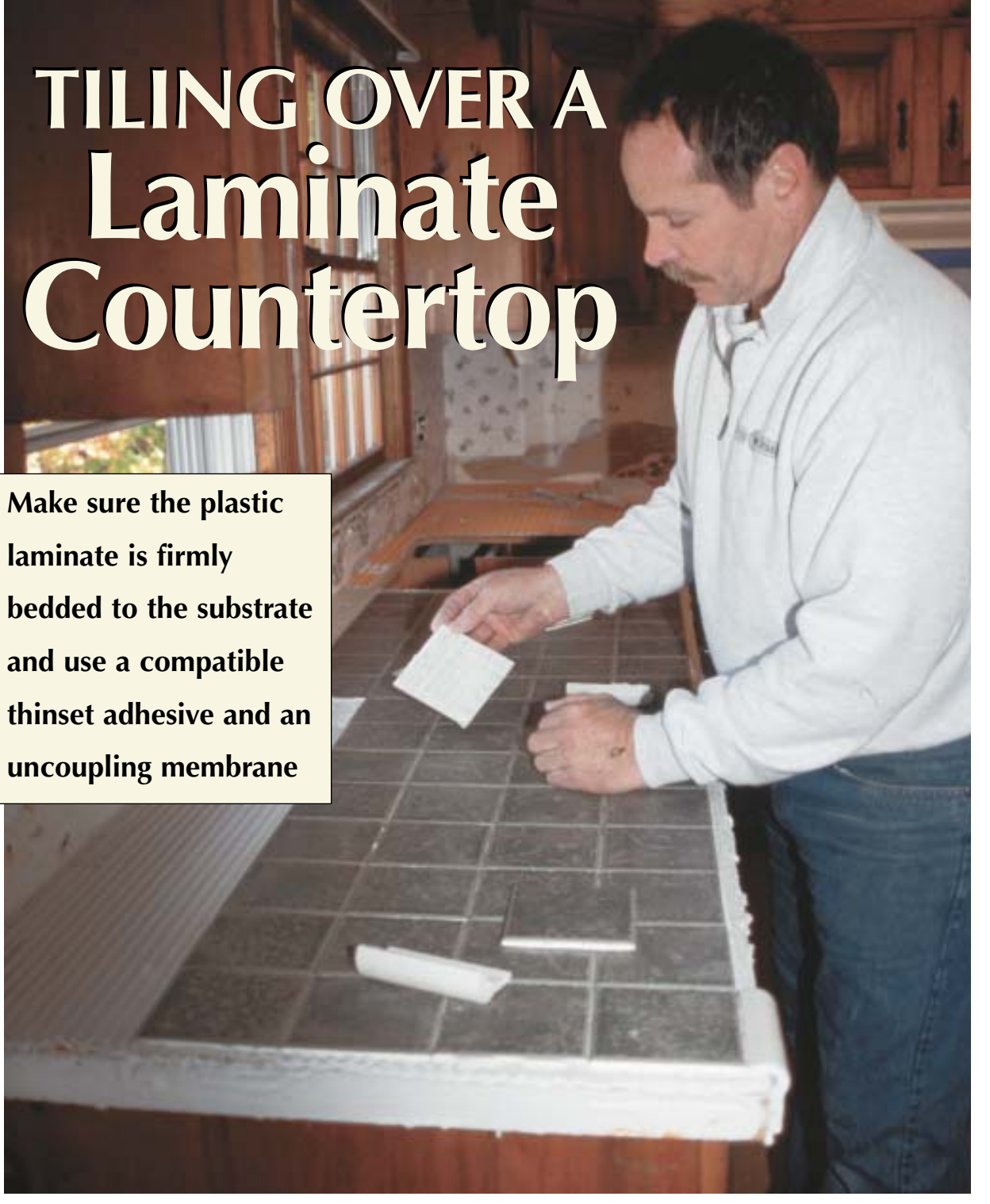
TILING OVER A Laminate Countertop



Make sure the plastic laminate is firmly bedded to the substrate and use a compatible thinset adhesive and an uncoupling membrane

by Tom Meehan

Not every kitchen remodel requires a pull-and-replace approach, especially if the existing cabinets are in good shape. Where that's the case, a nice-looking tile job can be a cost-effective way to dress things up. In the project described here, I transformed the entire look of a kitchen in less than two days by covering a tired plastic laminate countertop and a wallpapered backsplash with ceramic tile.

