SWELL FORM
TACTILE GRAPHICS
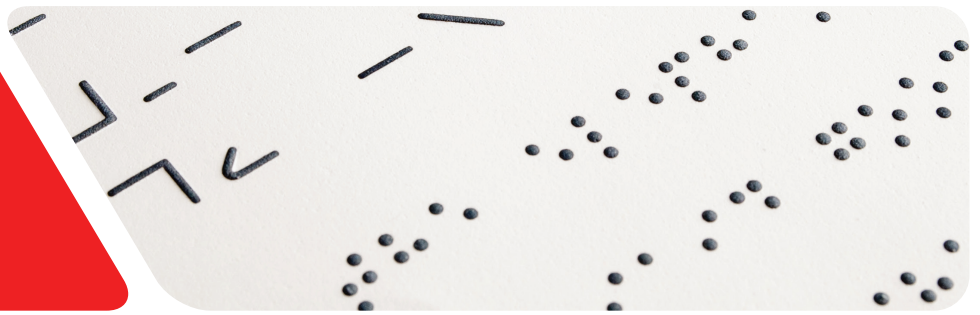
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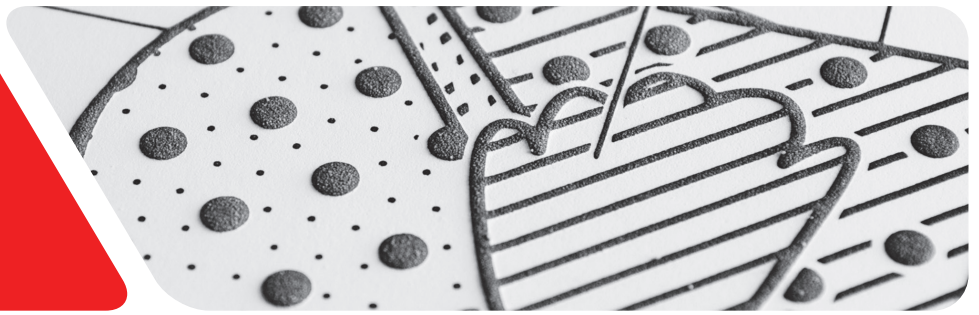
SWELL FORM TACTILE GRAPHICS

Introduction

Thank you for purchasing a Swell Form machine to make your tactile diagrams.

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

Please retain all the packaging for future transportation.

Unpacking Swell Form Machine

Carefully remove the Swell Form machine from its box and plastic wrapper (please dispose of this safely). The power cord and paper feeder tray are also included in the box.

Setting Up The Swell Form Machine

1. Place the machine on a firm surface. The red on/off switch and the temperature dial should be in the top left hand corner and the power socket for the power cord will be on the back side.
2. Secure the metal paper infeed tray on the front of the machine by sliding it over the two screws, and then tighten them as necessary.
3. Plug the power cord into the machine and plug the other end into the wall power socket.
4. Turn the Swell Form machine ON by pressing the red switch located on the top left hand corner. Once the machine is on, you will hear, and feel the fans spinning.
5. Your Swell Form machine is now ready to accept your first tactile diagram.
6. If there are any problems during this set up process, please read the troubleshooting guide.

If the problems persist, please call us on +44 1606 738739 or e-mail us at sales@zychemltd.com

Safety information and specifications can be found within this guide.

Creating Your First Tactile Diagram

These instructions are assuming you will be producing a tactile diagram on Swell Touch paper, or are using the samples provided in this pack.

Quick Steps

1. Print or draw with a Swell Touch marker a diagram on Swell Touch paper.
2. Turn on the Swell Form machine.
3. Set the temperature to the appropriate setting using the temperature knob.
4. Feed the printed Swell Touch paper with art facing up, into the infeed tray.
5. Swell Form machine lights will turn on and pull the paper through.
6. Retrieve the tactile diagram/image from the rear of the machine.
7. Do not feed two sheets at once. Only feed a new sheet into the machine after the prior sheet has completely exited the rear of the machine, and has been removed from the exit point.
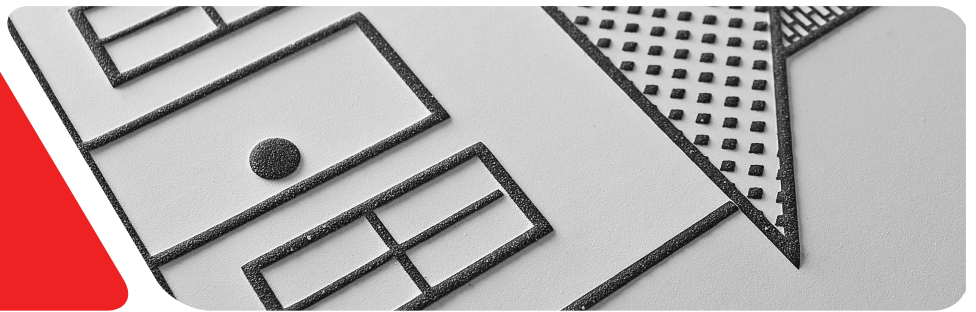
Detailed Instructions

