Beginner’s Guide to Sublimation Printing: 22 FAQ

I was new to dye sublimation only five short years ago. It all started when I was invited to a workshop at a local business that sold HTV and sublimation items. At the time, my main focus was heat transfer vinyl and rhinestones. In face, I had never even heard of sublimation. When I looked around and saw all of the possibilities, I just had to jump on the bandwagon.

I’m guessing if you are here, it means that you finally bit the bullet and bought your first sublimation printer. Now, go ahead and take it out of the box. I promise, it will be ok! In this article you will find answers 22 questions that people just like you tend to ask when starting out with sublimation printing.

1. On what products can I sublimate?

A few examples of substrates that have been treated for sublimation include hardboard (compressed wood cut into different shapes for different purposes), glass cutting boards, ceramic and aluminum Christmas ornaments, and cell phone cases made of a special plastic that can take the heat. You can also sublimate on polyester garments. I’ve had luck with polyester shirts from department stores, but your vendor will also supply these.

In order to understand why only certain items are good for sublimation, you will need to first understand what the process of sublimation is. Don’t worry, I’m not going to get too scientific. Basically, sublimation is when a solid turns to a gas without first becoming a liquid. Dry ice is a great
visual example of sublimation. It goes from a solid state directly to a foggy gas as I’m sure you have seen many times in stage theatrics. With dye sublimation, the ink is actually a gel that is printed on special paper, becomes a gas when heated, and then turns back into a solid state on the substrate. Most of your customers don’t really care to hear all of that, but it is good information for you, the expert, to have. I usually just tell my customers it’s magic!

The particles are attracted to polyester a.k.a. plastic. It really is rather magical as these particles actually become part of the plastic when heated. But don’t go throwing any old plastic in your heat press! That would be a huge disaster. Most plastics you are familiar with cannot withstand 400 degrees Fahrenheit. This is where your sublimation vendors come in. They offer a HUGE variety of substrates that have been professionally coated with whatever it is that makes sublimation work.

2. Is dye sublimation better than screen printing?

The quick answer to this is it depends. Read on for a list of pros and cons.

- **Sublimation Pros**
  - There is no “hand” to the design. This means you cannot feel it on the garment as it actually becomes part of the garment itself.
  - No mess! Just a matter of designing, printing, and heat pressing.
  - It is easy to customize. Since it is so simple to
print, it’s no problem customizing each print with, say a name.

- It is fairly cost effective. If you have a very large order, screen printing would be cheaper, but sublimation is not too far behind.
- Easy learning curve. The most difficult thing to learn is the software. If you are already using design software for HTV, you’ll be fine.

**Sublimation Cons**
- There is no white ink, so you can only sublimate on light colors. White shirts will give you the most vibrant colors.
- You are limited to polyester or, at least 50% polyester shirts. Although there are some ways to sublimate on cotton, this will involve more time in the process and they are not fool proof.

3. **Do the shirts have to be 100% polyester.**

*Shirts for sublimation need to be at the very least, 50% polyester. The higher percentage of polyester the better as the ink will only transfer to the poly fibers.*

In addition to 50/50 cotton poly shirts, there are other types that will work. One of my favorites is called tri-blend. Tri-blend shirts are 50% polyester (yeah), 25% cotton, and 25% rayon. This combination makes for a super soft shirt. Just remember, you can only use very light colored shirts and the design will appear slightly faded due to the other fibers in the shirt.

I’m actually getting ready to make some tri-blend raglan (baseball sleeves) shirts with a fall design. I actually prefer the faded look for fall. Teens tend to like the faded look for their designs as well.
4. What are the best shirts to order for sublimation?

Here is a short list of my favorites. I order from alphabroder.com mainly because they offer flex shipping for $5 to your nearest Fed Ex. I prefer the jersey knit types because they have a soft cotton feel. They are also less likely to leave the imprint of the paper or heat press itself in the shirt than a dri wicking (moisture wicking) fabric. Dri wicking fabric tends to melt at high temperatures, so even though sublimation works on them, the pressed portion of the shirt will often leave a rectangle of slightly melted fabric from the platen that will not wash out.

