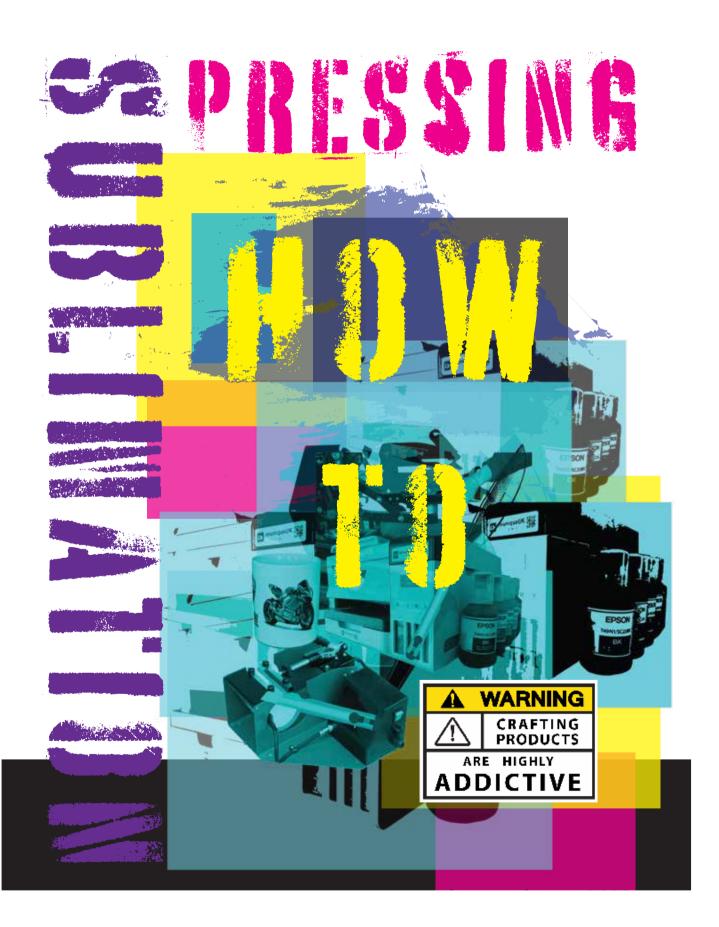
on HOW TO



Content

How to Guide to Sublimation Printing

Author: Glen Harris - copyright imuniqueUK 2023

This book provides a comprehensive guide to sublimation printing, a visually rewarding craft skill. The book emphasizes the vibrancy and quality achievable through sublimation printing and targets beginners in this field. It introduces the key elements of successful sublimation printing, including the choice of chemically compatible blanks, dedicated sublimation transfer paper, temperature control, timing considerations, and precise pressure. The author's guidance and recommendations make this book a valuable resource for anyone looking to delve into sublimation printing.

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The HOW TO

GUIDE TO Sublimation printing.

Introduction

This craft skill is undeniably one of the most visually rewarding pursuits you can undertake.

The vibrancy, clarity, and sharpness achieved in this craft are simply breathtaking. So much so, that you'll find yourself compelled to take a second look, marvelling at the sheer stunning quality of your work.

You might even experience a moment of surprise, realizing that you, too, can create such impressive pieces. In fact, your creations may rival or even surpass those mass-produced products found in high street shops.

The primary objective of this concise 'How To' guide is to assist beginners embarking on their journey into the world of sublimation printing. It's not an extensive manual covering every facet of sublimation, but I hope it is a helpful starting point.

Sublimation offers a plethora of products, including mugs, key fobs, coasters, t-shirts, and numerous other items suitable for sublimation printing. In this guide, we will focus on two widely popular sublimation blanks: the mug and the t-shirt. Although they vary in press shapes and sizes, the underlying principles are essentially the same, making it easier for you to get started.





HOW sublimation Works!!

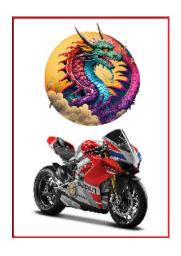
What is sublimation printing, pressing?

Let's take a closer look at the fascinating process that makes sublimation printing work.

Sublimation ink stands apart from traditional printer inks due to its unique composition. It contains suspended, coloured micro-particles. When subjected to heat and pressure, something almost magical happens. These micro-particles transform into a gas. Being under pressure, they are compelled to infuse with the adjacent surface, provided it's chemically compatible. As a result, the gases become an integral part of the product.

Now, let's explore the key factors that ensure consistent and reliable results in the sublimation process.

