

Molds

MOLDS

Most kilnformers start by purchasing molds made specifically for slumping glass. These are made from a high grade of clay that will tolerate the dramatic temperature changes of repeated kiln firings. You can make molds from raw clay or use “greenware” that has been fired to bisque. This is more fragile than commercially made molds and can’t be used as many times, but is considerably cheaper and works fine. Be careful about shapes. Not all shapes appropriate for creating ceramic pottery are suitable for slumping glass. Molds made for slumping glass have holes in the bottoms to allow air to escape when the glass slumps. If you buy other molds (or make your own), make sure you drill holes. Also, make sure the vent holes aren’t sitting on the kiln shelf. If your mold doesn’t have side to keep the vent holes elevated, prop it up with kiln posts.

Stainless steel is the best material for molds. Regular steel will spall when heated in a kiln with bits of black metal flaking off like a kind of metallic dandruff. If you have a mold design you expect to use a great many times, it’s worth investing the extra cost to buy stainless steel molds. Just about anything made from stainless steel can be used as a mold. Cheap sets of salad bowls are great for slumping, and a stainless steel cocktail shaker makes a great vase draping mold. Pieces of sheet material can be welded or riveted together to make interesting slumping or draping molds.

You can also make molds from a mixture of 50/50 silica flour and pottery plaster or any of a variety of compounds made specifically for making glass slumping molds.

PREPARING MOLDS

Molds must be thorough coated with kiln wash to prevent glass from sticking to them. Start by making sure they are thoroughly clean. When you buy a new mold, take care to avoid handling it. Skin oil can be absorbed by the clay and make it difficult to get the mold to hold kiln wash. This is especially so with bisque-fired greenware. Apply at least 5 coats of kiln wash the same as for kiln shelves. If you handle the kiln-washed molds carefully and don’t scratch or otherwise damage the coating of kiln wash, you can reuse them dozens of times without recoating. Firing to fusing temperatures will cause kiln wash to deteriorate, so it’s necessary to keep reapplying it after fusing, but firing only to slumping temperatures has considerably less effect on the kiln wash. Both the molds and the kiln shelves can be continuously

reused – until you can visually see deterioration of the kiln wash.

It can be difficult to get kiln wash to stick to smooth steel molds. It’s necessary to do something to rough up the surface. Sandblasting it with fine grit sand is a common way to do this. Also, if you’ve salvaged something to use as a mold (like a stainless steel

salad bowl) it probably has a coating of oil from repetitious handling. Here’s an easy and effective way to get kiln wash to stick to stainless steel.

- 1. Scrub thoroughly with SOS pads. They’ll remove any oil and slightly scour the surface.*
- 2. Scrub thoroughly with 100 grit sandpaper to produce a “cross hatch” (scratched vertically and horizontally). You want to get a uniformly scratched surface. It doesn’t have to be deep scratches, but it must be scratched.*
- 3. Heat up the mold, then apply kiln wash. You can heat it by placing it in your kitchen oven, or by heating in your kiln. My favorite method is to just place it on the lid of the kiln while the kiln is firing. It’ll get hot enough that the kiln wash will dry on it almost as fast as you apply it. That’s good. Be patient. At first, the kiln wash will appear to not adhere and just run off. Just keep putting more on until the mold is completely covered. The kiln wash will run down the mold, so to avoid getting it on your kiln lid, you might want to put down an old plate or a piece of tin foil.*

USING MOLDS

Always check to see your mold is clean, adequately coated with kiln wash, and the vent holds haven’t been plugged with kiln wash. If you’ve brushed on the kiln wash, there will be ridges left from the brush bristles. You can smooth these out by rubbing it with your finger tips, with a smooth dry sponge, or a piece of panty hose. Aren’t you glad to have discovered a practical use for panty hose with runs in it?

CLAY or METAL

Clay molds should be used for slumping into, and stainless steel for draping over. If you slump into a metal mold, the heated metal will cool quicker than the heated glass and can either cause the glass to crack or press so firmly against the glass, you won’t be able to get them apart. Metal other than stainless steel should not be used for molds.