Because the homeowners had just installed new vinyl flooring the week before, my first move was to protect the floor with a layer of cardboard. I also set the stove and sink aside, out of harm's way.

Preparing the Countertop

It's possible to tile directly over well-bonded old laminate, but I prefer to make my countertops bulletproof by adhering an uncoupling membrane over the substrate. That does take some added effort, but it's still a lot easier than ripping out the old counter and building a new plywood substrate.

Applying the thinset bed. After

Figure 1. The existing laminate countertop is roughed up with an electric grinder to provide a good bonding surface (above). There's no need to leave grind marks on every square inch, but the entire surface should be liberally scratched up (above right). A uniform coating of latex-modified thinset cement is then spread and combed out with a V-notch trowel (right).

pulling off the existing laminate self-edging, I roughened the smooth surface of the laminate with a grinder to allow the thinset cement to bond to it effectively (see Figure 1). As recommended by the manufacturer of the uncoupling membrane, I then used a 3/16-inch V-notch trowel to lay down a uniform layer of bonding mortar. The D-50 Flexible Thinset Mortar I prefer (Durabond, available from Bostik Findley, 888/592-8558, www.bostikfindley-us.com) is latex modified and formulated to adhere to many types of surfaces. But because the quality of the thinset bond depends on a mechanical interlock between the mortar and the surface of the substrate, I prefer not to set tile in thinset applied directly to laminate. Local variations in texture mean that the bond strength is likely to vary from one tile to the next.

Roll out the membrane. An uncoupling membrane does away with that uncertainty. Ditra mat, the material I use for this application (Schluter, 800/472-4588, www.schluter.com), is a waterproof polyethylene sheet that has a fleece-like material on one side and a grid of undercut square cavities on the other (Figure 2, next page). The fleece underside forms a reliable, uninterrupted bond with the underlying laminate, while its exposed face presents a waffle-like surface designed to lock onto the hardened thinset mortar that holds the tiles.

Ditra's primary application is under floor tile, where it prevents transfer of

Figure 2. Precut sheets of textured polyethylene membrane go on over the cement (above left) and are bedded firmly in place with a wood float (above). An edge view of the proprietary membrane and dry-fitted pieces of tile and nosing reveals the undercut profile of the square depressions, which makes for a solid mechanical bond between the membrane and the layer of cement that will later accept the tile (left).

stresses from substrate movement and diffuses vapor pressure by way of interconnected, open air channels in its underside. Tiles bonded to the mat perform as a cohesive unit, independent of the substrate. Ditra can also be used in place of backerboard when a tile counter is applied over particleboard or plywood, in which case it eliminates a major cause of countertop failure by preventing moisture from penetrating to the substrate. The mat is about 1/8 inch thick, comes in a roll 1 meter (39 inches) wide, and costs about $3 per square foot installed. The countertop is ready for tiling as soon as the mat has been rolled out and bedded firmly into the base layer of thinset with a wood float.

Setting the Tile

The first step in preparing a bonding bed of thinset over the Ditra is to use a flat steel trowel to completely fill the square recesses in the surface (Figure 3, next page). Once I've filled the mat, I add more thinset and spread it with a 1/4-inch square-notched trowel.

As in applying the thinset bed beneath the membrane, I make a point of combing the mortar into a uniform pattern of parallel ridges. This is added

Figure 3. Once the tile layout has been fine-tuned (left), more thinset is troweled into the waffle-patterned surface and onto the exposed edges of the countertop, which were previously stripped of their laminate self-edging (below).

insurance against bond failure, because the open ridges provide uniform support and prevent the formation of air pockets. All this takes a lot of cement — plan on using about half again as much as you would use in a similar installation without the mat.

Counter tile and nosing. After troweling more thinset onto the exposed countertop edges, I'm ready to begin setting tile (Figure 4, page 6). Whenever possible, I like to start my layout with full tiles at the edges and ends of the counter, and that's the approach I took with this L-shaped kitchen (see "Layout Tips," next page).

To install the nosing pieces, I first coat the substrate, then generously back-butter each piece with thinset to ensure complete embedment. I take extra care with this step, because poorly aligned nosing can make an otherwise well-done installation look sloppy. The best way to keep everything in line is to eyeball the trim lines as you do when selecting lumber for straightness. There's more than enough time to tweak the lines after initially bonding the tile, so there's no excuse for gross irregularities.

