

Making Synthetic Wood, part 1

By Dennis Ivison

What the heck is synthetic wood, and why would you want to make it? The Dictionary describes it as: "*Made artificially, especially so as to resemble a natural product*". In this article we'll be using a mechanical process to synthesize ourselves some wood.

Like most modelers, for many years I scratch built the structures on my layouts out of wood, but I gave that up several years ago. Why? Because it takes forever when doing a complicated build. At each step you have to stop and wait for the glue to set-up while an assortment of pins, rubber bands, and clamps hold the parts in place before you can move onto the next step, plus, you have to stain everything before you can even get to that point, least you have a big ugly spot of raw wood showing through. Additionally, if you don't brace, or reinforce everything the structure will eventually warp. Don't get me wrong, I love wood, I mean it really looks like, well real wood. I just don't like to wait for glue to dry; sometimes even waiting for *Super Glue* frustrates me, especially when I glue my fingers together.



Okay, let's talk tools. I'm sure that most of you have used a razor saw, bastard file (sorry, that is its name), backside of an X-Acto blade, sandpaper, or brass brush; and indeed they are handy, but have you ever considered riffler files, or a Japanese rasp? These tools make quick work of scribing wood grain onto Evergreen strips (also for carving pine tree trunks out of cedar shingles, balsa and bass woods!) and are great additions to our ever growing collection of tools. I don't like using my Dremel tool for carving wood grain, I have a tendency to overdo it and grind too much, and it is actually slower than using the var-

ious tools mentioned above, and the results are not as good.

I modeled in N-scale for about 35 years and found that to get prototype specific structures (I'm an Espee fan) I needed to scratch build them. This was a good primer for me, because when I moved to O-scale five years ago, I found that I needed to scratch build everything. Having a narrow gauge layout set in heavily wooded terrain at the turn of the century (1890-1910) meant I needed to make A LOT of things out of wood. Even in N-scale I found that a wooden structure looked better with a hint of wood grain carved into it. You shouldn't be able to actually see the grain in that scale but by roughing up the plastic prior to painting and weathering, I got a much better look in the end product (the Japanese Rasp may be a little too aggressive for N-Scale). No matter how much Dull Coat and chalk I used on the unaltered plastic, it still ended up with a smooth glassy appearance which wouldn't hold any washes. So, the tools & techniques outlined in this article can still be used in the smaller scales, just don't carve as hard, or deep. HO would be somewhere in between, some visible grain would not be out-of-scale and the structure certainly would look better with it, just don't overdo it and scribe as deep as O-scale. In that regard, I've found that carving the grain a little deeper than you think you should actually looks better in the end because, by the time you add a layer (or two) of paint and another of weathering some of the grain will disappear.

I get them home, a dozen or so at a time are laid out on aLet's get started and make that mechanically altered synthetic wood out of those omnipresent Evergreen styrene strips. I like the Evergreen products, because they come in every size and shape imaginable, are reasonably priced, and can be found almost everywhere (unlike wood shapes). If they don't have the size you need, just glue a couple of pieces side-by-side and follow the same steps outlined below. The first thing I do is prep work. Unlike prepping real wood by staining it prior to the build, you prep your plastic by carving some wood grain into it. I begin by planning out all the shapes and sizes I'll need, and picking them up at the LHS. When section of 1"

pine with two-sided tape, and then out come the carving tools.

I start with several passes with the Japanese rasp, followed by a couple of strokes with the riffler rasps to catch the spots I missed with the previous tool. Next is the brass brush to knock off the "fuzz" and clear the plastic "saw dust" from the grain. If you've ever looked at wood I'm sure that you've noticed that almost no wood grain is perfectly straight, so when you're carving vary the angle of the rasp as you draw it along the length of the plastic and add a "swoop" into it every once in awhile (easier to do with the riffler files). Everything gets turned over and hit again the same way until all four sides are done. Once all the structural parts you'll need for the project are completed, return them to their original package (to keep track of their sizes) and your prep work is done. Now you have a whole bunch of "synthetic" wood.



This prep work goes a lot faster than you think, and I've found that prepping everything beforehand makes the project go a lot quicker than doing each piece as you need it. Once you start building the structure you'll need to cut the pieces to length and address the ends.

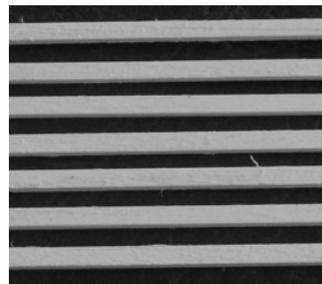
Cutting a circular wood grain into the ends to represent the rings is a lot of work (ask me how I know), so I just hit them with a quick pass of a riffler file or razor saw to simulate a saw cut (so much quicker). If you want to add some knots, drill a small hole where desired and add a cross section sliced from a toothpick. I like to use real wood for the knots (use CA to bond them) because liquid cement will obliterate plastic grooves when glued into the holes. I strategically place the knots while I'm building the structure.

From this point on you can build your structure just as you would any other plastic kit, but without having to stop and wait for wood glue to dry. There is no need to pre-paint or stain the individual "boards" be-

fore construction, they can be painted, stained, or weathered as sub-assemblies or complete assemblies as you see fit.

Here's a key point to remember, when assembling your structure, use liquid cement very sparingly, otherwise you'll nullify all of your prep work and end up with a very ugly blob of plastic peeping out from between the parts being attached. Next time you need a wood structure give this technique a try and see what you think, I'm sure you'll be pleasantly surprised. In a future article we'll cover how I paint my synthetic wood to get it to look just like the real thing.

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It is difficult to see the detail in the picture, but the next step is to hit it with a brass wire brush to remove the "fuzz". Then it's ready to build



To try and get some contrast I threw a quick paint job on some finished strips to try and highlight the grain. Normally I build the structure prior to any kind of finish. The strips with heavier grain would be used on structure with exposed wood, the lighter grain for a painted or finished structure.