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Outdoor Furniture

Easy-to-build projects using a minimum of power tools.

top-notch results with MDF

The keys to success with this versatile material are a few simple techniques.



When it comes to choosing material for a shop project, MDF (Medium Density Fiberboard) is often at the top of my list. MDF is basically just a mixture of fine wood fibers and a binder that's pressed into plywood-like sheets. But this simple material has a lot of pluses. First off, since MDF has no "grain," it's very stable. The sheets are flat and will stay that way. And with carbide tools, it machines smoothly and easily. Topping it off, MDF is relatively inexpensive.

I take a pretty straightforward approach to assembling pieces of MDF into a project. I rely on simple rabbets and dados or butt joints along with glue and screws for a strong assembly. But there are a few simple tricks you should know to get the best results.

GLUING MDF

When I'm assembling an MDF project, a bottle of yellow wood glue is always close at hand. Since MDF is made from wood fibers, it will form a relatively strong glue bond. A big bonus is

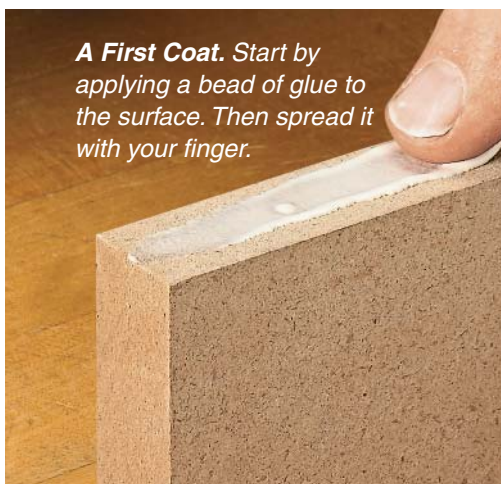
that, similar to plywood, MDF offers good gluing surface on the edges and the faces.

Edges and Faces. When you start working with MDF, you'll quickly notice a difference between the look and feel of the outside faces and the inner core and cut edges. And this is a pretty important point when it comes to gluing.

You'll find that the outside faces of MDF are smooth, hard, and very dense. This makes face to face gluing an easy job. You'll get a glue bond between the pieces that's stronger than the MDF itself.

But you'll find that the edges and the core of MDF are rougher, "flakier," and more porous. What this means is that applying glue to the edge surfaces of MDF can be like pouring water onto sand. If you just go through your normal gluing routine, you can end up with a joint that's "glue starved."

Glue on Glue. Fortunately, the fix to this problem is easy. The photos at the bottom of this page show the technique I like to use.



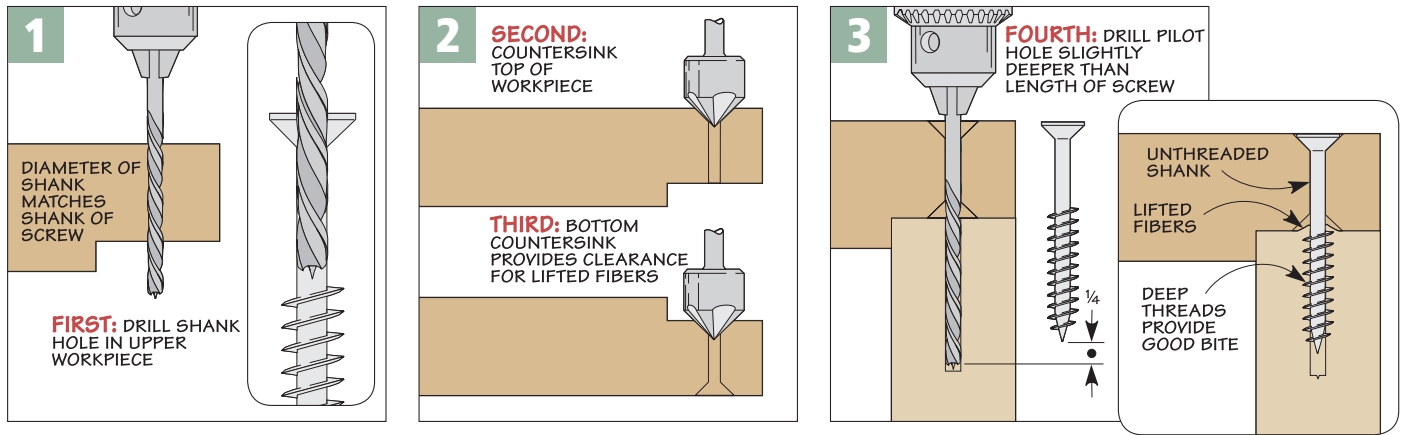
A First Coat. Start by applying a bead of glue to the surface. Then spread it with your finger.



