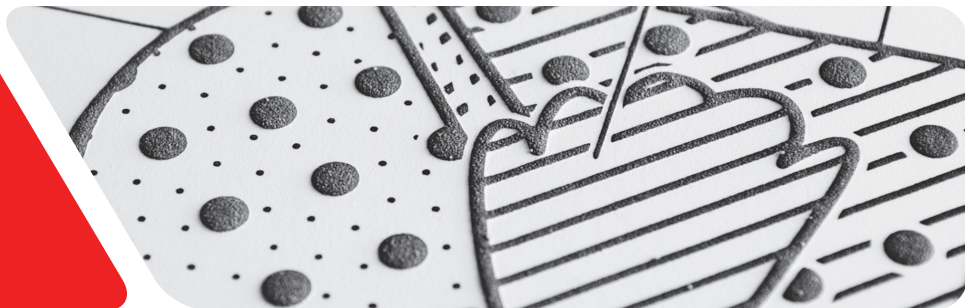


SWELL FORM TACTILE GRAPHICS

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SWELL FORM TACTILE GRAPHICS MACHINE



SWELL FORM TACTILE GRAPHICS MACHINE



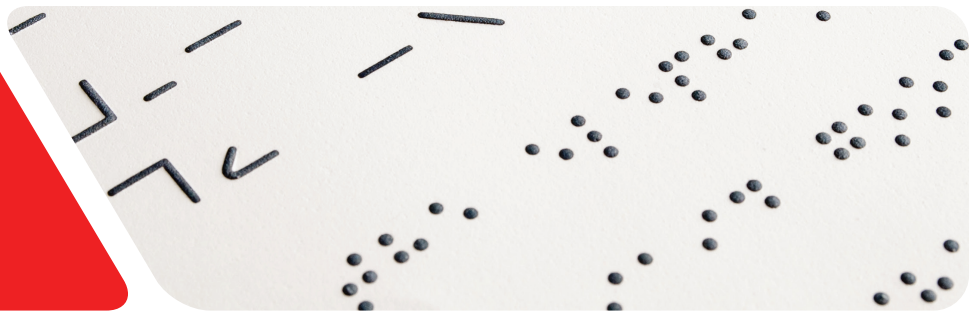
Introduction

Thank you for purchasing a Swell Form machine for the production of tactile graphics.

Please read this instruction booklet carefully before operating your Swell Form machine to ensure safe and proper use.

We also recommend retaining all original packaging for future transportation or storage.

SWELL FORM TACTILE GRAPHICS MACHINE



Unpacking Swell Form Machine

Carefully remove the Swell Form machine from its box and plastic wrapping, disposing of all packaging materials safely. The power cord and paper feeder tray are included in the box.

Setting Up The Swell Form Machine:

1. Place the machine on a stable, level surface. The red on/off switch and temperature dial should be located in the top left-hand corner, while the power socket is positioned at the rear of the unit.
2. Attach the metal paper infeed tray to the front of the machine by sliding it over the two screws, then tighten the screws as needed to secure it in place.
3. Connect the power cord to the machine, then plug the other end into a wall power outlet.
4. Turn the Swell Form machine on by pressing the red switch located in the top left-hand corner. Once powered on, you will hear and feel the fans begin to operate.
5. The Swell Form machine is now ready to process your first tactile graphic.
6. If you encounter any issues during setup, please refer to the troubleshooting guide or please email us: sales@americanthermoform.com

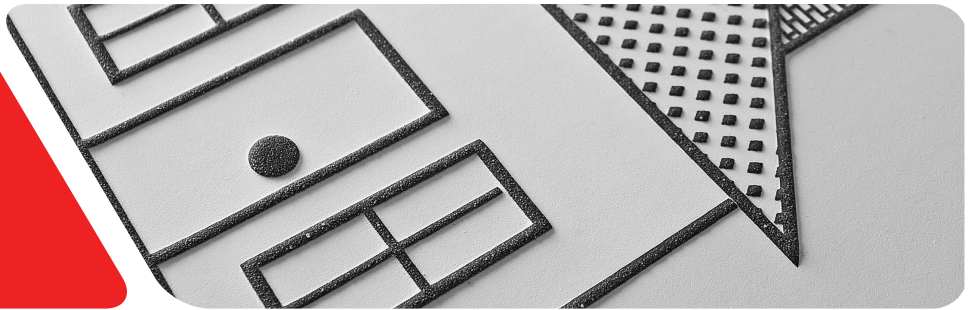
Creating Your First Tactile Diagram

These instructions assume that you will be producing a tactile graphic using Swell Touch paper and a Swell Form machine.