To achieve success, you must consider the following essential elements:





1. Chemically Compatible Blanks;

The choice of blanks is vast, but it's crucial to select blanks that are chemically compatible with sublimation. Avoid the common mistake of attempting to sublimate onto cotton shirts, as it won't work. Instead, opt for 100% white polyester products to witness stunning results.

2. Dedicated Sublimation Transfer Paper:

While some may suggest using regular paper for sublimation, it's best to use dedicated sublimation transfer paper. Using non-sublimation paper may lead to unpredictable and sub standard results, forcing you to make unnecessary setting adjustments.

3. Temperature Control:

Maintaining the correct temperature is vital. Typically, temperatures ranging from 170 to 210 degrees Celsius are required to convert the ink into a gas. Temperature settings should be provided with the blanks or available on the shop's product website.



4. Timing Considerations:

The timing varies depending on the material. Fabrics typically require 20-30 seconds, while ceramics may need 170-220 seconds. When pressing ceramics, you have some flexibility in timing, but getting it just right ensures vibrant and saturated colours. Avoid rushing to remove the item from the press when the timer sounds; a few extra seconds won't harm.

5. Precise Pressure:

Pressure is a critical factor and often the cause of failed sublimation. Follow the recommended pressure settings provided with your blanks. However, even with the correct pressure settings, you might encounter issues if pressure distribution is uneven.

Uneven pressure can result from factors like crumpled paper wrap, foreign objects caught between the item and heating elements, or material getting snagged during loading. These inconsistencies can lead to faint or distorted areas in the final product.

In summary, achieving consistent results in sublimation printing involves selecting the right blanks, using dedicated transfer paper, controlling temperature and timing, and maintaining precise, even pressure. Careful attention to these factors will help you produce high-quality sublimated items every time.

cricut

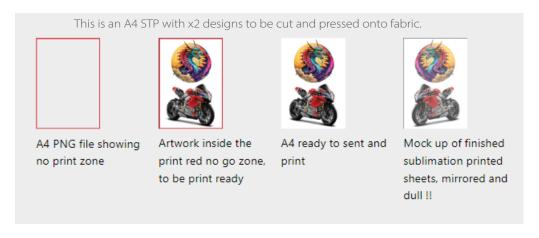


Sublimation Transfer Printed Sheets

Now that you have a basic understanding of the process, let's delve into the intricacies of transfer sheets before we explore the pressing methods for both hard and soft product blanks.

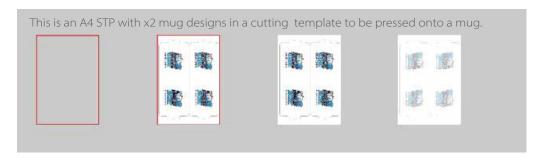
At imuniqueUK, we employ two dedicated Epson sublimation printers and utilize genuine Epson inks in our operations. Our commitment to quality extends to our choice of Sublimation Transfer Paper (STP) – a brand that consistently delivers exceptional results. By sourcing your STP from iUk, you effectively eliminate another variable from the production process.

To illustrate this, we've provided examples of artwork before and after it's received by us, followed by a mock-up image that represents what you can anticipate in your package from iUk. It's important to note that all transfer paper printed and provided by iUk is Versa sublimation paper; for more information, please refer to the appendix for its meaning.



Both examples show a mock up of how the finished STP should look, mirrored, dull and washed out. If this is all new to you, do not panic this how it should look.

When you press your product the combination of heat & pressure over a controlled time will produce the most amazing results.



Sublimation Storage and care Sheets

Printed sublimation paper should be stored carefully to ensure the quality of the prints and prevent any damage or degradation. Here are some tips for storing printed sublimation paper:

- 1. Keep it in a cool, dry place: Sublimation paper should be stored in a cool, dry environment to prevent moisture from affecting the paper. Humidity can cause the paper to curl, which can result in printing issues.
- 2. Avoid direct sunlight: Exposure to direct sunlight can cause the paper to fade and affect the quality of your prints. Store it away from UV light sources.
- 3. Use airtight packaging: To protect the paper from dust and contaminants, it's a good idea to keep it in a resealable plastic bag or airtight container. This will also help maintain the paper's moisture content.
- 4. Store flat or on a roll: If you have the space, storing sublimation paper flat is ideal to prevent curling or creasing. However, if you have a roll of paper, you can store it on a sturdy, horizontal surface, so it doesn't sag or develop creases.
- 5. Maintain proper humidity levels: While you want to avoid excessive humidity, extremely dry conditions can also affect the paper. Try to maintain a moderate humidity level in the storage area to keep the paper in good condition.
- 6. Rotate your stock: If you have a large supply of sublimation paper, be sure to use the oldest stock first. This helps ensure that you're always using the freshest paper for your printing needs.
- 7. Check for manufacturer recommendations: Different brands and types of sublimation paper may have specific storage recommendations, so be sure to check the manufacturer's instructions for the best results.

