

Staining End Grain

We've been talking about finishing over the last few weeks, in the context of different kinds of stains. This week, let's look at a potentially frustrating finishing job: end grain.

Anyone who has finished a project only to find the end grain six shades darker than the face grain will appreciate the problem. I asked the guys at Woodsmith for some ideas:

End grain naturally looks a little different than face grain. And it also acts differently, too. The reason is simple. The end of a board is made up of open pores that work like a bunch of straws. Whatever is put on the face grain of the board won't be absorbed very quickly. But any liquid (like stain or glue) applied to the open pores of the end grain will be pulled deeply into the wood.

So end grain creates a real problem when applying stain. The open pores suck up stain like a kid at a soda fountain. And the deeper the stain gets pulled into the wood, the darker the color will be at the surface. The result is that the ends are noticeably darker than the face of the piece.

Getting end grain to match the rest of the project is a matter of stopping the stain from penetrating the end grain so deeply. There are a couple ways to do this.

The easiest way to get a consistent color is to use a gel stain. A gel stain is like any other stain -- it's just a little thicker. And because the gel stain is thick, it won't penetrate very deeply into the wood. The result is end grain and face grain with even consistent color.

Note: Not all gel stains are the same thickness. For best results on end grain, thicker is better.

When working with a traditional liquid stain, you'll usually get a more even color if you do a little extra sanding on the end grain -- to 600 grit instead of 220. The reason this works is because you're burnishing the end grain. The pore openings are polished so they're smaller and don't soak in as much stain.

Just to confuse things a bit, it's important to note that not all "end grain" appears on the ends of boards. It shows up on the face of boards too. This is especially true of woods like pine, cherry, and maple that have wild, wavy grain. When the grain turns up toward the face of a board, you end up with a small patch of end grain.

When staining, these areas of end grain can end up as dark blotches. But you can avoid this. One solution we often use is to apply a wood conditioner (or wash coat) before staining. This is usually just a solvent that evaporates slowly (although it can also be a thin finish). Because the conditioner is applied underneath the stain, it limits and evens out the stain's penetration. You can get wood conditioners where you buy stain.