The nosing pieces also have to withstand more abuse than any other area of the countertop. If they're properly set to begin with, they'll never loosen, but there's a good chance that one or two edge pieces will be chipped by accidental impact somewhere down the line. I always order a few extra pieces for the job and tell my client to label them and store them in a safe place, so they'll be available when the original style or color has been discontinued.

Installing the backsplash. The tile backsplash in this kitchen matched the

Layout Tips

Few countertops can be laid out evenly with full-size tiles, and the job described here was no exception to that rule. The left-hand leg of this L-shaped kitchen held the sink and was otherwise open ended, while the also-open right-hand leg was interrupted by the stove (see drawing below). I started the left-hand layout with a full tile at the open end — spaced in to allow for an edge nosing tile — and began working toward the sink cutout. At the same time, I placed another full tile at the inside corner and began working in toward the sink from that direction.

Where the lines of tile overlapped at the sink cutout, I found that I had a couple of inches of excess tile to account for. So I trimmed a slight amount from each of the backsplash tiles and the same amount from the corresponding narrow strips of tile in front of and behind the sink. To make sure the sink lip would conceal the cuts, I had traced the border of the sink with a felt-tip marker before removing it.

I approached the layout of the right-hand leg in the same way, working toward the center from the full tile at the inside corner and another full tile at the open end. When I reached the edges of the stove recess, I cut the tile off flush. Where the backsplash jumped the gap, I trimmed a small amount from two of the tiles to make everything come out evenly in the middle.

The only remaining issue centered around an extended section of tile above the stove. Although I could have trimmed those tiles as I did with the backsplash, the variation in width would have been much more obvious on such a large expanse. Instead, I made this potential problem into a design feature by introducing a new pattern — a bordered, diagonal tile layout centered between the adjacent wall cabinets. My designer-salesperson had specified a thin, "pencil" tile to cap the backsplash tile, and I used that to advantage to enhance the border effect and stretch the field over the 30-inch stove expanse. At either side of the stove, I aligned the backsplash grout lines with those of the counter. When completed, all of the tile appeared to line up perfectly.