- Gildan G420 is a nice one. Don’t go too dark, though. They also offer companion shirts for women and children (G420L and G420B). Cost is $3-$6 per shirt depending on size and sales.
- Jerzees offers a similar shirt called 21M. It’s companions are 21WR and 21B. Same basic price as Gildan.
- Next Level unisex tri-blend 3/4 sleeve raglans are nice. Only 50% polyester, but very nice shirts.

5. Is it possible to sublimate on 100% cotton shirts?

It is possible to sublimate on 100% cotton shirts, but it’s not as easy as you might think. Here are a few things you
could try if a customer is dead set on 100% cotton.

1. Cut a shape to match your design from white glitter flake HTV. Tack it to the shirt at 365 degrees for two seconds. Then align your sublimation transfer on top and press for an additional 60 seconds. Glitter can be a little girly and it is quite thick. I’ve used it, but it is not my favorite. Unfortunately there is no flat HTV that can withstand the higher temps for sublimation. The reason the glitter flake works is because of the glitter itself.

2. At around a dollar a sheet, you can purchase a special type of paper made by ChromaBlast. Simply print your design on it and transfer it to the cotton shirt. There will be a little bit of a film that comes off onto the shirt, but it will wash away with just one wash and leave you with a barely detectable “hand”.

3. ChromaBlast ink will also work on cotton, however you will void your warranty if you use this in a Sawgrass printer.

4. For $2 to $3 per sheet, you can purchase Reveal S paper.

5. Dye Press Poly T Spray is sold as a condensed liquid. Add distilled water and spray on the shirt where the design will be placed. The shirt must be completely dry before pressing the design. I have only tried this once and wasn’t thrilled with the turn out. It was pretty faded. I plan to experiment with it more as I purchased the bottle for $63 from Amazon. (Later I discovered that it is half the price direct from the manufacturer!)

6. There is some type of powder that you can use as well, but I have not tried it yet. Since it is difficult to find and not sold through any of the usual vendors (that I can find anyway) I’m thinking it may not be the best option.
6. Should I purchase an Epson or Sawgrass printer?

I have written an entire post on this very subject. In that post, I break it down for careful consideration. That said, if I had to choose between the two, I would stick with my Sawgrass printer. Yes, it is a little more expensive. The ink is also more costly. However, I’ve been around enough to see the MANY ISSUES people come across with printers that are not designed specifically for sublimation. I must admit, I dread running low on ink, but the truth is it doesn’t happen all that often. Sublijet ink, made for Sawgrass printers, lasts a long time and will give you a lot of bang for your buck.

I also created a quiz to help you decide between the two main printer brands.

7. What equipment will I need to go into the sublimation business.

If you are just starting out in sublimation the main equipment you will need is a good heat press, a sublimation printer, and a computer or tablet for designing. If you plan to add mugs and hats to your business, you will also need a mug press and a hat press.

Smaller items you must have are often bundled with your printer or heat press. They include:

- heat transfer tape
- sublimation paper
- ink
- adhesive spray for sublimation
- butcher paper
- Teflon sheets and pillows
8. Is a convection oven necessary for sublimation.

A convection oven is only necessary in the sublimation business if you plan to sublimate on items that require a wrap. For general health reasons, it is advised NOT to use your kitchen oven.

I have never invested in a convection oven for sublimation. There are enough substrates to sell that do not require wrapping an placing in an oven. Some items that do require wraps include pet dishes, shot glasses, and other beverage glasses. I have done a few shot glasses in my regular kitchen oven (before I was aware that is could be a health hazard—YIKES!) They turned out beautiful, but it was a very time consuming process as the wraps are not cheap so I only had one and had to bake the glasses one at a time.

My suggestion is to look through the hundreds of blanks available from your vendor. If you really like the pet bowls (or whatever) and that is going to be one of your main items, then go for it!

9. Do I need special paper for sublimation?

You will indeed need special paper formulated just for dye sublimation. Regular printer paper is too absorbent. There are several brands from which to choose.

I’ve always gone with the cheapest and haven’t had a problem. When you load your paper into your Sawgrass, put the off white side up in the drawer.
10. Do I need special tape for sublimation?

YES, you will need a special tape that can tolerate the high temperatures used in dye sublimation. Do not use Scotch Tape. Purchase your heat tape from your sublimation vendor. There really are no substitutes.

