TECH TIP

# Tile Murals

## How-To

**Helpful Tips**

## So You Want to Make Tile Murals

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Article published in “The Sublimation Almanac Annual Report 2004”

The main reason I dove into the sublimation industry more than eight years ago was a photograph I saw imaged onto a ceramic tile. The clarity and color reproduction was so vivid, and the fact that the image was infused into the tile made it seem as though I had created a work of art that would stand the test of time.

Since that time, I have devoted my career to learn everything that I could about sublimation and to explore the endless possibilities that this technology can produce. Although sublimating full-color graphics onto substrates like mouse pads, T-shirts, plastics, metals and woods is indeed impressive and still amazes me the way people market these products, my true passion was to further develop this technology for use on ceramic tiles.

Today, I have my own tile imaging business and have produced over 7,000 square feet of murals that are installed in residential and commercial spaces throughout North America. Getting to this point was not an easy journey. There was a lot of trial and error and many dumpsters full of tiles that will never see the light of day. For this reason, I would like to share some tips on imaging tiles in hopes that you can spend more time on marketing your tile products rather than remaking them.

### TILE SELECTION

There are a wide variety of tiles available today for sublimation. Thanks to the continuing efforts of companies like US Photo Coatings, specialty coatings have been developed to enable us not only to sublimate white ceramic tiles in either a gloss or matte finish, but now we are imaging tumbled stone, porcelains, mosaics and most recently, glass.

When selecting a tile body for a particular application, keep in mind that not all tiles will work in all applications. For example, I would never use a glossy coated tile in a water application such as in a bathroom or kitchen. Glossy tiles are prone to scratching and will not hold up under heavy or constant cleaning. I primarily use a glossy tile for framed art, tile boxes or simply as a display mural that will not be grouted and will be placed high on a wall.

# TECH TIP

**Here is a brief description of optional tile choices:**

**Glossy Finish**: Provides a brilliant canvas for best artwork and photo reproduction. However, it is susceptible to scratches and not recommended for surfaces which require frequent cleaning.

**Satin Hard Coat/Matte Finish:** Provides a custom tile mural that is highly resilient and scratch resistant. This tile is recommended for vivid photo reproduction that can be used in showers, and backsplash applications.

**Satin Porcelain**: An off-white tile that generates a more muted or artistic color reproduction. Recommended for all water applications and outdoor use where freeze/thaw is an issue.

**Tumbled Stone:** A flat stone finish that presents any art or image in an old-world fashion. Tumbled stone must be sealed if used in a water application.

**Glass:** Glass offers such diversity in its use. The glass is imaged on the backside so durability is not an issue. The coating on the backside is waterproof so it can be used in swimming pools. The surface texture has been tested for commercial floor applications and passed. These new glass tiles can be used anywhere! Showers, countertops, walls, floors, inside, outside, and we are even using them in framed murals and boxes which gives some artwork an incredible effect.

## IMAGE SIZING AND PRINTING

This is an area that I would like to touch on lightly, as graphic design, computers, printers, sublimation dyes, software programs and equipment for enlarging images could warrant its own article, and everyone has their own personal preferences. With that said, there are a few guidelines that you do want to keep in mind.

1. Do not forget to reverse the image when you are printing on the topside of a tile.

2. You do not reverse the image if you will be transferring on the back of glass.

3. File resolution should be 300 dpi when the image is at full size. This is important to remember. Some images, especially photographs, can only be made so big before they start to lose their resolution. When you need to enlarge an image that will be larger than its useful size, you may need to take the image/photograph to a specialty lab and have it professionally scanned. We once made a 19 ft x 9 ft (171 sq. ft.) mural from an 8”x10” photograph. The image was just as sharp and clear as the photograph we started with. There are also a wide variety of software programs available to help enlarge images.

4. Always allow a little bleed over when printing the transfer. This is especially true if you are using a tile with a rough edge such as tumbled stone. The image needs to wrap around the edges and corners to insure that it has a finished look.

5. For best quality and color reproduction, print at 720 dpi. You should always check with you ink supplier for print environment recommendations.

6. If you are making a mural that is larger than your printer's size capability, break the image up into sections. There are several software programs that are designed for this purpose that should be available through your sublimation distributor.

## HEAT TRANSFERRING TILES

Temperature, time and pressure are the key to successfully imaging a tile. There are several variables that can affect the outcome of this process.

**Heat Press:** The selection of a proper heat press is important. If you are serious about imaging tiles, you will want to have a press that has a straight up and down closing mechanism. Clamshell-type presses tend to roll over the edge of the tiles; that can cause uneven pressure. I use several different models of Geo Knight heat transfer presses, depending on what size mural I am making. It is also important to make sure that your heat press is properly calibrated. I have seen heat presses before that had cold spots in the heat platen that will never image a tile properly. You should check with your heat press manufacturer or distributor for the best way to have your press calibrated.

