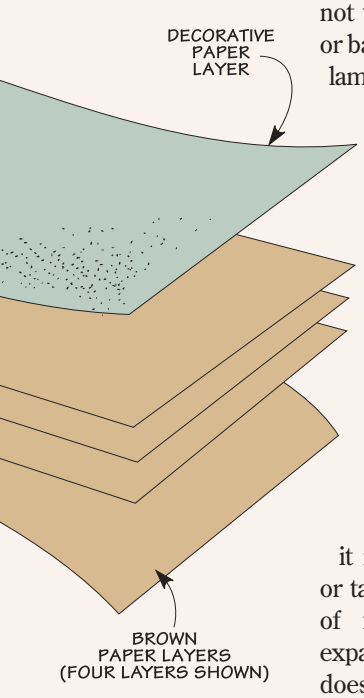
Working with Plastic Laminate

When you hear the words "plastic laminate," it's hard not to immediately think of kitchen or bathroom countertops. But plastic laminate has a lot of other uses outside of the kitchen and bath. In fact, we use it all the time around here for shop projects and jigs. Why? Well, because it has a lot of things going for it.

For one thing, plastic laminate is durable. Once it's glued down to a suitable substrate, it creates a hard, impervious surface that resists water and much of the normal wear and tear that is encountered in a shop environment.

Laminate is also smooth. so it makes an ideal surface for jigs or tables where you don't want a lot of friction. It doesn't warp or expand and contract like wood does. And finally, laminate is relatively inexpensive.



How It's Made – Plastic laminate is actually made up of two main ingredients — plastic and paper, see margin at left. Several layers of brown paper (the kind used in grocery sacks) are saturated with phenolic resins and laminated together along with a top layer of high-quality, decorative paper. (The decorative paper is the color or "pattern" that you see on the surface.) These layers are fused together under heat and pressure. Before the sheet has completely hardened, a metal plate is used to add a texture to the surface.

Once the laminate has cooled, the back of the sheet is sanded with coarse sandpaper. This gives the laminate some "tooth" so it will hold adhesive better. Finally, the sheets are trimmed to size.

USING LAMINATE

Using plastic laminate isn't difficult. There are just three basic steps — cutting, gluing, and trimming.

Cutting – There are several ways to cut plastic laminate. When I'm working with full-size sheets, I prefer using the table saw. Although you can get by using a combination blade, you'll get better results using a blade that's specifically designed for cutting laminate. A triple-chip blade (see detail in Figure 1) has a tooth pattern that's designed to prevent chipping the surface of plastic laminate.

But there's one problem you might encounter when cutting laminate on a table saw. Because the laminate is so thin, it tends to slip underneath the rip fence, where it can get wedged in place. But there's a simple way to prevent this. Just clamp a piece of aluminum angle to your rip fence, as you see in Figure 1.

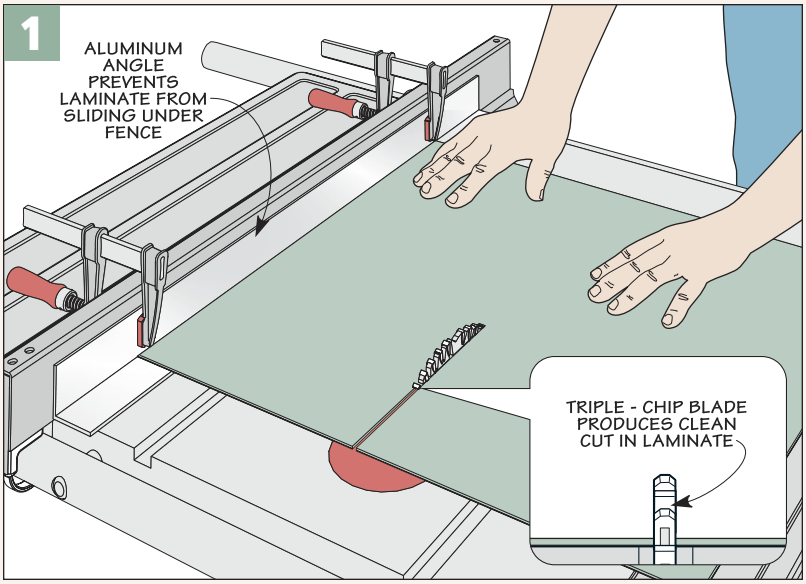
Narrow Pieces – Cutting narrow pieces of laminate (like strips for the edges of countertops) can be a little tricky on the table saw. For this job, I often use a pair of tin snips, see photo in margin on opposite page. The tin snips make a nice, clean cut. The trick is to not close the jaws of the tin snips all the way as you cut the laminate. Instead, just take small "nibbles" and move the snips forward after each one. If you close the

jaws completely, the laminate is likely to crack from the stress.