Quick Steps:

1. Print or draw a graphic onto Swell Touch paper using a Swell Touch marker or appropriate printing method.
2. Turn on the Swell Form machine.
3. Set the temperature to the appropriate level using the temperature control knob.
4. Insert the prepared Swell Touch paper into the infeed tray with the printed side facing upward.
5. The machine will automatically engage, and indicator lights will illuminate as the paper is drawn through.
6. Retrieve the finished tactile graphic from the rear of the machine.
7. Do not feed multiple sheets simultaneously. Insert a new sheet only after the previous sheet has fully exited the machine and has been removed from the output area.

SWELL FORM TACTILE GRAPHICS



Detailed Instructions

Turn on the Swell Form machine in accordance with the setup instructions.

For graphics with lines of medium thickness, we recommend setting the temperature control dial to 7.

Place the Swell Touch paper onto the infeed tray with the printed side facing upward. Slide the paper firmly into the entry slot at the front of the machine. Once the paper passes the initial sensor, the lamp will illuminate and the rollers will engage. Continue to guide the paper forward gently until it is drawn into the machine by the rollers.

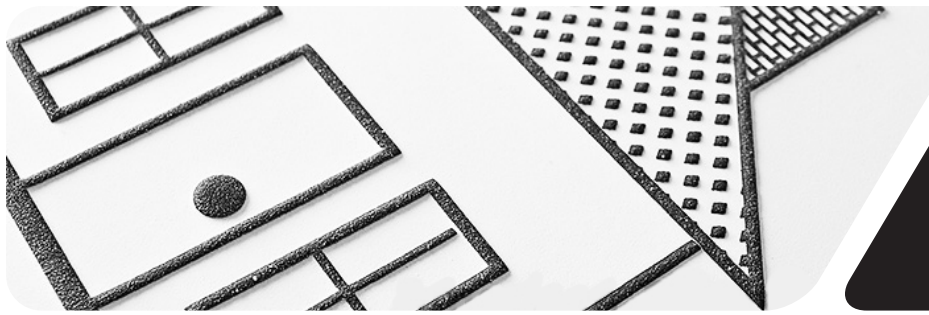
The Swell Touch paper will pass through the machine and be ejected from the rear. Upon exit, the paper may feel slightly warm but should not be hot to the touch.

Remove the completed tactile graphic before feeding another sheet. The lamp and rollers will automatically stop once the sheet has fully passed through the machine. After removing the processed sheet from the rear, a new sheet can be inserted immediately.

Inspect the finished graphic. If additional height is required, the sheet may be passed through the machine a second time. For best results, reduce the temperature slightly before the second pass.

Temperature Settings:

- Graphics that include multiple line thicknesses or large solid black areas may require adjustments to the temperature setting.
- The temperature control dial ranges from 0 to 10, where 10 represents the highest temperature and 0 the lowest.
- As a general guideline, graphics with fine lines typically require higher temperature settings (closer to 10). Graphics with thicker lines or large black areas should begin at a lower setting (around 7 or below). Lower temperature settings are also recommended if the machine has been operating for an extended period.
- Higher temperature settings may be necessary if the ambient room temperature is low or if the Swell Form machine has only recently been turned on.
- For optimal readability and processing, avoid combining large solid black areas with fine lines in the same graphic.
- The Swell Form machine accommodates a range of paper sizes up to 11 inches (28 cm) wide, all of which can be supported by the infeed tray.
- When using narrower sheets, such as A4 or 8.5-inch paper, feed the sheet through the center of the machine to achieve the best results.
- Ensure the paper lies flat on the infeed tray. Bent or curled paper may contact the rollers improperly and fail to feed correctly.



Specifications, Safety Information Troubleshooting

Swell Form Specifications

50 x 12 x 16cm (no tray), 50 x 12 x 19cm (tray fitted)

Weight: 2.27 kg / 5 lbs

Ambient Operating Temperature: 5 - 35°C or 41 - 95°F

Power: 240V, 5A, 50Hz

120V, 12.5A, 60Hz

Lamp Power :1000W

Safety Information

General:

- The Swell Form machine should only be operated in a well-ventilated area.
- When used in accordance with the instructions provided in this manual, the machine is a Class A, CE-approved device and complies with applicable safety standards.
- Operate the machine in its correct orientation, with the fans positioned on top and the power cord at the rear. Do not block any fans or cooling vents.
- Ensure there is adequate space in front of and behind the machine to allow for proper paper entry and exit.
- Do not perform any unauthorized modifications without prior approval from the supplier and/or manufacturer.
- All warning and safety labels must remain intact and clearly legible at all times.
- The heat lamp emits a bright light—do not look directly at it while the machine is in operation.