By following these guidelines, you can help ensure that your printed sublimation paper remains in good condition, which will ultimately lead to better quality sublimation prints.

Proper Planning

Planning Prevents Pils Oor Print Pressing Performance

1. **Gather Your Materials**:

- Sublimation mug (coated with a sublimation-friendly polymer coating)
- Heat-resistant tape
- Heat-resistant pad (for protecting your work surface)
- Heat press machine with a mug press attachment

2. **Prepare the Mug**:

- Clean the mug thoroughly with isopropyl alcohol to remove any dirt, oils, or residue.
- Ensure the mug is dry and free from any dust or lint.

3. **Secure the Transfer Paper to the Mug**:

- Use heat-resistant tape to secure the sublimation transfer paper with your design to the mug. Make sure it's positioned correctly and securely. Then cover with an additional layer of either of the following - greaseproof paper - butchers paper - craft paper and secure with heatproof tape. This will protect your presses heat elements from escaped gases staining the surface.

4. **Preheat Your Heat Press**:

- Set your heat press machine to the appropriate temperature and time settings for sublimating mugs. These settings may vary depending on your specific heat press and sublimation ink, so consult your equipment's manual for guidance.

5. **Sublimate the Mug**:

- Place the prepared mug into the mug press attachment, making sure the design is facing the mug.
 - Close the heat press and apply even pressure.
- The sublimation process requires high heat and pressure. The ink on the transfer paper will vaporize and penetrate the polymer coating on the mug.
- The heat and pressure settings will vary depending on the specific sublimation ink and mug you are using, but it typically involves temperatures of around 350-400°F (175-200°C) and press times of 180-200 seconds.

Sublimating mugs requires some practice to get the settings and process just right, so don't be discouraged if your first attempts are not perfect. Experiment with different settings and techniques until you achieve the desired results. Also, make sure to follow all safety precautions when using heat press equipment and sublimation inks.

What settings should I use

for a **first** test **press?**

Most reputable suppliers typically provide recommended settings for pressing their products. You can usually find these guidelines on their websites, within the product descriptions, or in the specifications.

However, if you've made a purchase from a marketplace and find yourself without instructions, the following settings can serve as a solid starting point. This is especially helpful if you're new to the process or need to set up without specific guidance. Instead of going through numerous mugs in an attempt to find the right settings, consider using test strips. A 1-inch wide strip that runs from the top to the bottom of the mug can provide you with 3-4 test results from a single mug.

At iUk, we're pleased to offer complimentary test strips with your order if you request them.

Don't discard cracked mugs; they can be valuable for testing purposes!

Our recommended settings

as a starting point for both mugs and fabric:

Mug Settings Starting Point:

- Press temperature: 180°C to 185°C

- Time: 180 seconds

- Pressure: Light to medium

Fabric Settings Starting Point:

- Press temperature: 190°C to 200°C

- Time: 50-60 seconds

- Pressure: Light to medium



If your results appear lighter than expected, consider increasing the temperature and/or time. Conversely, if the results are darker than desired, try reducing the temperature and/or time.

For optimal results on fabric, it's advisable to use white 100% polyester. Sublimation ink lacks white ink in its arsenal and relies on the base material to produce white and lighter sections.

To better understand this concept, imagine printing your design on very dark or even black paper using a regular ink-jet printer; the results would be disappointing. The same principle applies to sublimation printing.

.

How to press a flat surface using a **crafting iron**

Equipment:

- 1. **Heat-Resistant Craft Press Mat:** Ensure that the mat or surface used is both heatproof, sturdy, and flat, with no bumps or gaps. These imperfections can adversely affect pressure distribution and the quality of the pressing.
- 2. **Alternative to Craft Press Mat:** If a craft press mat is unavailable, you can use the following alternative, which often yields better results, especially when pressing mouse mats:
 - Two clean tea towels, preferably white and free from colour.
 - Greaseproof paper or butcher's paper.
 - Aluminium foil.
 - Sublimation transfer with your artwork printed on it.
 - Heatproof tape.