Why do you need tape to begin with? Tape is cheap compared to the price of your substrates. More often than not, you will need tape to hold your design in place for pressing.

11. Do I need adhesive spray?

You’ve probably watched many YouTube videos demonstrating sublimation in which the demonstrator applies an adhesive spray to the paper prior to affixing it to the substrate. I’ve been in this business for 5 years and still have my original can of spray! I do use it occasionally when the paper wants to slide around. It’s well worth the cost. You only need a tiny bit and if it is going to save you from buying extra substrates, it is definitely worth it.

12. Do I need to purchase heat gloves from my vendor?

You will definitely need some kind of gloves to protect you from burns, however it is not necessary to purchase them from your vendor. As a matter of fact, I no longer use the gloves that came with my original bundle. They had rubbery (probably plastic) tips that would end up melting onto my substrates! I kept thinking I was doing something wrong with the press that
was causing black splotches on my items. It took me awhile to figure out what was happening.

Now I just use some winter mittens. Thick gloves would be better, but I haven’t been able to locate my gloves since we moved last year. I think I’ll invest in some new “sublimation gloves” this winter. Better yet, I’ll wait until winter apparel goes on clearance!

You will not need gloves for all items—just the ones that conduct heat. Talk to your high school science teacher about that!

13. Why do I need a lint roller for sublimation?

Sublimation is permanent. A lint roller will remove any tiny hairs or lint from your product prior to pressing. This is a necessary step because once the item has been pressed, any lint or hair that may have been present will leave little white spots when it finally does come away from the product.

Again, lint rollers are a very inexpensive investment that will save you from having to redo a product. If you plan to create pillows or other items from polyester fabric that you purchase from the fabric store, a lint roller is invaluable. Cutting the fabric will leave a lot of lint behind—especially if you purchase the really soft fuzzy microfiber (polyester) fabric.

14. What is the best graphic design software for sublimation?

If you already have a graphic design software you are comfortable with, stick with it while you are just starting out. The learning curve associated with Photoshop and Corel
Draw is huge. Both are amazing if you know how to use them, but if you are just starting out, I would recommend using what you know.

I have tried both Photoshop and Corel Draw because that is what was recommended by my friends in the business. I never did become fluent with either and went back to using Silhouette Design Studio. It prints beautifully and is simple for me to navigate. If you’d like to learn more about this topic, please visit my article How to Use Silhouette Design Studio for Dye Sublimation. How to Create a Mock-up Using Silhouette Design Studio is another helpful article that will teach you how to create and send professional looking mock-ups to potential customers.

Silhouette Design Studio by no means has all of the photo editing associated with Photoshop, so if you plan to do a lot with photos, it would be a good idea to purchase and learn such a program.

15. What is a vector image and do I need it for sublimation?

In most cases a vector image is not necessary for sublimation. To put it in layman’s terms, a vector image has no pixelation (tiny dots that make up regular SVG, PNG, and JPG images). Unless you need to resize your image or zoom in close to a part of the photo, you will not need to have it vectored.

I may be showing my age here, but I remember as a child using a magnifying glass to look at the comic strip pictures in the newspaper. Just reading the comics, I never realized the pictures were actually made up of tiny dots. The magnifying glass gave me a whole new perspective on how such art was created.
Digital art is not much different. If you zoom in too close to a photo, it will appear blurred. It’s all about the digital resolution. The higher the number in Google Images, for example, the more dots that make up the picture. The higher the number, the better the resolution.

If the photo or artwork you are using is of low resolution, you can pay someone (usually about $15) to vector your image.

16. What kind of ink is best for sublimation?

If you are using a Sawgrass printer, you will need to use only inks approved for it or you will void the warranty. Many people try to sidestep the closed ink systems (not refillable) thinking they are saving money. In the long run, you will find that closed ink systems are your best option. MANY problems are encountered when using open cartridge/refillable ink systems.

Although I have never actually tried the refillable inks, I HAVE seen enough issues and complaints on forums to form the opinion that they are just not worth it. The problem arises when contaminants from the environment, including miniscule air bubbles, make their way into your ink. The damages these contaminants cause can sometimes be reversed, but other times are irreparable.

Sublijet is a trusted brand in the industry. They make closed ink systems both for Sawgrass as well as Epson printers. If you are not convinced and still want to try the refillable ink cartridges, Cobra is a popular brand in the community.