Electrical:

- Verify that the power specifications listed on the Swell Form machine's serial label are compatible with your local electrical supply before connecting the machine.
- In the event of an electrical fault, disconnect the machine from the power source and contact your supplier for assistance.
- The machine must be properly grounded at all times.

Troubleshooting

On/Off Switch does not illuminate:

- Ensure the machine is properly connected, with the power cable securely plugged into both the machine and the wall outlet.
- Verify that the electrical outlet is supplying power.
- Check and, if necessary, replace the fuse located below the power cord receptacle.

Troubleshooting Continued...

Machine has power but does not accept paper:

- Ensure that the paper is being fed into the correct slot—the one with the infeed tray attached.
- The machine is equipped with a safety shut-off feature that automatically turns off the lamp if a paper jam occurs. In this case, the machine will emit two beeps every two seconds.
- If the machine emits a continuous series of beeps, please contact your supplier or the manufacturer for assistance.

Most issues can be resolved by reviewing the operating instructions. Please ensure all steps have been followed carefully. If you are unsure about any aspect of operation, contact your supplier or the manufacturer for assistance.

Machine appears to operate normally, but paper is not passing through the machine:

- A common mistake is trying to put the paper into the exit slot. Try the other side, where the paper tray is affixed, and re-read all of the operating instructions.
- Make sure the paper is flat on the infeed tray and push it firmly into the machine towards the rollers.

Paper constantly jams in the machine:

- Ensure the paper is flat when entering the machine, and that any curling or bent edges have been minimized.
- The temperature setting may be too high, causing the paper to curl during processing.
- Graphics with large solid black areas near the edges of the page may cause the paper to curl during processing.
- If a roller fault is suspected, please contact your supplier for assistance.
- Do not pass the same sheet through the machine more than three times.

Paper does not pass smoothly through the machine, or the machine stops for no reason:

- The drive belt may be loose or have lost proper tension. Please contact your distributor for assistance.

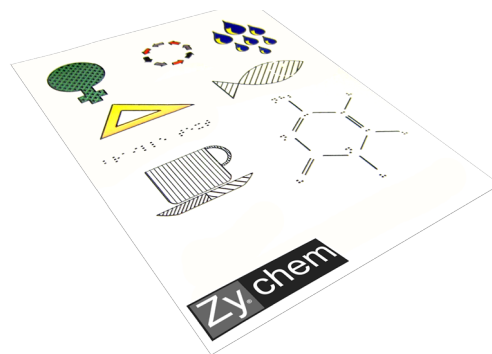
SWELL TOUCH PAPER



What is Swell Touch Paper?

Swell Touch paper is a highly specialized material designed for creating tactile graphics. Images can be printed, copied or drawn onto the paper, then heated and the black areas will swell.

Swell Touch paper consists of a paper backing coated with a proprietary layer that reacts to heat and carbon-based ink. Once an image has been applied, the paper is ready to be processed into a tactile graphic.



When Swell Touch paper is heated under the lamp of the Swell Form machine, a physical reaction occurs between the carbon in the ink and the paper's proprietary coating. During this process, the black areas swell, creating a raised image that can be detected by touch.

Swell Touch Paper Specifications:

Weight: 195 gsm $\pm$ 5 gsm

Thickness: 0.25 mm

Expansion Temperature: 110°C

What is a Tactile Graphic?

A tactile graphic is an image designed to be interpreted through touch by blind and visually impaired users. The combination of the Swell Form machine and Swell Touch paper provides a fast and effective method for producing high-quality tactile graphics.

Tactile graphics can be created in a variety of ways:

- Freehand drawing using a Swell Touch marker, 2B pencil, or charcoal.
- Photocopying an image from a book onto plain paper, making any necessary adjustments, and then photocopying it onto Swell Touch paper.
- Creating the graphic using computer software and printing it directly onto Swell Touch paper.
- Scanning an image from a book into a computer, editing it as needed, and then printing it onto Swell Touch paper.