Surface Preparation:

- 1. Clean your worktop thoroughly to remove any debris or residue.
- 2. Ensure the work surface is completely flat with no bumps or lumps.

Arranging the Base Layers:

- 1. Place an ironed tea towel on the worktop, making sure it is larger than the area you'll be sublimating.
- 2. Lay a sheet of aluminium foil with the shiny side facing up over the first tea towel.
- 3. Place the second ironed tea towel over the foil.
- 4. Add a sheet of greaseproof paper over the foil and tea towel "sandwich."
- 5. Cut another sheet of greaseproof paper large enough to cover the transfer sheet.



- **Dry Run (with the press switched off):**
- Plan how you will position the material or garment on the base. When sublimating a T-shirt or similar garment, it's best to insert a layer of greaseproof paper or crafting paper inside the garment under the area where the transfer will be placed. This prevents sublimation dye from bleeding through to the other layers of the garment.
- During your dry run, use the transfer sheet or a blank piece of paper of the same size as the transfer sheet.
- **Using Heatproof Tape:**
- Prepare to use heatproof tape to secure the transfer sheet in place during the pressing process. Cut a few small strips in advance.
- **Sublimation Printing Process:**
- 1. Preheat the base layers on your worktop for about 20 seconds at 180°C. These layers include the two tea towels, aluminium foil, and the layer of greaseproof paper.
- 2. Place your garment on the warm surface, straighten it out, and remove any creases. Ensure you can clearly see where the transfer is to be positioned.
- 3. Lay the second sheet of greaseproof paper on top of the transfer sheet and garment.
- 4. Place the hot press on top of the greaseproof paper and press for approximately 20 seconds. The press may slide slightly, which can be advantageous when your press is smaller than the transfer.
- 5. Remove the press and the greaseproof paper, setting them aside for later use.

Final Note:

Don't panic or rush during the process. Take your time to ensure a successful sublimation printing outcome.

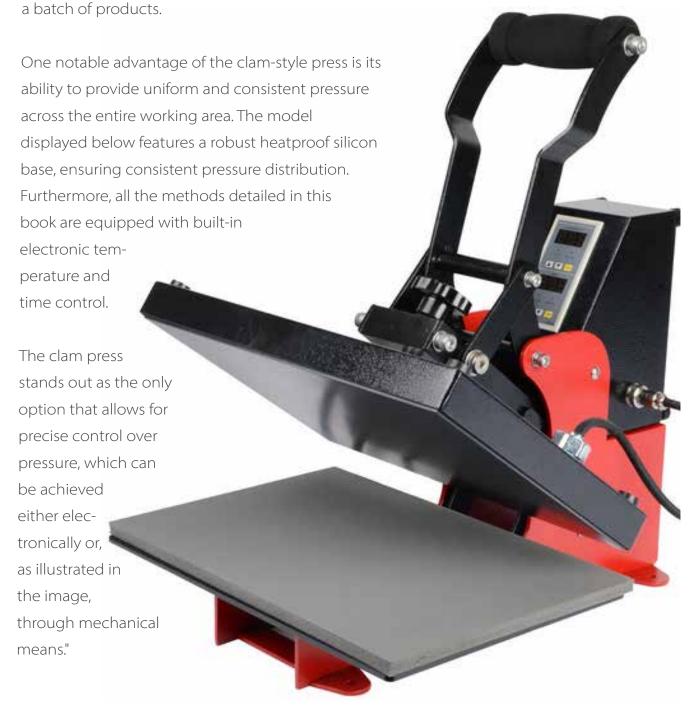


- 1. Place the transfer sheet ink-side down on the material, securing it with heatproof tape if necessary.
- 2. Position a sheet of greaseproof paper over the transfer sheet and garment.
- 3. Set your pre-heated heat press on top at the correct temperature and start the timer. Apply light pressure, avoiding unnecessary movement.
- 4. Avoid lifting the heat press during the process to prevent ghosting effects.
- 5. Once the heat press is safely in place, remove the greaseproof paper and the transfer.
- 6. Appreciate the impressive print you've created.
- 7. Share your excitement with your family, but only after the item has cooled down.
- 8. Discard the used greaseproof paper and transfer sheet. Replace them with fresh greaseproof paper for the next garment. Reusing them may cause ink transfer to the next item.



