.
- Machine prints then cuts. Do not touch until the print job is completed.
- Only staff should perform blade adjustments, vinyl changes, and equipment maintenance.

Getting Started

1. Prepare Your Design

Before printing, confirm:

- All artwork is complete and sized correctly.
- The design does not exceed 18" in width.
- Make sure your cut line is a vector (a line or shape, not a bitmap image).

If you need extra help converting your image to vector, check CorelDRAW's How-to Guide: [How to Vectorize an Image](#).

2. Setting Up Cut Lines (CutContour)

What is a Cut Line?

A cut line tells the vinyl printer where to cut around your design after it prints. If a line is not set up correctly, the machine will print it instead of cutting it.

What is "CutContour"?

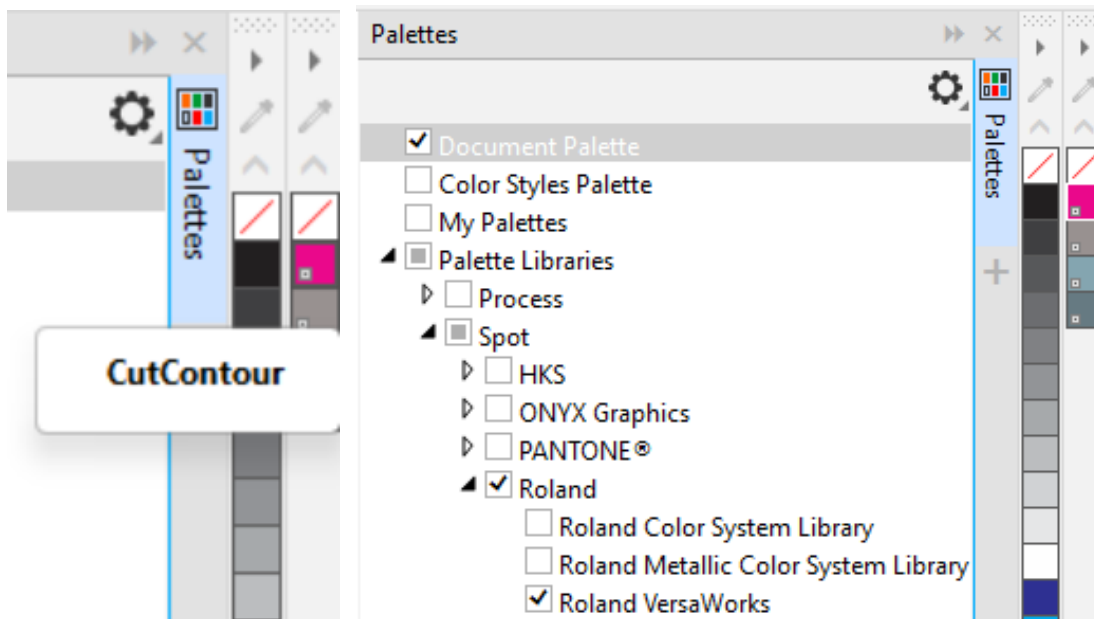
CutContour is a special code colour that the printer recognizes as a cut command, not a printed colour.

How to Set a Cut Line in CorelDRAW

1. Draw with the Rectangle or Circle tool (Left toolbar) of your desired cut shape.
2. Select the line or shape.
3. Open the Colour Palette (Windows > Dockers > Palettes).
4. Find CutContour
5. **Right-click** on CutContour to apply it to the outline (stroke). The outline should now appear as the CutContour colour (magenta).

How to Make a Cut Shape

1. Select your image and then perform a Live Trace. (See Corel Guide)
2. Once complete Ungroup the object and delete the background.
3. Reselect this new object and use the Boundary option (Object > Shaping > Boundary)
4. Apply the CutContour to the boundary.
5. Delete any unwanted vector details.



Two screenshots showing where to select CutContour.

3. Export the File

1. Select all objects to be printed and cut.
2. Go to **File** → **Export**.
3. Export the file as a **.PDF**.
4. Save it to the **Desktop**.

If you may want to reprint your design later, save both:

- The exported **.PDF**.
- The original **CorelDRAW (.CDR)** file.

These can be saved to a USB key or cloud storage.