Turn the Swell Form machine on as per the instructions.
For a diagram with lines of medium thickness, turn the temperature control dial to 7.

Place the Swell Touch paper onto the infeed tray with the image facing upwards. Slide the paper firmly into the open entry slot at the front of the Swell Form machine. As soon as the paper passes the first sensor, the lamp will illuminate and the rollers will engage. Keep gently pushing the paper forward until you can feel it being pulled into the machine by the rollers.

The Swell Touch paper will pass through the machine and be ejected from the rear. Once ejected, the paper will be slightly warm, but will not be hot to the touch.
Remove the newly created tactile diagram before feeding another sheet through. The lamp and the rollers will automatically stop after a sheet has completely moved through the machine. Once the paper has been removed from the back of the Swell Form machine, another sheet can be processed immediately.

Check the processed sheet. If you would like to increase the height of your lines further, you can send it through the machine once again (we recommend lowering the temperature a bit before the second pass).

Extra Operating Information

Temperature Settings
Diagrams with multiple line thicknesses, or sizable areas of black, will require the temperature setting to be adjusted accordingly.
The temperature dial knob starts at 0 and goes to 10, with 10 being the hottest, and 0 being the coldest temperature.
In general, diagrams with only fine lines should be set to a higher temperature setting near 10. Diagrams with thick lines and or large areas of black to be raised should start with a setting of around 7 or less. Lower temperature settings are also recommended if the Swell Form machine has been in operation for an extended period of time.
Higher temperatures may also be necessary if the temperature of the room is cold and/or if the Swell Form machine has just been turned on.
For readable tactile diagrams and ease of processing, it is advisable not to mix large areas of solid black with fine lines.
The Swell Form machine can take many paper widths up to 11 inches / 28cm wide, and all of these sizes fit on the infeed tray located on the front of the machine.
For narrower width sheets, such as A4 and 8.5 inches, feed the paper through the center of the machine to ensure optimum results.
Also ensure that the paper is flat on the tray. If the paper is bent, it will hit the rollers on the way in and likely not feed into the machine.
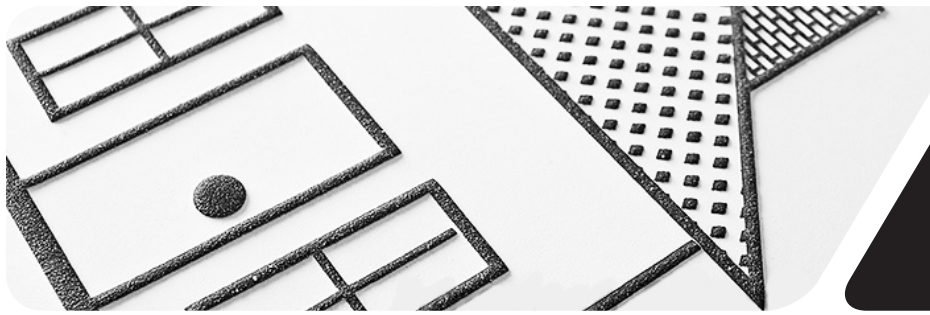
Swell Form Specification
Height: 6" / 153mm
Width: 5" / 127mm
Length: 20" / 508mm
Weight: 5 pounds / 2.27kg
Color: Black
Ambient Operating Temperature: 5 - 35°C or 41 - 95°F
Power: 240V AC 5A   50Hz
            110V AC 10A 60Hz
Lamp Power :1000W (1Kw)

Safety Information
General

The Swell Form machine should only be operated in well ventilated areas.
When the machine is used in accordance with the instructions contained in this manual, the machine is a Class A, CE approved device, and complies with safety standards.
Use the machine in the correct position, i.e. the fans on top and the power cord at the rear. Do not block any fans/cooling vents.
Leave adequate space in front and behind the machine for paper entry and exit.
Unauthorized modifications to this machine should not be done without supplier and/or manufacturer approval.
Warnings and safety labels must be kept legible.
The heat lamp is bright - do not look directly at it while it is in operation.
Avoid any operational action that may cause a hazardous situation.

