


The Ultimate Shop Plywood

Build better jigs, tables, cauls, and cabinets with phenolic plywood

BY STUART LIPP



On my first day working in the pattern shop at Steinway & Sons, I was introduced to a great material that has changed my woodworking. Phenolic-surfaced plywood is Baltic-birch plywood that has a thin coating of phenolic resin on its faces. Used in electrical panels and switches because of its stability and strength at high temperatures, phenolic resin makes this plywood very resistant to moisture, heat, chemicals, and abrasion. Phenolic plywood also has superior strength, flatness, and durability compared to other types of plywood. Its nonstick, glassy surface makes it popular in the concrete industry, where it is used to make forms and molds.

All of these qualities combine to make phenolic plywood ideal for many woodworking applications—from jigs, fences, and cauls to work surfaces and cabinets. Anywhere a jig or workpiece needs to slide over a surface or you don't want glue to stick is the perfect place for phenolic plywood.

FOR MACHINES

Phenolic is smooth, durable, and low-maintenance. Any place you need to run workpieces across a surface is a good place for phenolic plywood.



Upgrade work surfaces. Phenolic plywood is a perfect material for a tablesaw outfeed table (left). Workpieces glide past the cutterhead on a router table with a phenolic top and fence (above).

Photos: Anissa Kapsales



wood. It is manufactured in 4-ft. by 8-ft. sheets, in thicknesses of 1/2 in. (12.7 mm) or 3/4 in. (19 mm).

How to get phenolic

Phenolic plywood is a specialty material, so don't expect to find it at your local home center. It has been around for a while, though, under such aliases as Colorfin, Parklex, Eurocolor Ply, Wisa, and Finnform. Color options are light brown, dark brown, red, black, green, yellow, white, or clear. However, suppliers tend to purchase one color in bulk and ordering specific colors can add to the price. Cost varies quite a bit from supplier to supplier, from \$54 to \$140 for a full sheet of 3/4-in. material. The difference depends on the inventory and colors the supplier stocks.

Woodcraft sells quarter-sheets of 1/2-in. and 3/4-in. phenolic. White Cap Construction Supply stocks it and has over 150 stores across the United States, but few in the Northeast. A few smaller suppliers are Anderson Plywood in California, McCausey

Working with phenolic

Phenolic plywood machines like any other plywood product and doesn't dull blades excessively. The resin coating can chip out a little, but using sharp blades eliminates this. Beware: Freshly cut edges can be very sharp, so you should definitely break them with sandpaper or with a roundover bit.

Attaching hardware is not a problem. Screwing into the face can crack the phenolic resin, but pilot holes and a quick hit with a countersink bit eliminate this. Pilot holes are especially important to avoid splitting the layers when you screw into the edges of the plywood.



Sharp edges. Break all edges with sandpaper or a roundover bit (shown).



Plane thin stock.

Screw a cleat to a long piece (above) to make a smooth-sliding auxiliary bed for surfacing very thin workpieces on your planer (right).



Easy to clean. A countertop wipes off easily with a damp rag.

FOR FENCES AND JIGS

Whether a jig needs to move fluidly over a surface with the workpiece locked in place or a workpiece has to slide effortlessly across a fence, a phenolic surface is ideal.



Versatile tablesaw fence. The shorter, sacrificial side is used with a dado set to cut rabbets (left). The tall side is perfect for raising a panel (above). The extra height supports the tall panel as it slides easily across the fence.

Lumber in Michigan, and Roberts Plywood in Deer Park, N.Y. (my supplier).



Slick jigs. A phenolic-plywood tapering jig rides in the miter slot and across the surface of the tablesaw. Since the blade also trimmed the edge of the jig, that edge is the reference line.

Use for jigs, surfaces, and cauls

When it comes to improving machinery performance and jigs, phenolic plywood is at its best. The surface is so slick that other materials glide over it, making it perfect for all types of jigs and work surfaces. The top surface of a shopmade router table is a good place to use phenolic. So is a tablesaw outfeed table. Made of phenolic, it will perform better than a basic plywood table or a roller stand, and can double as a glue-up table. Dried glue pops right off.

Tablesaw and router-table fences faced with phenolic plywood give you a superior surface that is replaced easily if damaged. Also, any jig that will slide over the surface of a machine should have a base made of phenolic plywood. Whether it is a template to be used on the shaper or a tapering jig for the planer, it makes the machining process much easier because friction and drag disappear, giving you a steadier feed rate and better results.