Glue Starved. After snugly assembling the two pieces, pull them apart. You'll find that most of the glue has soaked in.



Add More Glue. So now, apply a second bead of glue, spread it out and assemble the joint for



Basically, what you want to do is “double glue” the joint. The first layer of glue soaks in and helps seal the surface. The second application can then spread through the joint and create a solid bond. And don’t be stingy with the glue. I like to see a fair amount of squeezeout. A strong joint is worth the cleanup.

INSTALLING SCREWS

Adding a few screws to an MDF joint can eliminate any doubts about strength and can allow you to leave the clamps on the rack.

The Two Keys. Although MDF is a strong, dense material, the “fibrous” structure can lead to problems when installing screws. One weakness is that a screw installed

into the edge of MDF can cause it to split through its thickness. The result is a screw with no “bite” and a bulge on the surface. The first key to avoiding this headache is a pilot hole of the right diameter and drilled to the right depth. The drawings above explain how to do this part of the job.

The second key goes hand in hand with the first — the right screw. Standard, tapered wood screws can split MDF. And their shallow threads won’t hold well. A straight-shanked screw, like that shown in the right margin, is my favorite for MDF.

When these screws are installed in a properly sized pilot hole, there is very little chance of splitting. The unthreaded shank section allows the two pieces to draw together snugly while the deep, widely

spaced threads hold tight.

Final Tips. There are two more things to mention. As insurance against splitting, try to keep your screws one inch or more from the ends. And when you drive the screws, be careful to not overtighten them and strip the threads.

Once you have the project solidly assembled, you’ll want to give it some protection. For a few pointers on painting MDF, take a look at the box below.



▲ **Screws for MDF.**

These straight-shanked screws can be used with a finish washer for a cleaner look.

Painting: A Smooth Finish

No Sealer or Primer

It’s always a good idea to put a finish on MDF projects. Sometimes this is nothing more than a coat of wiping varnish to protect against grime and moisture. But for some projects, like the drum sander, I prefer the extra durability of paint.

The smooth, flat surfaces of MDF make it ideal for spraying on paint. You won’t need to do much in the way of surface preparation to get good results. But the more porous edges are a different story.

Just like glue, the edges of MDF readily absorb paint. What you can end up with is a noticeable contrast between the smooth faces and rough edges (top left photo).

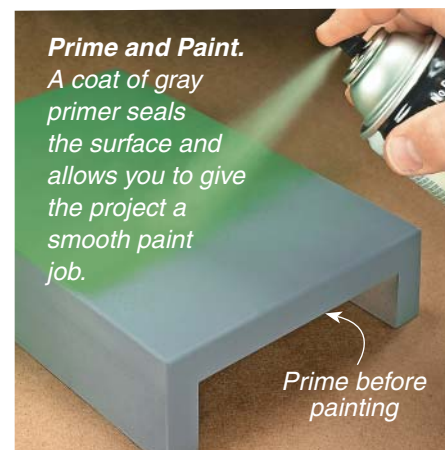


▲ **Edge Sealer.** Drywall joint compound makes a quick, easy sealer for the porous edges.

To solve this problem, I take a couple of simple steps. First, I seal all the exposed edges with drywall joint compound, as shown in the photo above. It looks like a mess, but it actually goes on easily with a putty knife or even your finger. And

Prime and Paint.

A coat of gray primer seals the surface and allows you to give the project a smooth paint job.



when dry, the excess sands off with a minimum of effort.

Then, before applying the topcoat, I seal everything with a coat of primer (photo above). The topcoat will then build quickly to a smooth durable, film (lower left photo).