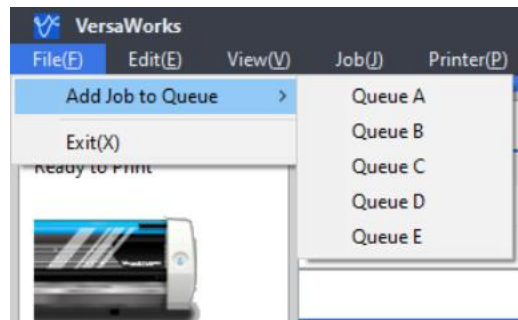
Before sending to VersaWorks, confirm:

- Cut line is vector
- Cut line is set to CutContour
- Design is under 18" wide
- File exported as PDF

4. Send the File to Print (Roland VersaWorks Studio)

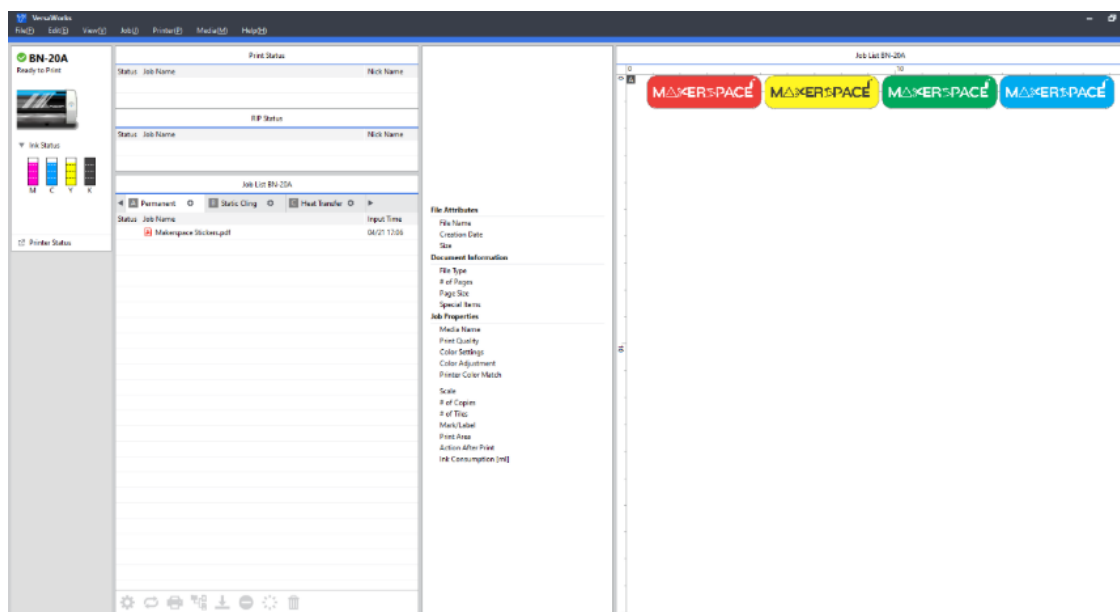
Roland VersaWorks Studio communicates directly with the printer. It controls material settings, color profiles, print quality, and contour cutting.

1. Open VersaWorks Studio.
2. Add your exported **.PDF** to the correct queue based on the material:
 - **Queue A** – Permanent Vinyl (Matte, Gloss, Clear) & WallFlair Vinyl
 - **Queue B** – Static Cling Vinyl (White, Clear)
 - **Queue C** – Heat Transfer Vinyl
 - **Queue D** – Paper Adhesive & Holographic Adhesive
 - **Queue E** – Canvas



A screenshot showing where to find Add Job to Queue by clicking on File.

3. Projects will appear on the right side in the job preview window and will be added to the Job List on the left side.



5. Print

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Note: If you have applied a cut line you will notice a moving magenta line in the preview window. If the line is solid pink, the cut line has not been properly applied.

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3. Click **Print** at the bottom of the left menu. Once printing is complete, the machine will automatically begin cutting.

Weeding

Weeding is the process of removing the unwanted vinyl from around your printed design after the machine has finished cutting. This step is essential for stickers, decals, and heat-transfer projects where only the design itself should remain on the backing.