The clam press

"The results achieved with a craft heat press can be comparable to those obtained using a clam or swivel press, albeit with a more hands-on approach. However, the clam press offers distinct advantages, particularly in terms of ease of use and the ability to consistently produce quality results when processing



The mug press

"Mug presses are available in various forms, but their essential feature is a cylindrical heating element that can be securely clamped around the mug.

Presses like the Cricut mug press fall under the category of automatic presses. These presses lack pressure adjustment and provide limited temperature adjustment. It's worth noting that the Cricut mug press offers three heat settings, which can be useful for some users.



On the other hand, the alternative press show-cased here boasts interchangeable heating elements and the added advantage of open-ended design on both sides. This unique feature enables the press to accommodate long products, allowing portions of the item to extend beyond the press's boundaries. In contrast, the Cricut press restricts users to placing mugs solely on its base."





Templates for Mugs

with or without?

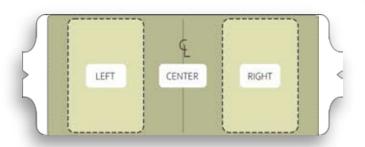
Should I use a template?

Totally up to you, there are few different way and styles of template, however you can press your mug with reasonable success without a template. All you need is some heatproof tape and a good eye for lining stuff up.

Personally I use a template and because this section is all about templates, I will run through why they are useful and different methods.

One of the main advantage of using a template is that it ensures the artwork you are transferring will be in the same place every time, positioned correctly round the mug and perpendicular to the mug's base.

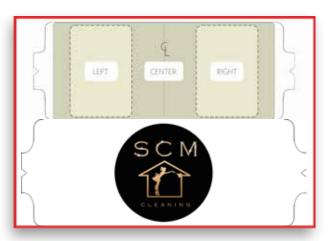
The example shown here is an 11oz full wrap top to bottom template solution. Usually placed on layer 1 (the lowest layer).



The correctly positioned artwork and cut lines can be saved and exported as a PDF, PNG or JPEG file. ready to be positioned on the A4 sublimation template.



The cut line template in usually placed on layer 2 this layer is never switched off and is printed with the artwork. Note apart from the lines this layer is transparent.



The red border shown above highlights the no go area of the printer's border.

This method will accommodate x2 10oz to x2 12oz mug templates. I can only fit x1 15oz mug template on an A4 sheet.

Other styles of mug templates

Over here on the right is a repeat of the template show on the previous page, This style of template will ensure the artwork is situated around the mug correctly every time within a few millimetres each time by lining the tangs up under the handle.

The only drawback is that this method restricts you to a maximum of two mug templates per each A4 STP up to 12oz mugs. Once you get to 15oz mugs only one full template can be accommodated.



In the example below we have fitted three template onto one A4 STP this is ideal for the more experienced mug presser.

Obviously it is more cost efficient to have three templates on one A4 STP. The template will ensure the artwork is

perpendicular to the mug.



This template will accommodate a full top to bottom wrap. It's only drawback is there are no tangs to line up under the mug's handle.

Once you have done a few mugs with a complete full template, you should be ok to

use this method and line up the orientation by eye as the ends of the template will be very close to the handle.

Other styles of mug templates

Here is a method of sublimation often seen on YouTube and other social media platforms.

No template at all, it does work but use with caution and you will get amazing results. This is ideal for a one off or a pressing that does not require precise positioning and product repeatability.

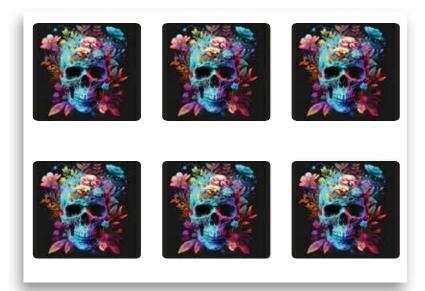
However please heed to the following caveat!! When you prepare your transfer make sure you cut around the artwork leaving the widest plain border as you can.



When the edge of your artwork meets the top or bottom most extremes of the mug, any escaping gases will be driven into the void at the full off of the mug, this is often a nice desirable effect as the pressing appears to follow the radius of the mugs edges.

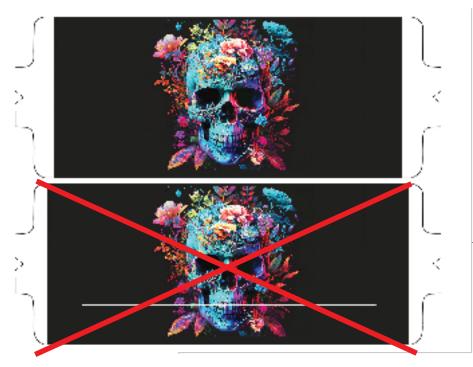
However if the edge of the artwork is too close to the cut edge of the transfer paper, and is not at the extreme edges of the mug gases will leek onto the mug and create a ghosting ring on the mug around the transfer

paper.