**Setting Up The Heat Press**: The question I get asked the most is, "Do I transfer my tile face up or face down?" I transfer all of my tiles face down for several reasons.

If you are transferring your images face up (meaning the transfer is face down on the tile), you have to tape the transfer to the tile so that it will not move and will stay aligned. This can be time consuming and only allows you to print one transfer per tile. Additionally, you must use a piece of high temp silicone rubber on the top so that the transfer will be wrapped around the edges of the tile.

When transferring face down, the transfer is placed face up in the heat press, and the tile or tiles are placed face down. This enables you to properly align the tile on the transfer. Depending on the size of your heat press, you can image an entire mural in one pressing.

On our heat presses, we have a layer of 1/2" Nomex high temperature felt on the lower platen. When pressure is applied, the tile is pressed down into the felt and wraps the image around the tile. The felt also helps press the transfer into uneven areas of the tile. This is especially helpful when imaging a rough surface like tumbled stone. Nomex felt come in several sizes and thickness. They are available through Geo Knight & Co.

**Pressure:** Applying the correct amount of pressure in a heat press has always been a bit confusing. Too little pressure and the dyes might bleed; too much pressure and you might break the tile.

# TECH TIP

**Manual Heat Presses:** Depending on the model of manual heat press, finding the correct amount of pressure is done by feel. This can be achieved simply by testing. I recommend printing several transfers of the same image and trying different pressure settings until the results are satisfactory and you can learn the feel of the press. Make sure that you set-up the press the same way every time so that you always get the same results.

**Pneumatic Heat Presses:** To achieve the most consistent results every time that you press tiles, I highly recommend a pneumatic heat press. This type of press can be set so that the same pressure is applied to the tiles each time. We operate two 48” x 72” Geo Knight Triton presses and one 20” x 24” Geo Knight shuttle press. These presses are set at 30 - 35 psi of closing force.

**Temperature And Time:** Transferring times can vary depending on which manufacturer’s ink you are using. Most distributors can recommend the approximate times for a single tile, but keep in mind there are variables to consider. Most all tiles are transferred at 400 degrees F.

Most people experience difficulty transferring images in the winter. Having the tiles and transfers at room temperature generally sets recommended transfer times. In the winter, tiles are sometimes stored in areas that are not warm. A tile that may have transferred just right at six minutes in the summer may need to be in the press for an additional minute in the winter. If you do not get the tile to the proper temperature, the sublimation process will not be complete. When tiles are cold, I recommend placing them on the heat press lower platen (without closing the press) and letting them warm up.

Also be aware that if you press multiple tiles at one time or large single tiles, you will need to increase the transfer time. When a large area of tiles is closed in the heat press, it robs the heat from the heat platen. The temperature of the press will drop several degrees, and the heating element will come on to increase the heat back to 400 degrees.

We use Artainium UV+ sublimation dyes. When imaging a mural (12” x 18” using six 6”tiles) that we will install into a frame, it is transferred for approximately 12 to 13 minutes depending on the surrounding temperature. If we press two of these in the press at the same time, the time will be increased by one to two minutes.

**Here are some other transfer tips:**

1. Tumbled stone and porcelain tiles require more time in the heat press because of their thickness and density.

2. If tiles are coming out light or faded around the edges, you either need to increase the transfer time or make sure you are using a pad to wrap the image around the edge.

3. If you are pressing a large mural in sections or a large quantity of single tiles, always print all of your transfers at the same time. This is the same for when you are pressing. Try to press all of the tiles the same day. If you want the image to be consistent from beginning to end, you want to make sure you have the same conditions. Moisture, temperature and other meteorological conditions can change the output of your images from day to day.

## MARKETING

Pricing of your murals is an important part of marketing tiles. I bring this up only because I have seen several companies not charging enough for these custom products. When you start making murals for installations in an architectural environment, you better make sure that you are using the BEST substrates available for the application.

Tile bodies such as tumbles stone, porcelains and the new glass tiles cost more than the traditional white ceramic tiles. Therefore you must calculate into your pricing these increased costs and the possibility that mistakes will be made while imaging the tiles. My company probably has more experience in making tile murals than most and we still screw things up from time to time.

It is my hope that some of these tips will help people become more successful in imaging tiles. The market for custom tile murals is incredible. There has been a substantial growth of awareness of these products in the architectural and interior design industry. Again, with the ongoing efforts of people like Rich Neely of US Photo Coatings whose continuing efforts have helped develop coatings for products like the recently released glass tiles for commercial floors, and counter tops, the possibilities are endless.