

Give a Custom Look to a Common Sink

You can mount an inexpensive sink under a laminate counter if you cast an epoxy rim

BY STEVE LOCKHART

People like undermount sinks for their good looks and ease of cleanup. They're more expensive than standard sinks, though, and they typically need to be installed in expensive countertops such as granite, solid surface, or butcher block. I combined my skills as an engineer, inventor, boat builder, woodworker, and ultracheapskate to devise a way to mount an inexpensive self-rimming stainless-steel sink under a laminate countertop.

The process involves casting an epoxy rim into the countertop to which the sink mounts. The rim protects the cut edge of the laminate counter, and it looks great to boot.

A sink-shaped template for the epoxy channel

I use ¼-in. hardboard to make a template for the sink cutout. The template should be ⅛ in. wider on each side than the sink cutout to allow room for a bushing and router bit. This extra space will place the inner edge of the epoxy channel just inside where the sink will be. After the epoxy sets up, I trim the rim to its exact size.

I used to use coffee cans and other miscellaneous objects I had lying around to

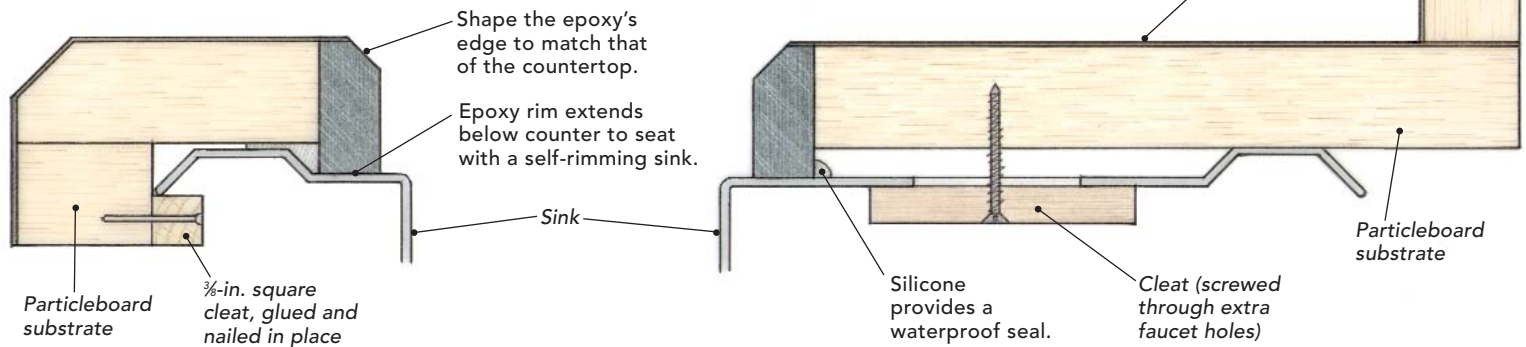


Keep the profiles consistent. You can enhance the sink's custom look by chamfering the epoxy rim to echo the edge of the countertop.



EPOXY PROTECTS THE RAW EDGE

An epoxy rim cast into the edge of the sink cutout protects the particleboard substrate from water damage. This rim is created by routing a channel into the underside of the counter. The channel acts as a mold for the epoxy. A standard self-rimming sink then is mounted under the counter with wooden cleats.



approximate radii for templates, but I've come up with a better method: I trace the sink's contour exactly on masking tape applied to the sink where the epoxy rim will be. I then move the tape from the sink to some pattern stock and measure the radius.

I cut the template carefully because it steers the router. For the straight cuts, I use a straight-edge to guide the router. For the rounded corners, I cut inside the line, then sand to the line with an oscillating spindle sander.

Use the sink to place the template

In my own kitchen (photo facing page), I laminated the counter, but as the step-by-step photos attest, the undermount process will work with post-formed countertops, too; just raise the template to the height of the counter's rim.

