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outdoor project from
Plastic Lumber

37 great tips
in this issue
(we counted 'em!)

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P25

Cypress
Outdoor
Chest

Mobile Outfeed Table
—perfect for small shops

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44 GARDEN ARBOR

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It's the perfect small-shop companion to everybody's tablesaw.

Tool Test

Our regularly appearing feature will be back again next issue. The topic: random orbit sanders.

Make Yard Work EASY!



Cyclone Rake

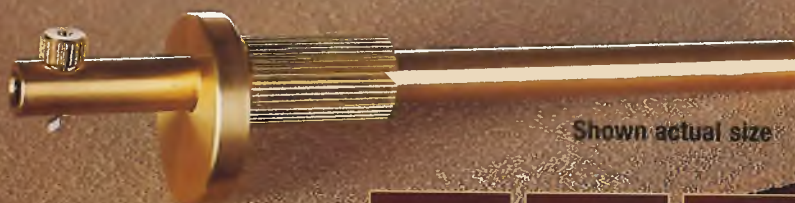
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10 things you need to know about Plastic Lumber

by Brad Holden

No, we haven't changed our name to *American Plasticworker*.

I love wood, with all its beautiful textures, figures and smells. But I also enjoy experimenting with different materials. So I decided to try some of the plastic lumber available at my local home center. It costs \$3 to \$6 per bd. ft.—considerably more expensive than treated pine, which costs about \$2 per bd. ft. at my lumberyard. Plastic wood also holds little of the beauty and romance of real wood, but its big advantages are durability and the fact that it requires no finishing and little main-

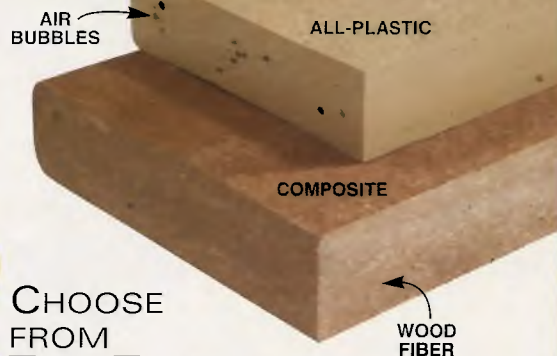
tenance other than an occasional rinse with the garden hose. I also like the idea that many brands are made from recycled materials that would otherwise end up in a landfill. Some manufacturers sell only the plastic boards; others also sell plastic wood furniture and furniture kits (see Chart, page 59, and Source, page 60). Of course, you can also design and build your own plastic lumber furniture, but you need to consider several things when you do.



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1 IT'S VERY DURABLE

Plastic wood is particularly well-suited for outdoor furniture. It is unaffected by water and has ultraviolet (UV) inhibitors added to protect it from the damage caused by long-term exposure to the sun. This means it will last a long time without cracking, warping or rotting.



2 CHOOSE FROM TWO TYPES

Two primary types of plastic lumber are available. One is all plastic. The other is a composite made of plastic and wood fiber. Some of the plastic that goes into this lumber is new, but most comes from recycled milk jugs, pop bottles, grocery bags and similar waste plastic. The manufacturers of the composite-plastic lumber add ground-up waste wood. This makes the lumber stiffer than the all-plastic type.

You may find flecks of other colored plastic on the inside of some all-plastic boards. This is due to the recycled nature of the material. Also, when you cut the all-plastic material, you will notice air bubbles of varying sizes in the core of some boards. One board may have no bubbles, but another may have many.

3 LOTS OF COLORS AND SIZES ARE AVAILABLE

Plastic lumber comes in a wide assortment of colors and sizes. The selection varies among brands (see Chart, page 59). Composite plastic lumber comes mainly in subdued earth tones; the all-plastic products come in a range of bold colors. Both types offer sizes comparable to construction lumber. You will find, for example, 1x, 2x and 5/4 boards, even 4x4 and 6x6 posts. Most manufacturers offer lengths up to 16 ft. And 4 x 8-ft. sheet stock is also available in 1/4-in. or greater thicknesses.





