

Justin Rothshank
www.rothshank.com | justin@rothshank.com

CERAMIC DECAL RESOURCES

Ceramic Decal Vendors:

www.milestonedecalart.com

www.foragestudios.com

www.glaserceramics.com

www.ebay.com

www.harbon.com

www.olympiadecals.com

www.instardecals.com

www.held.co.uk

Color and Monotone Ceramic Decal

Printers:

Enduring Images

www.ceramicprinting.com

Firing Temperatures:

In my experience most iron transfer decals fire permanently onto pre-glazed ware at cone 04 when using glazes that mature at cone 6 and higher.

Most glazes that mature at cone 04 will accept iron decals fired to cone 06.

Most commercial decals, decals from easyceramicdecal.com, and most chinapaints and lusters fire to maturity between cone 015 and 017.

Good books and resources:

Digital Decals for the Ceramic Artist - By Michaelann Tostanoski

Graphic Clay - By Jason Bige Burnett

Image Transfer on Clay - By Paul Andrew Wandless

Ceramics and Print - By Paul Scott

Ceramic Transfer Printing - By Kevin Petrie

FAQs

Q: I printed my decal, and soaked it, and can't get it to stick to the side of my piece. It even seems to be disintegrating in the water. What did I do wrong?

A: You probably forgot to pull off the protective sheet of tissue paper before you printed. Pull it off and throw it away and remember that you are not the first person, or even the second, to ask me this question!

Q: The decal rubs off after I have fired it. Why?

A: You didn't fire hot enough. Put it back in the kiln and try going a bit hotter.

Q: The decal is washed out, or disappeared after I fired it. Why?

A: You went too hot. Try going a bit cooler next time...OR...You used the wrong printer. Is it an HP? Does it only print black ink?

Q: How do you get black with a laser toner decal?

A: I don't. You probably saw pictures of my work in process, before the decal was fired on. Laser toner decals only fire to sepia (iron spectrum) colors.

Q: How do you get all the bright colors with a laser toner decal?

A: I don't. See above.

Q: But your pieces have color decals? How do you do that?

A: I use color ceramic decals, fired to a totally different temperature, sourced from a different source, and NOT printed with a laser printer.

Q: I looked at the HP website for the MSDS sheet about my toner cartridge. Iron oxide is not listed as an ingredient, but you said it was?

A: Iron isn't always listed exactly. Sometimes its ferric or ferrous or some other word beginning with Fe, which happens to be the symbol for iron on the periodic table of elements.

Q: I have heard that decals wear off, especially if you put them in the dishwasher. Is this true?

A: The short answer is no, the decals will NOT wear off. Laser toner transfers are made of iron. They work just like iron oxide. If you fire them PROPERLY, they will be fired INTO the glaze. They will NEVER wear off.

Commercial decals are fired on top of glazes to slightly lower temperatures than iron toner decals. If you fire them on properly, they will not wear off in your lifetime, and probably never. However, if you use a piece with commercial decals EVERY SINGLE DAY, and wash it with a brillo pad EVERY SINGLE DAY, and put it into the dishwasher EVERY SINGLE DAY, you might begin to rub off the decal after several months or years. However, under normal, periodic use and care, even commercial decals, when fired properly, will likely never come off.

Firing Schedule for Iron decals

These are firing schedules that I use for iron decals in my electric kiln. I have tested these temperatures for success with my kilns, glazes, and clay bodies. I suggest you test these temperatures with your own kilns, glazes, and clay bodies BEFORE committing to the process. I use a PREPROGRAMMED SLOW FIRING CYCLE for all firings.

After applying an Iron transfer to GLAZED EARTHENWARE I refire the piece to cone 09/010 to "set" set the decal. I fire on the SLOW setting.

After applying an Iron Toner transfer to GLAZED OR ATMOSPHERIC FIRED STONEWARE OR PORCELAIN I refire the piece to cone 04. I fire on the SLOW setting.

If you fire in these ranges and don't find succes, see my Decal FAQs sheet for troubleshooting ideas.

Firing Schedule for commercial decals and lusters

Let your decals dry at least 12 hours before firing. You can push this time but be ready for decal imperfections. Decals that aren't dried are prone to bubble and adhere incompletely.

Vent the kiln well during the firing -- especially from room temperature up to 1100°F. Having a vent master and room vent can be helpful. Also be sure the ductwork from your kiln vent to the outside is tight. Poor ventilation can cause a cloudy appearance on the surface of the fired decal. It can also cause pinholing and other glaze defects. Smells from decal firings can be very unpleasant.

--fire 200°F per hour to 220°F and hold for 30 minutes.

--then 300°F per hour to 500°F and hold for 20 minutes.

--finally go 400°F per hour to 1402°F and hold for 12 minutes.

Repeat firing as necessary to achieve layered decal effects.

RECIPES

Flashing slip (cone 04-10):

Grolleg- 50

Tile 6 -- 20

EPK -- 20

Flint -- 10

Darby Satin Liner Glaze (Cone 04-6):

Spodumene - 4500

Gerstley Borate -- 3600

Silica -- 1900

Darby White Liner Glaze (cone 04-6):

Spodumene -- 4100

Gerstley -- 4000

Silica -- 1900

Zircopax -- 500

Titanium Dioxide - 500

Soda Kiln Wadding

By Volume:

1 part EPK

1 part Alumina

Wood Kiln Wadding

By Volume:

2 parts Fireclay

2 parts sand

2 parts sawdust

1 part EPK