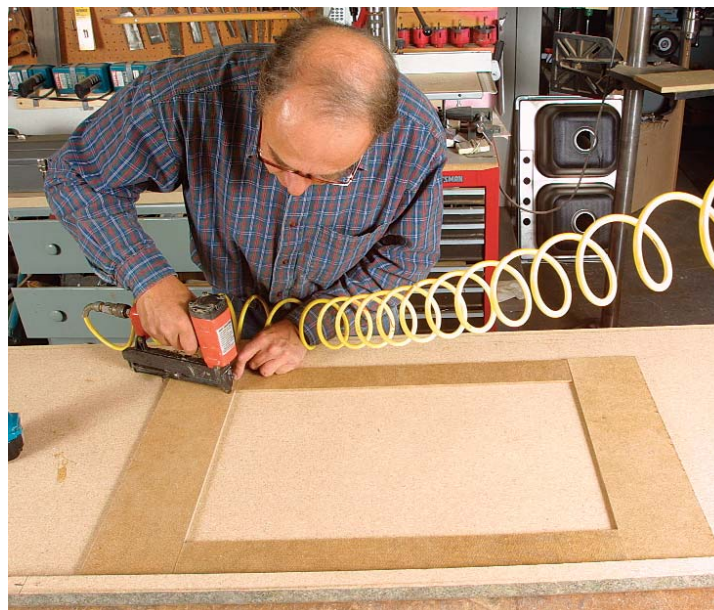
Placing a sink is easy on a post-formed countertop. With the counter flipped top down, slide the sink against the counter's front lip. Position the sink side to side wherever you want it, then mark its outer edges. Use these marks to line up the template (photo top right).

To seat properly, the epoxy rim must protrude below the counter's bottom. About $\frac{1}{4}$ in. is plenty. To get this extra $\frac{1}{4}$ in. of epoxy, you need to build up the counter's substrate (I call this a sacrificial dam; photo bottom right), then rout the channel through both the dam and the counter.

Because the channel for the epoxy is cut with a router, some support inside the sink-cutout area helps accuracy tremendously by allowing the router to sit flat. Tipping the router by mistake can send the cutting bit off the right path and you back to the lumberyard for a new countertop. I use the leftover template cutout (which I cut down further)



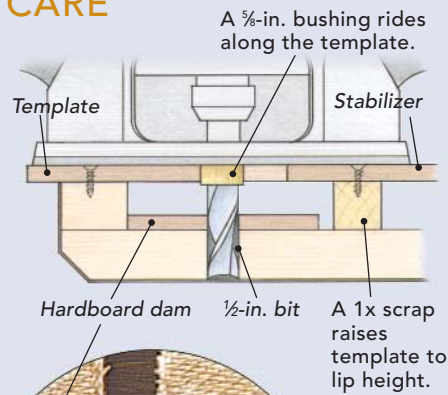
One template guides many cuts. To cut the channel for the epoxy rim, the author uses a hardboard template to guide the router. The template must be placed carefully because it also guides the final sink cutout after the bushings on the router are changed.



Hardboard raises the epoxy mold. Because the epoxy needs to extend below the countertop's bottom (drawing above), the author builds up the particleboard with scraps of hardboard. He then routs through the hardboard and particleboard to the laminate surface to form a channel for the epoxy. The hardboard is affixed with silicone, and it is fastened with brads.

CAST THE RIM WITH CARE

Use repeated passes to rout out particleboard until the laminate is visible. Stability and depth of cut are crucial. The outer piece of hardboard, the template, guides the router, and the inner piece stabilizes it. On a post-formed countertop, you need to raise the template and stabilizer to the height of the counter's front lip. Level the countertop, pour the epoxy, and then flatten the bottom of the epoxy using the same router setup.



Don't cut too deeply. Use a combination square to set the final depth of the router bit.



Bottom surface of laminate



Being neat isn't as critical as being level. Fill the canal to the top of the hardboard dam with epoxy. It's OK to spill a little. The 1x scraps raise the worksurface to the height of the counter's lip.

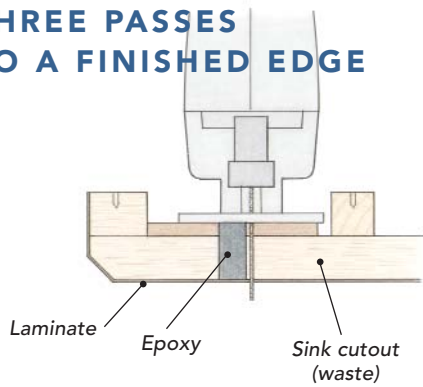


Machine the epoxy rim flat. Despite meticulous leveling, the top surface of the epoxy will have slight variations due to bubbles rising to the surface. The same bushing/bearing setup will cut it flat.