4 CAUTION: IT CAN SAG

All-plastic lumber bends easily under weight. The wood fibers make the composite-plastic lumber stiffer, but not as stiff as the real stuff. Adequate support is important when you're building with all-plastic or composite lumber. Most manufacturers recommend 16 in. as the maximum span for 5/4-thick material when you use it as decking material. Because of its flex-

ibility, plastic lumber should never be used in a structural application, such as joists or a supporting wall. High summer temperatures can also cause sagging. When using plastic lumber to build outdoor furniture, you should plan to beef up your design to avoid flexing or sagging; you may have to experiment a bit.

5 IT'S HEAVY

At 4 to 5 lbs. per bd. ft., plastic wood is heavier than oak. Here are some numbers for comparison:

Cedar
1.5 lbs./bd. ft.
Pine
2 lbs./bd. ft.
Treated pine
3 lbs./bd. ft.
Oak
3.8 lbs./bd. ft.
All-plastic lumber
4 lbs./bd. ft.
Composite-plastic lumber
5.3 lbs./bd. ft.

6 TEXTURE PROVIDES TRACTION

The majority of plastic lumber is manufactured with some kind of texture on at least one side. Some types have wood grain; others have a random pattern. These textures offer visual appeal and provide traction for decking use. A number of the manufacturers make a board that has a "flip side," with wood grain on one side and a smoother pattern on the other. These textures are only on the surface, so if you don't like either face, you can plane them off. I find this a big plus when building furniture. It gives you design options: textured, smooth or planed.

An Adirondack chair made from recycled plastic lumber keeps approximately 400 milk jugs from going into a landfill.



7 IT'S FUN TO BEND

I had a lot of fun bending plastic lumber. The all-plastic material in particular is unbelievably bendable when heated. Because of this, it works very well for decorative projects, such as a garden trellis (see photo, below left).

One really cool method is to use a heat gun on the all-plastic stuff and bend or twist it as you would wrought iron. Using a form, you can create some pretty intricate shapes. Obviously, the smaller the stock, the sharper the bend you can make. You have to thoroughly heat the material until the surface starts to bubble slightly and

look almost liquid for it to become really pliable. Also, leave the bent piece in the form until it has completely cooled or it will spring back. This heat gun technique doesn't work on the composite lumber, though, because the wood fiber starts to burn before the part becomes bendable.

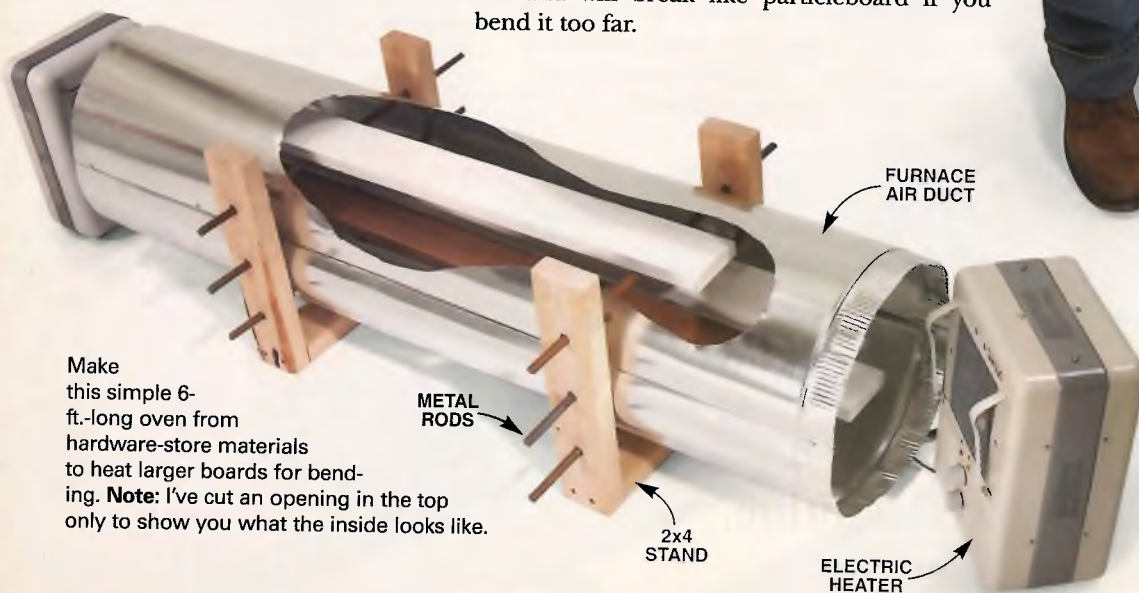
To bend larger boards (photo at right), you can make an inexpensive heating oven (see bottom photo). The plastic lumber needs to be heated to 125 degrees to its core, which can take an hour or two. You can then bend the board around a form until it's cool. Plastic lumber will spring back when you take it off the form, so you should do some experimenting first and bend it to a tighter radius than you want. The composite lumber is not as bendable as the all-plastic lumber and will break like particleboard if you bend it too far.



