

Inlaid Concrete

How could something like this...



...ever turn into something this?

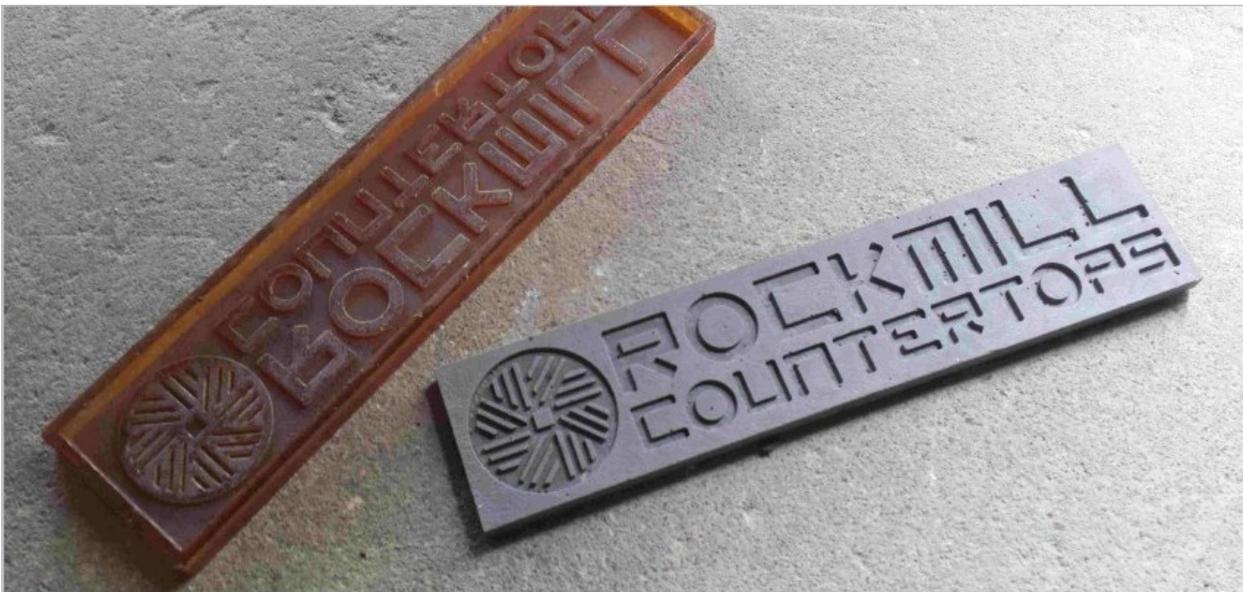


It seems magical. But unlike magicians, here at RockMill we're happy to take you backstage and show you what it takes to make the "wow" moments happen.

First Steps

Nearly every project begins with a pattern. It's the blueprint we follow and it shows the dimensions and characteristics of the finished piece. When we're happy with the pattern, we transfer it to a mold that will hold the concrete.

To make inlaid concrete, we adjust the pattern so that hollow areas (also called "negatives") are left in the concrete piece after we pour it into the mold. We do this by creating raised areas ("positives") in the mold. The liquid concrete flows around those raised areas, so when it hardens and we pop it out of the mold, empty spots are left where the mold used to be.



The raised lettering in the mold are positives. The result is negatives in the hardened concrete.

Roughing It Up

One of the cool things about concrete is that it's possible to add new material to existing, hardened concrete. This is essential for the inlaying process. But it isn't as straightforward as dumping a bucket of wet material into the negative spaces and swiping it all flat with a trowel.

If you took polished concrete and poured some more concrete on top of it, the bond between them would be very weak, because there would be hardly anything for the new concrete to grip onto. The surface needs to be prepared so that old and new will become one.

We do this by spraying the negative spaces with muriatic acid. This roughens the surface and creates lots of spots for the new concrete to interface with. After the acid has done its work, we wash it away and let the concrete dry.



This bar top has already been ground flat. Note the pattern of tessellated crosses. After applying acid to the negative spaces, Alyre scrubbed every single cross with a small brush, to make sure acid reached all corners.

Back for Seconds

It is now time to mix a new batch of concrete, which we carefully pour into the roughened negative spaces.



We purposefully over-fill the negatives. When the concrete cures and shrinks, just the right amount of material will remain. If it looked perfect when wet, it would be full of holes when dried.

Finishing Touches

When the second layer has cured we grind it flat. This exposes sand grains in the concrete and reveals the seamless edge between the two colors. It also exposes small bubbles that were trapped in the wet concrete. These are natural and expected, and we get rid of them by grouting the surface.



Dark grout for the dark areas and light grout for the light areas.

When the grout has set up it is time for more grinding. After a combination of machine grinding and using hand-pads to get everything properly smooth, we thoroughly wash the piece and let it dry.



Inlaid, grouted, ground, and ready for sealer.

It takes a lot of attention to detail and hard work to make inlaid concrete. The great thing is, all that work shows up in the finished product. And with this technique, the possibilities are limitless.



Inlaid concrete octopus. Please note that no actual cephalopods were harmed in the making of this piece.