Solving a Layout Problem

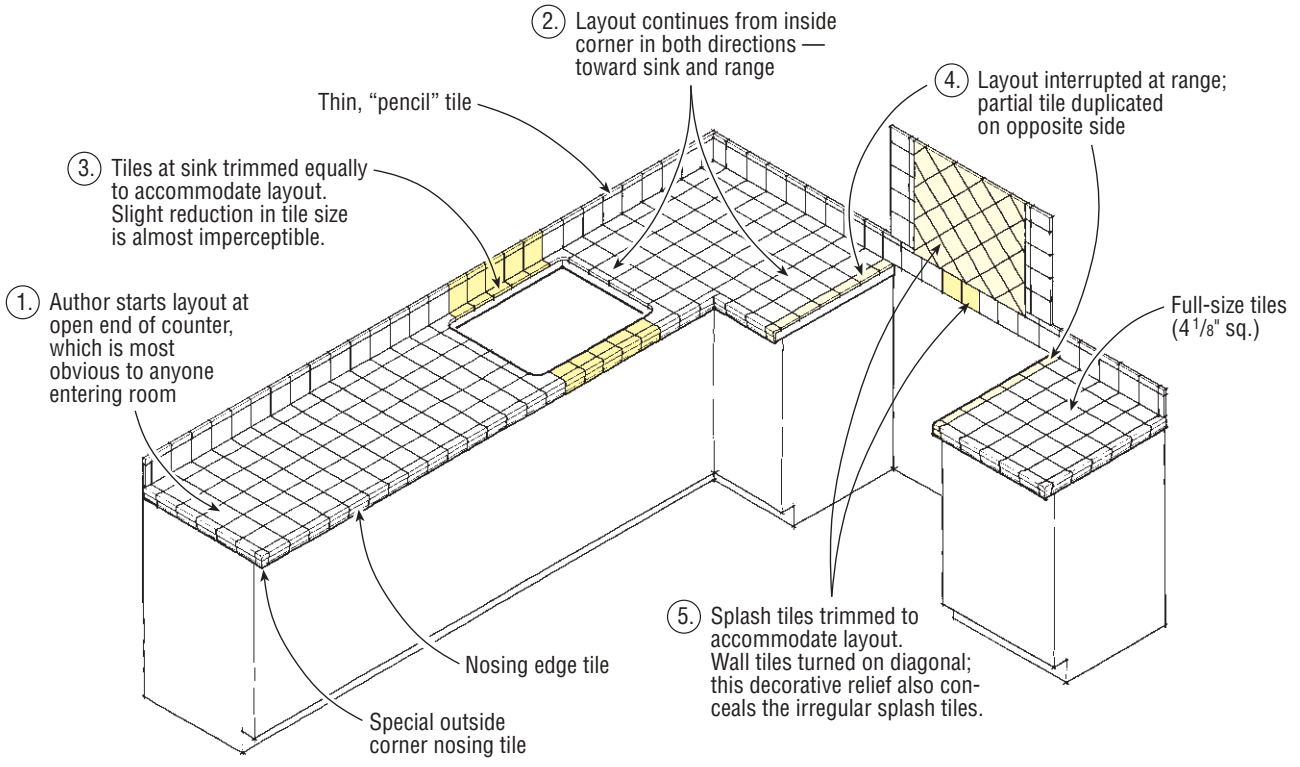


Figure 4. Full tiles are set from an outside corner of the layout toward the sink cutout. Installing a piece of nosing against one edge of the corner tile determines how much the remaining tiles should be held back from the edge to accommodate the remaining nosing (above). Nosing pieces are subject to hard knocks, so they're generously back-buttered to ensure that they're thoroughly embedded (right).

countertop (with the addition of an occasional decorative tile) and was aligned on the same grid. Unlike a countertop, a backsplash isn't subject to standing water, so the tiles can simply be adhered to the wall with mastic. For mounting tile on wallboard, I use Durabond D-2001 Multi-Purpose mastic, which is a water-based adhesive with good initial grab that provides a strong and permanent bond when dry.

In remodeling applications, though, the strength of the mastic bond will be limited by the strength of the bond between the wallboard and any existing wall covering. In this case, the backsplash area was covered with two layers of wallpaper. To ensure that it was bonded to the wallboard well enough to tile over, I coated the wall with mastic and let it "soak" for a half-hour (Figure 5, next page). A few areas blistered up and I tore them away, exposing the wallboard beneath. Once those loose areas were removed, I attached the backsplash tiles to the exposed wallboard and remaining well-bonded wallpaper with more mastic, which I spread and combed with a $^{3}/_{16}$-inch V-notch trowel.

Grouting and Sealing

I use a latex-modified grout in a color that complements the tile background. Dark colors are preferable because they're least likely to show dirt. Because smooth-struck joints are easier to keep clean, I strike the newly filled joints with a grout stick.

Nothing looks worse than sloppy corners and overflowing grout lines, so

Figure 5. To prepare the wallpapered wall for a tile backsplash — which will be fastened directly to the wallboard — the author first coats the area with a water-based mastic (above left). Poorly bonded areas of wallpaper bubble away from the wallboard and are easily scraped off with a small trowel, leaving an acceptable tile base (above right). The backsplash tiles are then attached to the wall with more mastic (left).

I also take the time to cut excess grout out of the corners — where the wall meets the counter, for example, as well as along the top of any finished edge. A 2x5-inch rectangular margin trowel or putty knife works well for this.

After sponging the excess grout from the face of the tile, I let the tile dry for ten minutes or so until a surface haze develops. Rubbing the tile with a clean, dry rag removes the haze and brings the tile to a nice shine. The following day, I give the job a quick cleaning with a light tile cleaner. Glazed tile buffs up nicely.

Finally, I apply a high-quality grout impregnator-sealer. Don't cut corners here — using the best sealer you can find is cheap insurance against problems and callbacks later. I've had good results with MiraSeal 511 Porous Plus (Laticrete, 800/243-4788, www.laticrete.com). I give every joint three coats, allowing at least four hours between coats. Although even this doesn't guarantee that the tile and grout will stay clean, it does protect the grout from staining. If the joints are struck smooth and then sealed well, the homeowner should be able to clean away nearly any kind of common dirt or grime. Because continued exposure to food acids and household cleaning products will eventually reduce the sealant's effectiveness, it's a good idea to reapply a coat of sealer every two years or so.

Tom Meehan *and his wife, Lane, own Cape Cod Tileworks in Harwich, Mass.*