What You Need

- **Weeding hook or pick tool** (available in the MakerSpace)
- Flat, clean work surface
- **Good lighting** — Small details are easier to see in bright, even light.
- **Patience** — Rushing increases the chance of tearing your design.

Step-by-Step

1. **Wait for the ink to dry.** After the printer finishes cutting, leave the material in place for a few minutes. Handling wet ink can smudge your design and make weeding harder.
2. **Identify the waste areas.** Look at your printed sheet and identify which parts are *not* part of your design. These are the areas you will remove. If your design has interior cutouts (such as the inside of a letter “O”), those will need to be weeded as well.
3. **Start from a corner or large waste area.** Use the weeding hook to lift a corner of the excess vinyl. Peel it away slowly at a low angle, keeping it close to the surface. Pulling straight up can lift your design along with the waste material.
4. **Work around the design edges carefully.** Peel the waste vinyl around the edges of your design. If the vinyl resists or starts to tear, stop and reposition your hook at a different spot rather than forcing it.
5. **Remove interior pieces.** For cutouts inside letters or shapes, use the tip of the weeding hook to lift one edge of the small piece, then peel it away gently.
6. **Inspect the finished piece.** Once all waste material has been removed, check that the edges of your design are clean and no small pieces of unwanted vinyl remain.

Tips for Easier Weeding

- **Adjust your cutting force.** If vinyl is difficult to peel, the cut may not have gone deep enough. Ask staff about increasing the cutting force slightly for your next print.
- **Avoid very thin lines or tiny text.** Designs with extremely fine details (below about 5 pt font or hairline-width elements) are much harder to weed and may tear during removal.
- **Weed before applying transfer tape.** For heat-transfer or sticker projects that use transfer tape, always complete weeding first so that only the design is transferred.
- **Use light-coloured vinyl for detailed designs.** It is easier to see cut lines and waste areas on lighter materials.

Heat Transfer Vinyl

Heat-transfer vinyl lets you apply full-colour printed designs to fabric items such as T-shirts, tote bags, hoodies, and pillowcases. The process involves printing, cutting, weeding, and then using heat and pressure to bond the design to the fabric. This tutorial covers the full workflow in detail.

Materials & Equipment

- **Heat Transfer Vinyl** – purchased from BPL
- **Heat-safe transfer tape** (available in the MakerSpace)
- **Household iron** (available in the MakerSpace) or heat press if available
- **Hard, heat-resistant pressing surface** (a sturdy table or countertop covered with a folded thick cotton sheet works well)
- **Fabric item** – cotton or cotton-blend fabrics work best; avoid nylon and fabrics that cannot tolerate high heat
- Weeding hook or pick tool

Step 1: Print and Cut

When adding your job to VersaWorks Studio, use **Queue C – Heat Transfer Vinyl**. This queue applies to the correct colour profile and uses the standard print speed recommended for heat transfer vinyl.

HTV often cuts well with **35–60 grams of force**. If you are unsure, start with a lower force setting and do a small test cut first.

Step 2: Weed the Design

After the machine finishes printing and cutting, remove the excess vinyl following the steps in the **Weeding Tutorial** section of this guide. Only the design elements you want on the fabric should remain on the backing sheet.

Step 4: Apply Transfer Tape

1. Cut a piece of heat-safe transfer tape slightly larger than your design.
2. Carefully lay the transfer tape over the weeded design, sticky side down.
3. Use a squeegee, ruler edge, or your hand to smooth the tape firmly over the design, pressing out any air bubbles.
4. Gently peel the backing sheet away. The design should lift off with the transfer tape. If any part of the design stays on the backing, press the tape back down over that area and smooth again before peeling.

Step 5: Position the Design on the Fabric

1. **Pre-press the fabric.** Before placing the design, iron the fabric for about 5 seconds to remove moisture and wrinkles. This helps the vinyl bond evenly.
2. **Place the design.** Position the transfer tape with the design face-up onto the fabric in the desired location.