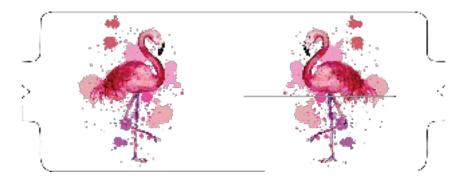
The transfer paper has a thickness to it. When it is pressed against the mug's surface regardless of the amount of pressure used, a micro void will be created, if this void is close to the sublimation artwork the gases will fill the void. However if there is a few centimetres of plain transfer paper between the

cut edge and the edge of the artwork, the gases will not travel to far and fill the void.

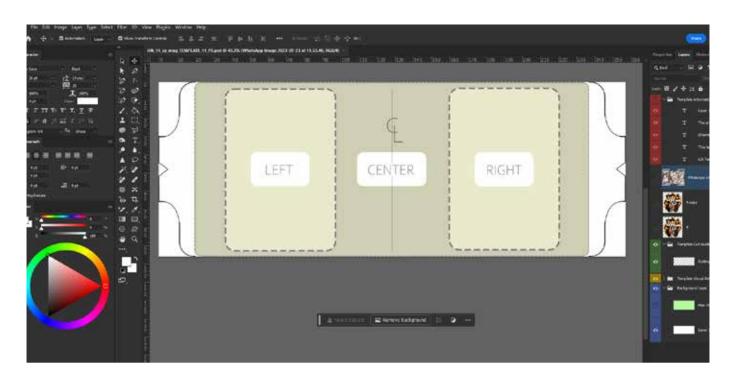


Maximum full wrap

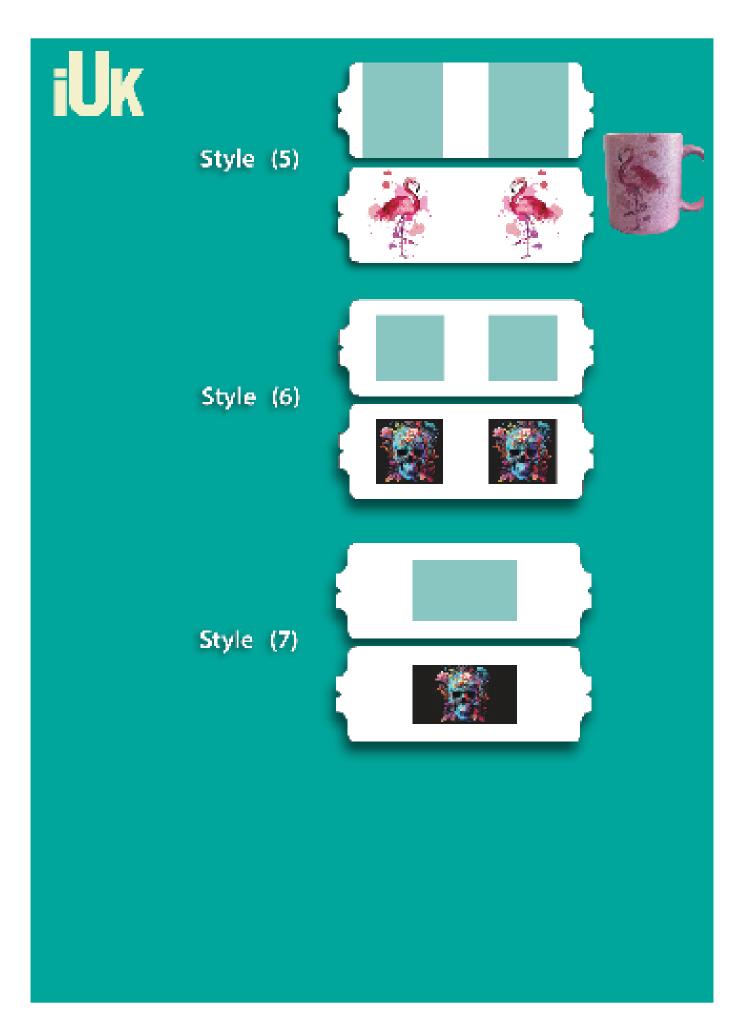
Too wide, the edges will fail near the handle



The artwork has been over saturated to make sure it can be printed on a non white mug













When things go bad!!!