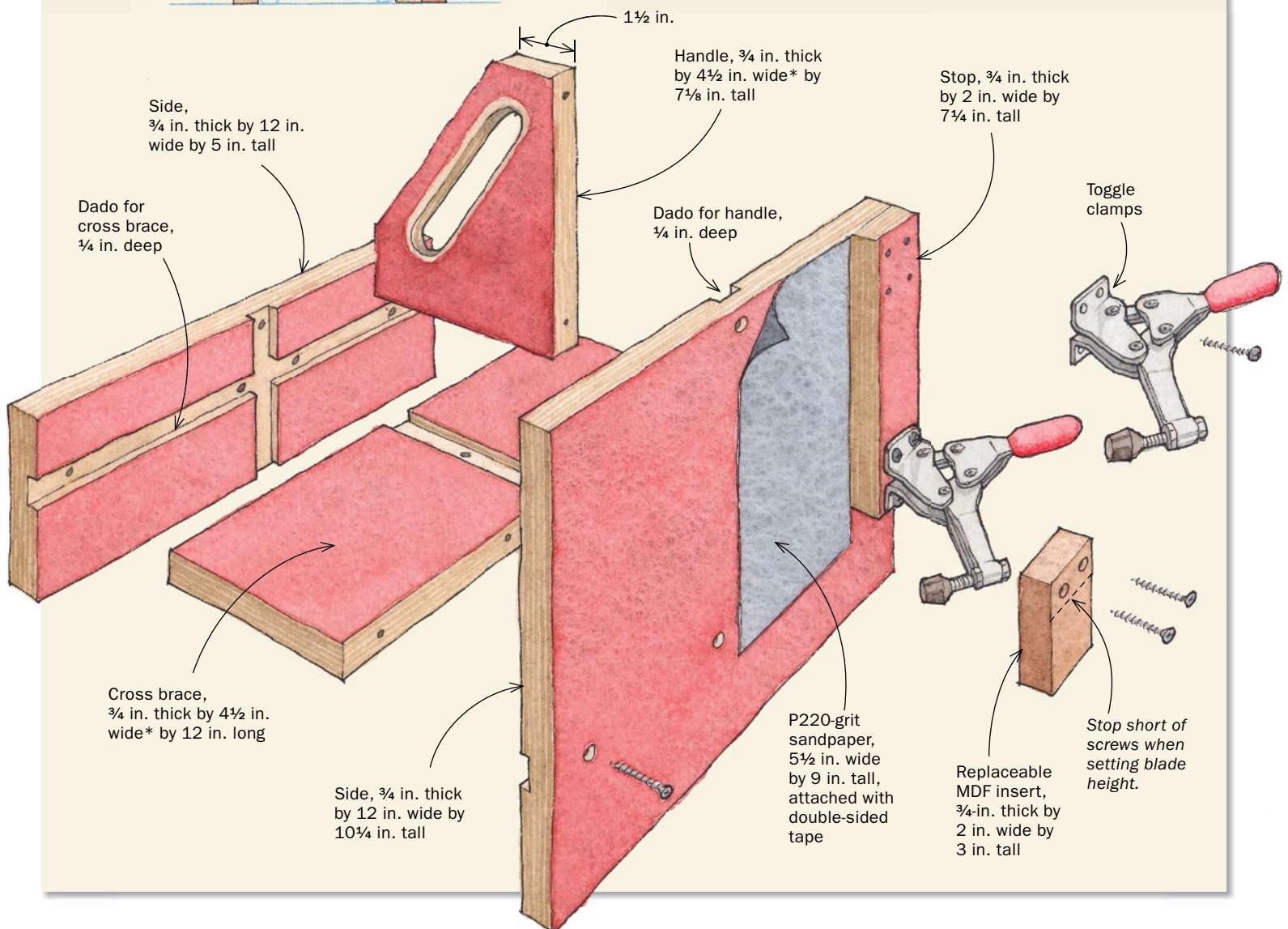
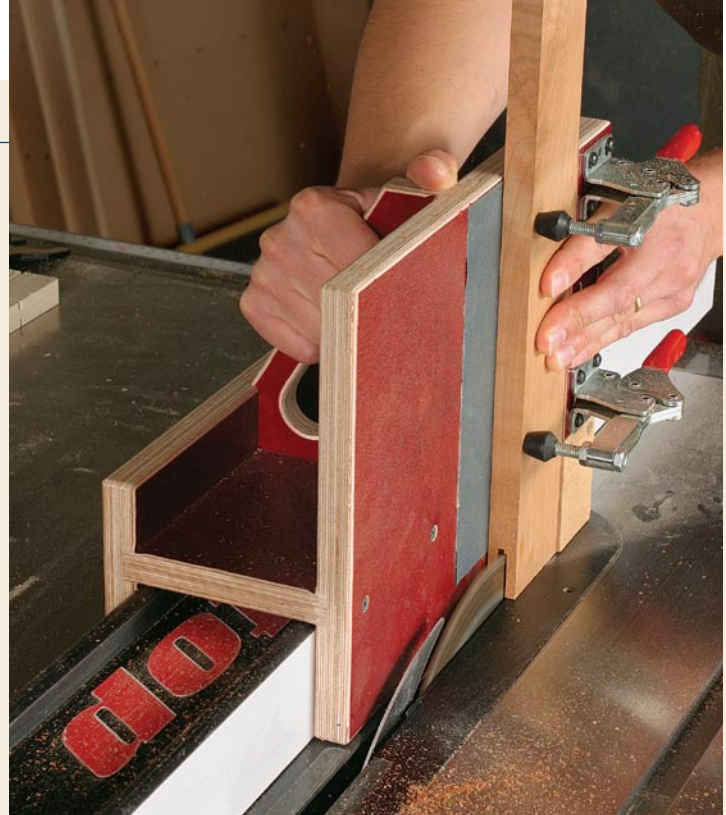
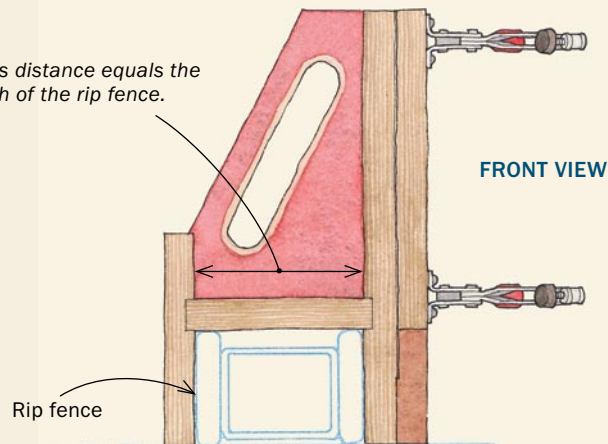
Phenolic also is very easy to clean with a damp rag, so I find myself using leftover pieces for surfaces that tend to collect a lot of dust or debris, such as those under sharpening stations or grinders.