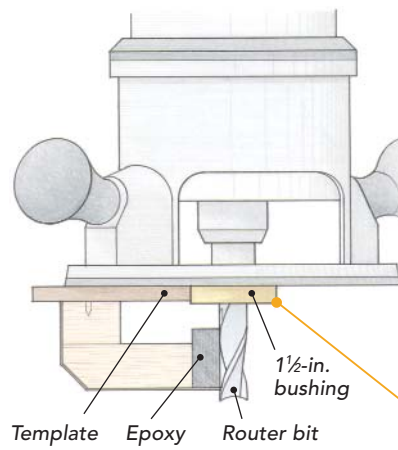


With the rim cast and machined flat, the whole setup is ready to dismantle. The 1xs can be unscrewed, and the sacrificial dam can be chiseled off. The center can be roughly cut out with a jigsaw.

THREE PASSES TO A FINISHED EDGE

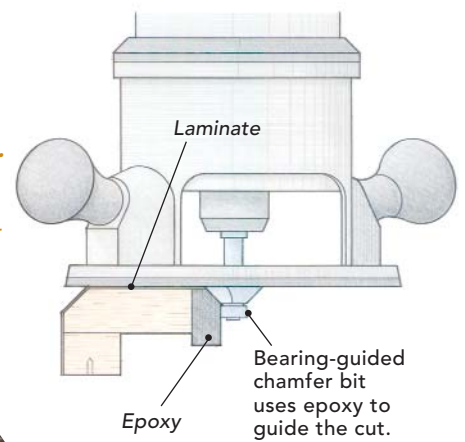


- 1 Remove most of the sink cutout with a jigsaw. Leave about $\frac{1}{8}$ in. to clean up with a router.



- 2 Use a larger bushing with the router bit to clean up the epoxy edge.

Custom bushing. Made with hardboard and a disk sander, the bushing press-fits over a brass bushing and is held secure with double-sided tape.



- 3 Flip the counter over and contour the top edge with a bearing-guided router bit.

and raise it up with more 1x scraps to the same height as the template.

I don't use a plunge router to cut the channel, but it probably would remove some risk from the process. Instead, I simply angle the bit in from the side that will be cut out later (inside the sink cutout), with the bushing firmly against the template.

The channel's width, and ultimately the epoxy rim, will be the same size as the router bit. I've found $\frac{1}{2}$ in. to be good. I use a spiral straight-cutting bit to cut the channel. The bushing should be slightly bigger than the bit, or $\frac{3}{8}$ in. This step is the most critical part of the job. The router must not break through the laminate. Ideally, you'll see the glue pattern on the bottom of the laminate but not cut into the laminate (inset photo top left, facing page).

Pour the epoxy rim, then cut it to the exact size

If you've made it this far without going back to the lumberyard, congratulations! The hard part is over. Now you just need to remove the template, level the countertop, and fill the channel with epoxy. I use West System epoxy (www.westsystem.com; 989-684-7286) because that's what's available at my local hardware store, but other epoxies probably will work. Mix thoroughly 1 quart of West System 105 resin with an appropriate amount of 206 hardener and color tint. I use black tint, but white and gray also are available. I prefer slow-curing epoxy because fewer bubbles occur, making the finished product more even.

Regardless of how slowly the epoxy cures, there are bound to be some bubbles rising, so I machine the top surface of the epoxy flat with the same router setup I used to cut the channel—only the bit's depth is changed.



Finishing the hole from above reduces tearout. When the bit pokes through the laminate, flip it over and finish the cut from above. Screw cleats through extra faucet holes.



Reattaching the template is easy because I use the same screw holes. Remove the template again, and roughly cut out the sink opening with a jigsaw. Stay about $\frac{1}{8}$ in. inside the epoxy rim. Then, using a larger bushing, trim the opening to its exact size (drawings above).

Rather than using my nice woodworking chisels to pry and scrape off the sacrificial dam, I use a beat-up chisel. Next, I flip the counter right side up and sand the edge with 220-grit sandpaper to remove the machining marks. Finally, I contour the edge using a chamfering or roundover bit.

Use the sink as a template to cut holes

Securing the sink in place and using it as a guide for cutting the faucet hole reduce the

chances for error. Glue a cleat to the front edge of the counter (drawing p. 65), run a bead of silicone caulk around the epoxy rim, and then angle the sink into the front cleat. Next, secure the sink with cleats for the sides and rear of the sink, then cut the faucet hole with a hole saw through the center faucet hole in the sink (photos this page).

The resulting setup is attractive, durable, and inexpensive. The first one I completed has been providing leak-free service for more than two years. □

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