17. Why can’t I sublimate on dark
colored garments?

It is not possible to sublimate on dark colored garments because there is no white sublimation ink.

Even pastel colored shirts will not produce perfect colors. As long as you are aware that white tees are the only ones that will result in true color prints, go ahead and experiment with the lighter colors. I often use a light heather gray shirt as an alternative to white.

The main rule to keep in mind is your shirt needs to be lighter than the graphic you are transferring. The darker the transfer, the better the turnout.

18. Can I make my own sublimation substrates?

It is becoming more and more possible to create your own sublimation substrates. The more we learn about the science behind sublimation, the more we, as business owners, are able to accomplish.

The easiest substrates to make are those made of fabric. Just drive down to your nearest fabric store and purchase pretty much anything polyester. If you enjoy sewing, the world is now your oyster! For those of you who do not sew, DO NOT attempt to use hot glue unless it is something that is done after pressing your images.

A company called DyePress Graphic Supply now sells some of the solutions used to coat wood, stone, ceramics, marble, glass, and even whiteboard for use in sublimation! That is exciting
news! They even sell a combo pack so you can test it all out and decide what you like best.

19. Where can I find cheap things to sublimate?

Remember, sublimation only works on polyester fabrics and items specially coated for sublimation. The easiest way to purchase sublimation blanks is to go to a vendor that specializes in sublimation. It can, however, be fun and sometimes profitable to experiment with locally sold items.

Walmart sells 100% polyester pillowcases that works great! I also found polyester bath mat that I sublimated for my own bathroom. I’ve written an entire post on some of the things I have tried to use in this market. Some worked, others, not so much! My fails will hopefully help you to be more successful. Check out my post: Super Cheap Sublimation Blanks: My Never Ending Quest.

20. How much should I charge for custom sublimation items?

Much consideration must be given in order to decide the best price point for your custom sublimation products.

- Where are you selling your items?
- How much time have you put into the process?
- What is your competition?
You will probably be able to sell your items at a higher price point in venues where there is little or nothing to compare your work. If you are the only person selling custom sublimation items at a craft fair, for example, people will see what you have to offer and pay top dollar for it if it. The down side to this is that it works best if you have all of the necessary equipment with you at the event. Most people do not like to wait for custom orders at craft fairs.

The exact opposite of craft fairs is Etsy. Etsy started out as a great way for local crafters to have a little side hustle. Unfortunately, it has become so over saturated that it is difficult to compete with people who have had stores on Etsy from the very beginning and have a good customer base already built up. If you do decide to give Etsy a try, I suggest googling everything you can about how to attract customers and keep them. You definitely want to be competitive with your prices, but keep in mind that lowest price does not necessarily win out.

Social media with your own online store may be the best way to go. You can promote quality products at decent prices. People will buy from you because they know you. Just don’t over do it. No one likes to see you on Facebook when all you are doing is trying to sell them.

A basic formula for deciding on price is:

\[ \text{wholesale} \times 2 + \text{labor and other expenses}. \]

Some of our unique custom items can go for higher that said formula. Just do a little research, see what the going rate is, and adjust depending on venue.

21. What is the actual cost per
inch of a sublimation print?

The actual cost of Sublijet ink for sublimation is 2.5 cents per square inch. Add that to the cost of the paper, about 14 cents per sheet for letter size and about 18 cents per sheet for legal size, to get the actual cost of the print itself.

So, if you are printing something that is 8×10 inches, that would be 80 square inches. 80 x 2.5 = $2.00 for ink plus 14 cents for the sheet of paper which would be $2.14 for the print itself.

22. Should I use butcher paper for sublimation?

In all honesty, I just recently began using butcher paper in my sublimation business. I had been using a Teflon sheet which I have since found out is a big no no! Teflon will block some of the heat from your substrate. You don’t want that. You need to use the exact temperature as indicated on the website from which you purchased your substrate. For a complete printable list of times and temps for Conde’s blanks hop on over here: Free Printable Guide for Sublimation Time and Temp Organized by Category.

Using butcher paper is a little cheaper that parchment paper. So, yes, I would recommend butcher paper for sublimation. It will also keep you from staining your heat press. Be sure to purchase butcher paper that is NOT coated with wax.