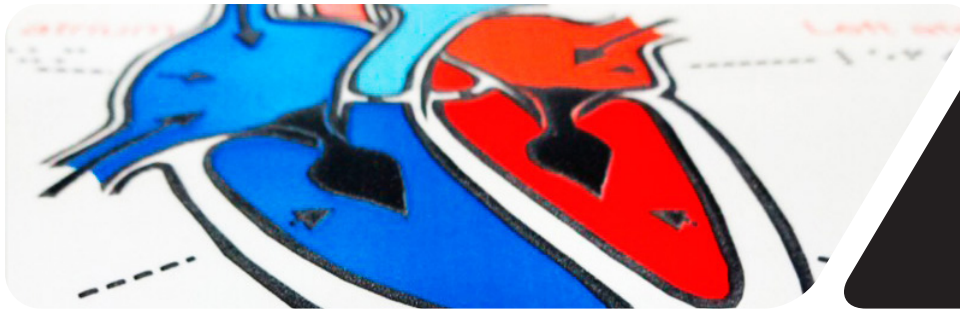




TACTILE DIAGRAM TECHNIQUES

Techniques To Create Effective Tactile Diagrams

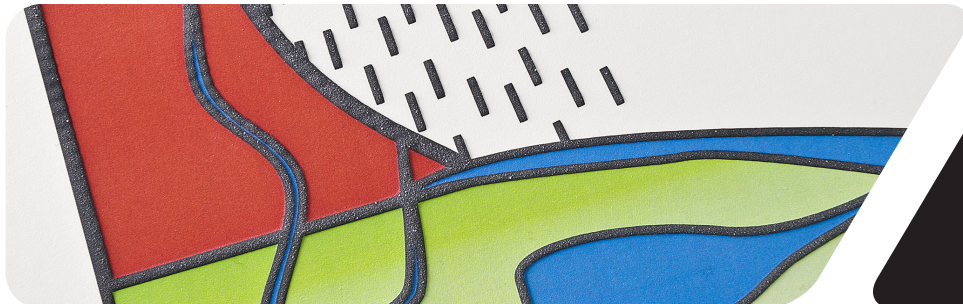
- Always consider the needs and abilities of the visually impaired reader. The graphic should be designed to match their level of interpretation. Too much information—such as excessive lines, dots, or raised areas in a confined space—can make the graphic difficult to understand.
- When beginning, test a variety of samples with the reader. This will help establish clear parameters for what the individual can effectively interpret.
- Provided by American Thermoform and Zychem, Tactile Library offers links to downloadable graphic collections, specialist design guidance and answers to common questions about tactile graphics using swell paper. Explore the resources at www.tactilelibrary.com.
- White correction fluid can be used to modify an original image or graphic before copying it onto Swell Touch paper.
- Maintain consistent line thickness throughout the graphic to ensure even swelling.
- Use textured areas rather than solid black blocks whenever possible. Different textures can more effectively represent distinct concepts.
- Braille should be set at a minimum font size of 24 with at least 1.5 line spacing to ensure readability for visually impaired users.
- Keep in mind that black areas will swell, while colored areas will not.



PHOTOCOPYING & PRINTING

Photocopying/Printing onto Swell Touch Paper

- Faster, cooler copiers generally produce the best results.
- Fan the Swell Touch paper on all four sides before loading it into the photocopier or printer. This helps separate the sheets and ensures smooth, single-sheet feeding.
- Always run a single test sheet first, preferably using the bypass tray. The bypass tray provides a shorter paper path, which helps keep the paper cooler.
- If possible, configure the photocopier or printer to feed paper from the shortest edge. This can help prevent curling as the paper moves through the rollers.
- If your machine includes a setting for transparencies or acetates, use this setting when printing on Swell Touch paper. Do not use the “thick paper” setting.
- Allow the copier or printer to cool for several minutes after completing previous jobs before using Swell Touch paper.
- A photocopier technician can typically reduce the operating temperature to approximately 180°C, which may improve performance with Swell Touch paper.
- Ensure the output tray does not become overcrowded. Due to the thickness of Swell Touch paper, the tray may fill more quickly than expected.
- Do not leave the photocopier or printer unattended while it is producing graphics.
- When using inkjet printers, allow sufficient time for the ink to dry before further handling.



Prologue

Prologue

Thank you for your purchase of the Zychem Swell Form machine. We are pleased to welcome you to our community of tactile graphics producers, who have trusted our products since 1991.

Feedback from our community is extremely valuable, as it helps us continuously improve both our products and customer support. We encourage you to share any comments or suggestions you may have.

If you require additional information or assistance beyond what is provided in this guide, please contact us at sales@americanthermoform.com