It would be amazing to have 100% perfect pressings every time from the word go.

We know the world does not work like that, stuff happens !!! Lets have a look at some and see how they can be avoided. I have dug a few mishaps out the garage box, reserved for this very project.

- 1) Fade off at the mug's base only
- 2) A row of teeth at the top or bottom of the mug.
- 3) Uneven pressing on a mouse mat.

Fade off at the base of a mug.

I must admit this one got me fooled for a while, as far as I could see I had not changed the procedure at all in anyway.
Was something broken?
A faulty element maybe?

One of the reasons could have been, when using cheap quality mugs, there is a risk that they can have a too greater mould release draft down the mug (all mugs are tapered, larger a the top, smaller at the bottom). High quality mugs have a shallow draft (taper), cheeper mugs can have a deeper daft, so much so that the pressure at the base is not sufficent for an even pressing.

I fetched a new mug from the garage, cleaned it all over, cut and wrapped a new

transfer sheet, and placed it a different press.





It turns out getting straight from the garage on a cold autumn night was the problem. The mug's base is solid and in this case very cold,

This was being pressed mid October ready for a Halloween order, the temperatures had dropped and the garage housed all the mugs waiting to be pressed.

So how does that effect the pressing and cause a faded area.

As the mug and all it wrappings are put into the hot press, the mug heats up evenly down the body of the mug. However at the base there is a lot more mass, that absorbs the heat into the whole of the mug's base.

Buy the time the whole mug including the base has reached the correct temperature the rest of the mug has sped ahead of the base and almost finished its work, resulting in the mug shown on this page.

The Fix

During the winter months I would bring a handful of blank mugs in from the garage and let the soak up the heat of the house. Or I would put a row of mugs on the radiator for an hour or so. Problem solved and never happened again.

Same result.

When things go bad!!!

A row of teeth at the top or bottom of the mug!

I knew straight away what I had done. Well, to be totally honest, I suspected a bad pressing the moment the bleeper sounded the start of it's countdown.

These are the witness marks formed from crumpled paper. I was in a rush (when will I ever learn).

The paper was a tad too long, and I had been a nit over zealous putting the again to big protective paper wrap around the mug as well.

As the press closed I could see the paper fold over at the base trying to go somewhere under all this pressure. The only option it had, was to crease and wrinkle up, this caused voids.

The paper's voids where not being pressed against the mug's surface evenly. Therefore these areas did not get the full experience of pressing the rest of the mug did.

Avoid creases and don't rush !!!



When things go bad!!!

Uneven pressing on a mouse mat

This is was my first ever pressing on a mouse mat, what an absolute load of rubbish. I was using a Cricut 12" iron and a large Cricut heat mat. I religiously followed the guide from the suppliers blurb. The centre is washed out and the edges near to over cooked !!!.

After loads of subtle adjustments and multiple attempts all ending in failure I was ready to through the whole lot out of the window. I could see that the pressure was not as intense in the centre, so how the mouse mat was con-caved during the pressing.

That is moment I ditched the heat mat, and came up with a new plan. Flat, stable worktop, with layers of clean (dye free) towels and foil, topped with grease proof paper.

Problem solved and it has never failed me. I now press them using a clam press.











S J Wallis

Finley and Pearly

finleyandpearly.co.uk

15sec on heat 310 F





C. Turner - Princess's Projects -

Facebook link

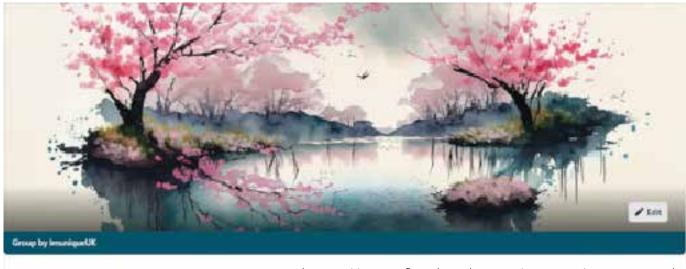
https://www.facebook.com/profile.php?id=100087412789658





H. Holzberg -

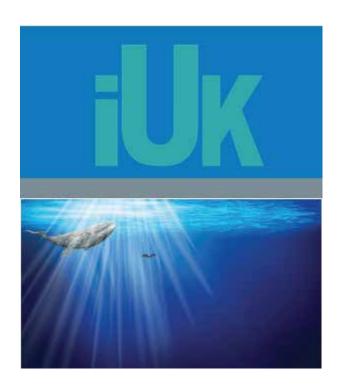
Useful Links & Stuff



imuniqueUK a group for Crafters

https://www.facebook.com/groups/imuniqueuk

imuniqueUK's Facebook group is for Crafters! Whether trade or hobbyist you are welcome. The group has been set up for our love of craft, and formed for us to share knowledge, help others with their craft as they hone their skills and to promote our crafts and businesses.



https://imuniqueuk.com/

Visit iUk's main website!!