Electrical
Check that the power information listed on the Swell Form machine serial label is suitable for use in your country before plugging it in.
In case of an electrical fault, disconnect the machine from the power cord and refer to the supplier.
The machine must be grounded.

Troubleshooting
Electrical
On/Off Switch does not illuminate:
• Confirm that it is plugged in correctly (both the cable into the machine and into the wall).
• Confirm that the electrical socket is getting power.
• Check/replace fuse located below the power cord receptacle.
•
Machine has power but does not accept paper:
• Check that you are feeding the paper into the correct slot. This will be the slot with the paper tray affixed to it.
• There is a safety shut-off feature which ensures the lamp turns off if the paper jams. The machine will then emit two beeps every two seconds.
• If the machine emits a continuous series of bleeps, please contact your supplier, or the manufacturer.

Most apparent faults occur due to operator error, therefore please read the instructions carefully. If in any doubt please contact your supplier, or the manufacturer.

Troubleshooting Continued

Mechanical

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

Ensure paper is flat when entering the machine, and that any curl or bent edges have been reduced.
The temperature of the machine is set too high, making the paper curl during processing.

The diagram has very large solid black areas close to the edges of the page making the paper curl during processing.
Roller fault - please contact your supplier.
Do not feed paper through the machine more than 3 times.

Paper does not pass smoothly through the machine, or the machine stops for no reason:
- The drive belt may have become loose or lost the correct tension - please contact your supplier.

What is Swell Touch Paper?

Swell Touch paper is a highly specialized paper onto which images can be printed/drawn, heated and then made into tactile diagrams. The Swell Touch paper is made up from a backing paper with a proprietary coating that reacts with heat and carbon. Once an image has been put onto the paper, it is ready to become tactile.
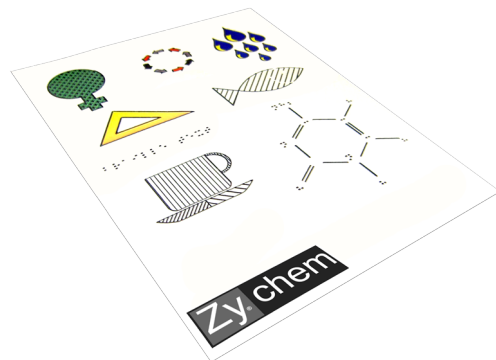
When heated under the lamp of the Swell Form Graphics machine, a physical reaction takes place between the carbon in the ink, and the coating on the Swell Touch paper. During this process the black lines will swell and the image can then be felt.

Swell Touch Paper Specifications
Weight: 195gsm ± 5gsm
Thickness: 0.25mm
Expansion Temp.: 110° C (overall) and 85° C (printed with carbon black)
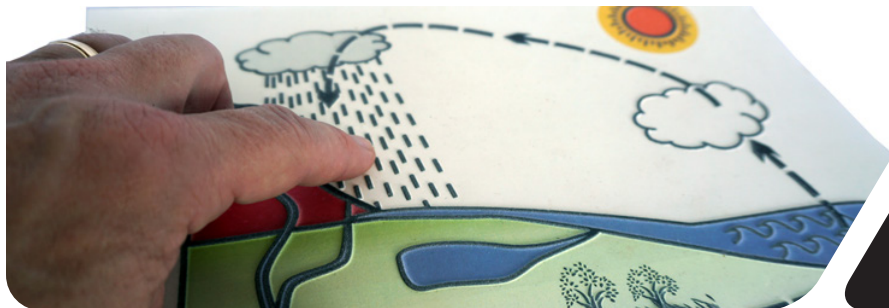
What is a Tactile Diagram?
A tactile diagram is an image which can be felt by the fingers by blind and visually impaired users. Using the Swell Form machine with Swell Touch paper is one of the easiest ways to quickly produce high quality tactile diagrams.

A diagram can be produced in various ways.
1. Freehand drawing with a Swell Touch marker, a 2B pencil or charcoal.
2. Photocopied from a book onto plain paper, amended, and then photocopied onto the Swell Touch paper.
3. Created in a computer program and printed onto the Swell Touch paper.
4. Scanned from book to computer, amended, and then printed onto the Swell Touch paper.

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Techniques To Create Effective Tactile Diagrams

Keep it simple!