Usually, I cut my laminate oversize and flush trim it after it has been glued down to the substrate. But one thing I've learned is to cut the laminate so it's just *slightly* larger than the substrate. (I try to cut my laminate so that it overhangs the substrate by about 1/4" on all sides.) You'll have to be a little more careful about positioning the laminate as you glue it down, but it you'll get a cleaner edge when it comes time to trim the laminate flush.

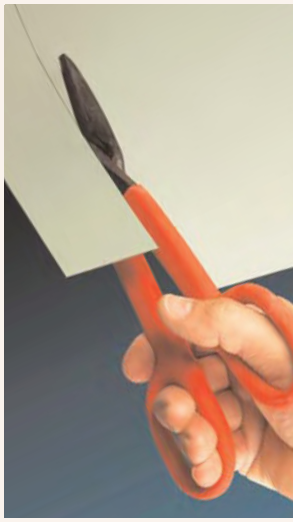
Gluing – Once you've cut the laminate, the next step is to glue it down. Contact cement is the best adhesive for this job. The thing to remember when using it is that once you put the two pieces together, they're stuck. So I always position the laminate by supporting it on narrow strips of wood, as shown in the photo on the opposite page. The you can remove the strips one at a time, smoothing the laminate down as you go along.

If you're going to be laminating both the face *and* edges of a workpiece (like a countertop) it pays to follow a specific procedure. I start by doing the edges first. This way, the laminate on the face of the workpiece will overlap the laminate on the edges, making the joint line less noticeable. Also, items that get dragged across the top of the worksurface will be less likely to catch on the edge and pull the laminate loose.

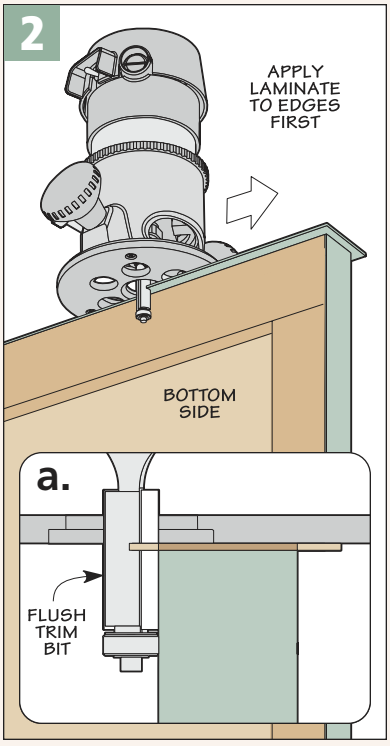


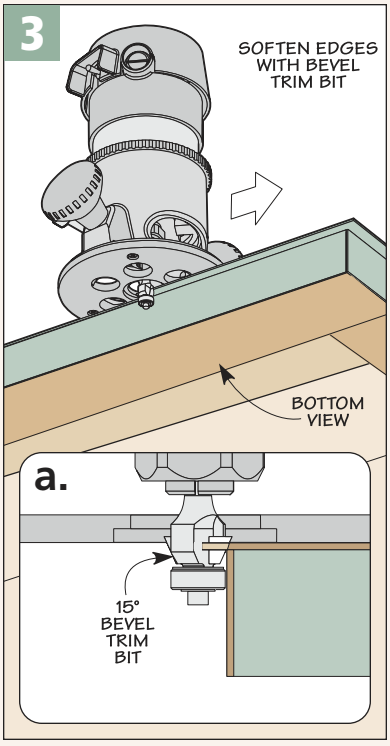
Trimming – The final step in applying laminate is trimming it flush with a router. This is a fairly simple process. To trim the edges, I use a straight, flush-trim bit, like you see in Figures 2 and 2a.

After all the edges have been laminated and trimmed, you can move onto the face of the workpiece. After gluing the laminate down, I use a special type of chamfer bit to trim it flush, see Figures 3 and 3a. This bit has a shallower angle than an ordinary chamfer bit. So it trims the laminate flush and at the same time softens the edge by creating a slight bevel. This leaves you with a professional-looking joint line.



▲ ***Narrow Strips.*** *Tin snips work great for cutting narrow strips or odd shapes of plastic laminate.*





Metal Laminates

Plastic laminate has been around for decades, but metal laminates are relatively new. Metal laminates can be used on vertical or horizontal surfaces — any place where you want the look of metal. They come in two different types. Some are simply thin sheets of solid metal (usually aluminum) in different colors and surface treatments (buffed, brushed, etc.).

The other type of metal laminate is actually a thin layer of metal bonded to a traditional paper and resin backing. These come in a wide assortment of patterns and textures.