There is a lot (and an ever growing number) of resources available to download & use free of charge.

Yes, you will have to register with the site, however you will NOT be bombed with spam emails, I am in control of what is posted.

For members only Free to download and use:

- How To PDF ebooks
- How To Videos
- Mug Templates
- Artwork (copyright free for commercial and private use, unlimited use.
- Exclusive access to Flash Sales (Only available when subscribed to separate iUk mailing list).

Glossary

Abbreviations used in this book

STP

Sublimation Transfer Paper

Appendix

i) Versa sublimation paper; Versa is the term given to sublimation that can be used on hard (ceramic) & soft (fabric) surfaces.





I would like to thank the following people for allowing me to use their images and share the settings they used to produce the products shown.

S J Wallis - Finley and Pearly - finleyandpearly.co.uk

C. Turner - Princess's Projects - Facebook link https://www.facebook.com/profile.php?id=100087412789658

H. Holzberg -

S. Morgan -

An annotated bibliography for the book "How to Guide to Sublimation Printing" by Glen Harris (2023):

Title: How to Guide to Sublimation Printing - Author: Glen Harris - Year: 2023

This book provides a comprehensive guide to sublimation printing, a visually rewarding craft skill. The book emphasizes the vibrancy and quality achievable through sublimation printing and targets beginners in this field. It introduces the key elements of successful sublimation printing, including the choice of chemically compatible blanks, dedicated sublimation transfer paper, temperature control, timing considerations, and precise pressure. The author's guidance and recommendations make this book a valuable resource for anyone looking to delve into sublimation printing.

The Fascinating Process of Sublimation Printing

The unique composition of sublimation ink and how it transforms into a gas under heat and pressure, infusing into compatible surfaces. The chapter highlights the core principle of sublimation printing, providing a fundamental understanding of the process.

Key Factors for Consistent Sublimation Results

The essential factors for achieving consistent and reliable sublimation results. It emphasizes the importance of chemically compatible blanks, dedicated transfer paper, temperature control, timing considerations, and precise pressure. Each factor is discussed in detail, providing practical advice for readers.

Sublimation Printing Materials and Equipment

Insights into the materials and equipment needed for sublimation printing. It covers the selection of chemically compatible blanks, transfer paper, and the importance of maintaining the correct temperature and timing. The information in this chapter helps readers gather the necessary items for their sublimation projects.

Sublimating Mugs: Step-by-Step Guide

Step-by-step guide for sublimating mugs. It covers the preparation of the mug, securing the transfer paper, preheating the heat press, and the sublimation process itself. The chapter also acknowledges that sublimating mugs may require some practice and experimentation to achieve the desired results.

Recommended Settings for Sublimation Printing

Starting point settings for both mugs and fabric sublimation. It advises on press temperature, time, and pressure settings, and provides guidance on adjusting settings for optimal results. The information in this chapter is particularly helpful for beginners and those without specific instructions.

Alternative Press Options for Sublimation

Different types of presses, including clam-style and automatic presses. It discusses the advantages and disadvantages of each type and highlights the precision and control offered by clam-style presses. This information is valuable for readers considering the purchase of sublimation presses.

Storing Printed Sublimation Paper

Tips on how to store printed sublimation paper to maintain its quality and prevent damage. It covers aspects like storage environment, protection from sunlight, airtight packaging, and the importance of rotating stock. Proper paper storage is essential for achieving high-quality sublimation prints.

Dry Run and Heatproof Tape Usage

The importance of conducting a dry run before the sublimation process and how to use heatproof tape to secure the transfer paper. It offers practical guidance on the steps to follow and emphasizes the need for a careful and patient approach to ensure successful sublimation printing.

The annotated bibliography summarizes the key chapters and information provided in the book, highlighting its value in guiding beginners through the sublimation printing process and helping them achieve high-quality results.