Consider the ability of the visually impaired reader. The diagram must match their abilities. If there is too much information on the paper (too many lines, dots and/or raised areas in a small space), it will become confusing. When starting, test a variety of samples with the reader. This will establish some parameters on what the specific person can understand. (Skull Image)
Try a variety of drawing programs on the computer. You may find one is better than another for creating effective shapes/textures for tactile diagrams. You can also visit the Tactile Library to download free art for printing at www.tactilelibrary.com.

White correction fluid can be used to modify the original image/diagram, which can then be copied onto Swell Touch paper .
Try to keep lines of a similar thickness. This helps to make the diagram swell uniformly.
Try to use blocks of texture rather than blocks of solid black. Different textured areas can better represent different concepts.
Braille has to be font size 24 and at least 1.5 spacing to make it legible for visually impaired readers.
Remember that the black will swell, while the colors will not.
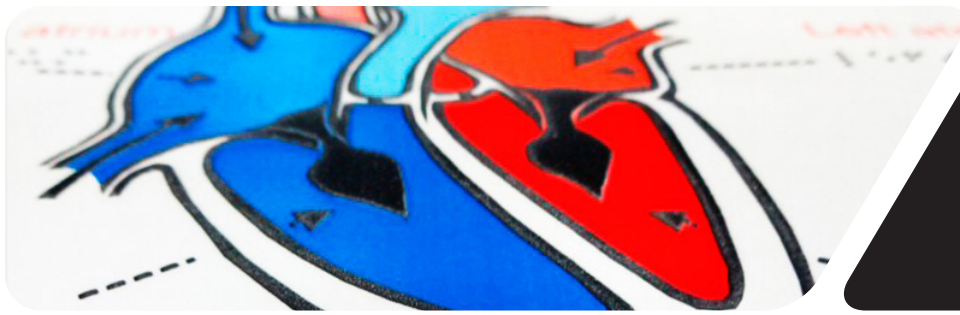
Photocopying/Printing onto Swell Touch Paper

- The faster and cooler the copier, the better.
- Fan the Swell Touch paper on all four sides before putting it into the photocopier or printer. This separates the paper and makes it easier for the photocopier/printer to pick up one sheet at a time.
- Always run a single test sheet first, and preferably through the bypass tray. Using the bypass tray minimizes the route through the photocopier/printer, as it is shorter, and therefore cooler.
- If possible, check if the photocopier/printer can pick up the paper from its shortest edge. This can prevent the paper curling around the rollers.

Bypass Tray Paper Drawer (Bypass image and Paper Drawer of ink printer)

- If the copier has a setting for transparencies or acetates, use this setting with the Swell Touch paper. Do not put a photocopier/printer on the setting for 'thick paper'.
- Allow the copier to cool for a few minutes after its previous job before using Swell Touch paper.
- You can also ask your photocopier technician to lower the temperature of the photocopier/printer down to 180°C. This can usually be done with all machines.
- Make sure the collection tray does not become congested when using Swell Touch paper. The tray may fill faster than expected due to the thickness of the paper.
- Do not leave the photocopier/printer alone while it is producing the diagrams.
- We recommend letting the ink dry for a short period of time when using inkjet photocopiers/printers.

Prologue

Thank you once again for purchasing the Zychem Swell Form Graphics machine. We welcome you to the community of tactile graphics producers using our products since 1991. Our community's feedback is highly valuable to us, as it allows us to improve our products and customer service. We invite you to provide any feedback that you have for us.

If there are any issues that you have experienced which have not been covered by this guide, or you need more information or assistance, please contact us via one of the methods below:

Telephone: (+44) 01606 738739
E-mail: sales@zychemltd.com

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4 YEAR WARRANTY

INDUSTRY LEADING WARRANTY

BRAILLO WARRANTIES

Braillo offers the industry's most comprehensive warranty. Our standard warranty covers any defective mechanical and electrical component from the date of delivery throughout the first 3 years, or up to 8,000 hours (up to 15,600,000 braille pages).

Braillo provides an additional 1 year of warranty by using Braillo/American Thermoform braille paper with your embosser, bringing the warranty to 4 years, or up to 10,700 hours (20,800,000 braille pages).

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Braille publishers count on running their machines 24/7, at high speeds while continuously producing high quality braille documents. High quality throughput means profit. Only Braillo true production braille embossers can perform at this level. Trust your business to the industry leader with 40 years dedicated to engineering the best production braille embossers. Trust your business with Braillo.

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- Perfect braille alignment – every time
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- The most trusted braille translator, Duxbury, included free
- Discounts on our quality braille paper

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WHY BRAILLO

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