Bending thin strips of plastic lumber is very easy. With a heat gun, a bending jig and a little creativity, you can open up a world of possibilities.



This bent 1x4 all-plastic board was heated in the oven, bent by hand around a form and then clamped in place to cool. It sprang back about 50 percent when I took it out of the form.



Make this simple 6-ft.-long oven from hardware-store materials to heat larger boards for bending. **Note:** I've cut an opening in the top only to show you what the inside looks like.

8

WHERE TO BUY IT

Brand	Board sizes	Colors available	Flip-side texture	Kits	Contact
All-plastic lumber					
American Ecoboard	5/4, 2x, 3x, 4x, 6x	8	Yes	Yes	(540) 667-5191, www.americanecoboard.com
Foreverdeck	Many	12+	Yes	Yes	(610) 277-3900, www.plasticlumberyard.com
PlasticLumber	1x, 2x, 3x, 4x	14	Yes	Yes	(330) 762-8989, www.plasticlumber.com
Select Lumber	5/4 to 10x10	11	No	Yes	(800) 721-9037, www.plasticboards.com
Taylor's	Many	10	No	Yes	(877) 939-6072, www.taylorsplasticlumber.com
Composite lumber					
Evergrain	1x, 2x	4	No	No	(800) 405-0546, www.evergrain.com
Timbertech	5/4, 2x	3	Yes	No	(800) 307-7780, www.timbertech.com
Trex	1x to 4x6	5	Yes	No	(800) 289-8739, www.trex.com
Veranda	5/4x6, 2x2	3	Yes	No	(608) 326-0900, www.verandadeck.com
Weatherbest	5/4, 2x	3	Yes	Yes	(888) 820-0325, www.weatherbest.com

9

WORK IT AS EASILY AS WOOD

You can plane it, saw it—you name it.

Plastic lumber can be cut and shaped using ordinary woodworking tools. I tried some common hand tools—hand planes, chisels, saws—and found little difference from using them on wood. OK, hand-planing a piece of plastic does seem inherently weird, but it works quite well and there's no grain direction to worry about. Using hand tools on the composite lumber was slightly more difficult than using them on all-plastic pieces.

Plastic lumber machines great with power tools. It's just as easy as wood! Power tools zip right through it. When routing, you will get clean, crisp edges and no splintering. It's comparable to working with pine or poplar. It is more abrasive than wood, though, so use carbide tools. I found dust collection to be very important. It's needed not only to collect the dust but also the

plastic shavings, which tend to pick up a static charge and stick to everything, including clothes. To get all the shavings off, I had to vacuum my clothes.

Screwing and bolting are the preferred fastening methods. Gluing is generally not recommended, because no available glues stick very well to this type of plastic. I had some success with epoxy, but the test joints I tried still broke more easily than a similar wood joint. Epoxy might be useful in some situations, but you should still secure the joint with screws or bolts if it will be exposed to any stress. Screws can be driven without predrilling, but the material tends to pucker around the head and may crack when screwed near the edge. Predrilling and countersinking remove the risk of cracking and will produce a cleaner look around the head. Stainless steel or coated deck screws are the best choices for outdoor use.



10 IT'S GREAT FOR THE PATIO

This bench may not end up in an art museum, but it'll be great on the patio by the barbecue. All the parts are composite-plastic lumber. I beefed up the design by using all 5/4 materials and adding the center leg for extra support.

I avoided visible fasteners on the top and apron by pocket-screwing from underneath. **AW**



Source
Taylor's Recycled Plastic Products Inc.
(877) 939-6072
www.taylorsplasticlumber.com
White Adirondack chair (shown on page 55), \$185.

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