Step 6: Apply Heat and Pressure

Using a household iron:

- Set the iron to the **cotton setting** (typically around 150–160 °C / 300–320 °F). Turn off the steam function.
- Press the iron firmly onto one section of the design for **15 to 30 seconds**. Do not slide the iron back and forth — hold it in place with steady, even downward pressure.
- If your design is larger than the iron surface, lift the iron and reposition it to cover the next section. Press each section for 15 to 30 seconds, slightly overlapping the previous area.
- Flip the garment inside out and press from the back for an additional 10 to 15 seconds for a stronger bond.

Step 7: Peel the Transfer Tape

Allow the fabric and design to cool for about 30 seconds to 1 minute. When the material is warm but no longer hot, carefully peel the transfer tape away at a low angle.

If the design lifts with the tape: press the tape back down and reapply heat for another 10–15 seconds. Allow it to cool again before peeling.

Care Instructions for Finished Items

- Wait at least **24 hours** before washing the garment to allow the bond to fully cure.
- Wash inside out in **cold water** on a gentle cycle.
- Do not use bleach or fabric softener on the printed area.
- **Do not tumble dry.** Hang or lay flat to dry.
- If ironing is needed, iron inside out and avoid pressing directly on the design.

Common Heat-Transfer Issues

Problem	What to Do
Design peels off after washing	The initial bond may not have been strong enough. Reapply heat from the back of the fabric for 15–20 seconds. Ensure you are pressing firmly with enough downward pressure. Wait 24 hours before washing.
Design looks faded or washed out on fabric	Make sure the correct queue (Queue C) was used in VersaWorks. HTV requires standard print speed for proper ink density. Also allow the ink to dry fully before weeding and applying.
Scorch marks or discolouration on fabric	The iron temperature may be too high, or the iron was held in one spot for too long. Always use a parchment or Teflon sheet between the iron and the design. Reduce pressing time slightly on delicate fabrics.
Transfer tape does not release from design	Let the material cool longer before peeling. If the tape still sticks, try peeling at a sharper angle or apply a brief burst of heat to soften the adhesive on the tape.
Design does not stick to fabric	The fabric may contain too much synthetic material. Cotton and cotton-blend fabrics work best. Also ensure the pressing surface is firm — soft surfaces absorb pressure and reduce the bond.

Tips for Success

- **Start small.** If this is your first time printing and cutting, begin with a small test design (under 6 inches) to confirm cut alignment and material behavior before printing a larger project.
- **Print in shorter lengths when cutting.** If your project includes contour cutting, it's recommended to print no more than **24"–36" at a time**. The printer completes all printing before cutting and longer prints may increase the chance of slight cut misalignment.
- **Allow time for ink to dry.** After printing is complete, leave the material in place for a few minutes before handling it to allow the ink to fully dry and prevent smudging.
- **Add a colour bleed.** To avoid unwanted white borders, extend your background colour slightly beyond the cut line. Add a **1/8" (3 pt) bleed** around your design to ensure full colour coverage after contour cutting.

Common Issues & Quick Fixes

Problem	What to Do
Design printed but did not cut	The cut line is either not set to CutContour or is not a vector. Go back to CorelDRAW, select the cut line, and right-click the CutContour swatch. Re-export as .PDF.
Blade cut through the backing paper	The cutting force is too high. Reduce the force by 3–5 in VersaWorks Cut Condition Settings. Ask staff to adjust
White border visible around design	Add a colour bleed in CorelDRAW. Extend the background colour about 1/8" (3 pt) beyond the cut line to ensure full coverage after contour cutting.
Design slightly misaligned after cutting	Print shorter lengths (24"–36" at a time). The printer finishes all printing before cutting and longer prints can cause slight skew.
Print quality looks faded or streaky	Check that the correct media type is selected in VersaWorks. If the issue persists, the ink may need time to dry, or the print heads may need cleaning — ask staff.
VersaWorks does not detect the material width	Click Get Media Width in VersaWorks to sync with the loaded material. If it still fails, ask staff to check that the vinyl is loaded correctly.

Need More Help?

- Ask MakerSpace staff for assistance at All Levels Access hours.
- Refer to the MakerSpace guides for CorelDRAW Basics and VersaWorks Studio.
- Check the MakerSpace Rasters & Vectors Guide if you need help understanding file types.
- Visit the MakerSpace webpage for booking and contact information.