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Using Styrene For Backdrops

Story and photographs by Mike McNamara

ONE OF THE GREAT THINGS about the hobby of model railroading is the many different types of projects that are involved in building a layout and the many different ways of getting them accomplished. There is not always a right way or wrong way, but sometimes a different way that may work better for a given task. Here is how I constructed the backdrop for my layout. Perhaps you will find something in my approach that may work in your situation.

When I started the benchwork for my new layout, I knew I would have to address creating the backdrop pretty soon. I didn't want to get too far along only to have to start constructing and painting a backdrop over top of an existing layout. There are plenty of tried and true methods of building a backdrop. My layout is along multiple walls and also has a center peninsula. I was careful in preparing the room to make sure I could use the drywall as a backdrop for the sections along the wall. However, that still left me contemplating what to do about the corners and the peninsula.

On other layouts I have built or worked on, the backdrop has been as simple as blue paint on the wall to a more complex construction of Masonite® hardboard flowing completely

around the perimeter. Certainly I could use hardboard, but it seemed like a lot of work and expense, especially given that my drywall was already smooth and primed. It would help solve the issue with the corners and the peninsula but I was concerned about getting it to

curve sharply in corners and then concealing the seams.

One day I was looking at the web site for Mike Dodd's HO Virginian layout. It has lots of neat stuff, but what really caught my eye were his photos of his backdrop. He was using styrene. Now this seemed like a good idea. Styrene is smooth, stable, flexible and it is something I am already familiar working with. Mike's website also had some neat ideas about how to construct the backdrop from styrene. I had found a different approach that would work for my layout.

The first order of business was getting styrene to use. I have read before about model railroaders getting large sheets of styrene for projects as a way to save money. So I put the question out to the New Jersey Division e-mail list to see if anyone had experience purchasing big sheets of the stuff. After getting a few "Why use that, hardboard is better!" replies, I did get some useful info about loca-



Curving the styrene into place

continued on page 4

tions and prices. Another good source is to check in the yellow pages under plastics.

I called a nearby supplier and found out that they currently



Applying the Velcro strips

had .060" white styrene in stock in white. What is available in thickness and color varies, so you may need to try more than one supplier. The next problem I ran into was that they normally did not do small retail orders and could only take a credit card. At first they suggested finding more people to make a larger order, but finally I did manage to talk them into selling me just two 4' x 8' sheets. These were a little under \$20 each. These can easily be rolled up to fit in your car.

My first use of the styrene was to curve the two corners of my layout area along the drywall. After a little experimentation, I found that a piece of styrene 22" wide worked well pressed into the corner and ending up flush with the drywall on each side. I cut the piece large enough to reach from the drop ceiling to below the anticipated scenery. Now I needed to determine a method for securing each piece to the walls. I didn't want to ruin the surface with screws but I did want something strong enough but slightly flexible. Mike Dodd's web site said that he used self-stick Velcro® strips to secure styrene to vertical supports (more on these later). I decided to try this for attaching to the drywall. The strips stuck well to the wall and the styrene and helped transition the curve into the flat wall.

To hold the styrene in place while I worked, I screwed pieces of wood strip on either side of the corner, making sure they were plumb and parallel. I used 3/4" spline from my sub-roadbed supply. I curved the styrene and let the wood strips hold it in place. I marked on the wall below the point where the gap between the wall and the styrene was about the thick-



Velcro strips in place with bead of Liquid Nails

ness of the Velcro strips. I removed the styrene and then made a perpendicular line off of each mark. Removing the backing on one side of the Velcro and applying it along each line, I pressed it firmly in place. Because I didn't want to rely just on the Velcro, I also ran a bead of Liquid Nails about halfway between the Velcro and the wood. It could be overkill and either of these alone might be sufficient to hold the styrene in place, but I didn't want to risk it.

Next I removed the backing from the exposed side of Velcro. Working carefully, I placed one edge of the styrene along the wood piece and curved the styrene into the corner slowly, making contact with the Velcro in the right locations. Be careful because the Velcro will stick pretty well to the styrene and there is not too much maneuvering that can be done afterwards. One last step was to put a drywall screw with washer in each lower corner below the scenery level. I let each corner set up overnight before removing the wood pieces.

Although the corner immediately looks better, there is still a .060" step at each edge of the styrene. I used joint compound to transition this smoothly. The idea is to have no compound on the surface of the styrene, but about four to five inches of it feathered out onto the drywall. Let it dry overnight and lightly sand. Also sand off any compound that is on the styrene. If there are any dips or voids in the compound, fill these in and let that dry before sanding again.

This took care of the two corners, now I turned my attention to the backdrop on the peninsula. This requires a two sided, self-supporting backdrop that starts at the end of the peninsula and gently curves away from the opposite side. Each side will curve and tie into drywall.

To support the backdrop, I used Mike Dodd's idea of bolting PVC pipe to the layout to create vertical supports. It is cheaper than wood, stable, and works well supporting curved styrene. I decided to make the backdrop rise two feet above the layout, leaving about one foot to the ceiling. I used 2" white pipe cut



Applying drywall joint compound

to be just below the top of the backdrop, I drilled holes for 3/8" bolts and then a 1" clearance hole in one side. Two bolts and washers attach from the inside of the pipe and through the



Corner completed and ready for painting

benchwork joists. These are spaced about 2-3 feet apart down the center of the peninsula.

My backdrop was two feet tall, but 12 feet long, longer than the 2x8-foot section. I cut a 2x4-foot section and extended the eight-foot section. To do this, cut a 4" wide splice plate and apply to the back of one section with glue. I used Plastruct Weld glue, smelly but effective! Then I added glue to the other side of the splice plate and laid on the other piece of backdrop,



PVC pipes bolted to benchwork

making sure the seam was as tight as possible. I used two 1x4s and clamps to hold the pieces and splice plate together while drying.

As mentioned, Mike uses self-stick Velcro strips to attach the styrene to the PVC pipe. First he uses alcohol and a paper towel to clean each PVC pipe, allowing the Velcro to stick better. Then he attaches the Velcro but leaves the outer backing

in place for the time being. I got the long backdrop piece in place where I wanted it. It helps if the backdrop is resting on something, in my case the plywood of the yard. Once I got the backdrop where I wanted it, I removed one backing strip at a time, pressing the backdrop to the Velcro, working from one end to the other.

My center backdrop curved and tied into a drywall wall. I used the same method as the corner, curving it, marking the



Center backdrop supported by PVC pipes

location for the Velcro, and then attaching it and transitioning with joint compound. I have only put up one side of the backdrop so far as I am only working on that section at this time. But the other side is ready to go at any time using the same method.

I found that the styrene takes latex paint well from a roller, but it takes longer to dry than drywall, so be careful to wait long enough before applying additional coats.

Hopefully you can find some of the ideas here useful for your layout. Look over the pictures and if you have any questions or want to see more detailed photos, feel free to e-mail me at mikemcnh@comcast.net.



Center backdrop completed