Using phenolic plywood as your main caul material will make gluing and

Make a phenolic tenoning jig

This stable, over-the-fence tenoning jig takes advantage of the slick nature of phenolic plywood as it carries the workpiece smoothly along the rip fence and through the blade. Toggle clamps on the vertical fence and sandpaper on the face grip the workpiece. Also, a replaceable MDF insert can be changed after too many saw cuts, and a user-friendly handle makes the jig easy to control.

*This distance equals the width of the rip fence.





Glue doesn't stick to phenolic. Use it for large veneering cauls (above). The multiple plies give it rigidity, and the 3/4-in. thickness transfers pressure evenly. Just let glue dry, and then use a plastic scraper to pop it off (right).



FOR CLAMPING

The strong, nonstick plywood is a good material for clamping cauls of all kinds.



Also great for clamping pads. Put scrap phenolic to use by cutting it into blocks for dent-free glue-ups.

SOURCES OF PLYWOOD

www.andersonplywood.com
(based in Culver City, Calif.)

www.robertsplywood.com
(based in Deer Park, N.Y.)

www.woodcraft.com

www.whitecapdirect.com

www.mccauseylumber.com
(based in Roseville, Mich.)

clamping cleaner and easier. You never have to worry about adhering a phenolic caul to your work. It's been years since I've had to tape or wax a caul, or wrap waxed paper around it.

When hand-clamping, 3/4-in.-thick material is ideal because it's heavy enough to transfer pressure widely and evenly across the workpiece. I have sets of small, chamfered phenolic-plywood blocks ready to use for glue-ups or small repairs.

When veneering panels, whether in a vacuum bag or with clamps, the cauls are always slightly bigger than the panels. This overhang ensures that clamping pressure will be distributed across the surface of the veneer and substrate, but it also means glue can squeeze out onto at least the bot-

tom caul. With phenolic plywood as the caul material, the dried glue will flake off with a paint scraper.

A colorful cabinetry option

Not limited to jigs and cauls, phenolic plywood can take its place at the design table. It's easy to imagine the sleek colors incorporated into modern furniture design and cabinetry.

It also is great for shop cabinets because it is prefinished, very simple to clean, and very durable. The edges can be faced or the plies left visible as part of an industrial or modern look. □

Stuart Lipp works at Steinway & Sons in New York City.