

Paving Streets - Part Two

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1. BACKGROUND

This lesson is written in conjunction with lessons on prototype Street Railway Track and the installation of HO scale ORR Street Railway. The lesson will cover asphalt pavement in streets where street railway tracks are located.

In Part Two, we will concentrate on paving streets using Durham's Water Putty for the creation of sidewalks, asphalt and concrete roads.

Note 1: Before getting started, it is essential that you test all of your trackwork to be sure that it operates perfectly. Once you have added the paving, it is extremely difficult to make track repairs and corrections.

2. PROTOTYPE PAVING

Since asphalt paving is a cheaper alternative to concrete it is very common. On older concrete and brick streets, asphalt is commonly used for repairs that can make for an interesting patchwork of surfaces on your model railroad.

3. PAVING MODEL STREETS - GENERAL

The most fundamental point is to keep whatever paving surface is used slightly below the level of the rails. Track must be cleaned once in awhile and a nice road can be ruined in seconds with a bright boy cleaner. We will be using ORR Girder Rail, which has a web height of .100" (Code 100). ORR turnouts and crossing have web heights ranging from .100" (2.56 mm) to .108" (2.8mm) so any paving should not be higher than .08 - .09 inches from top of the ties.

After the trackwork is in and tested, build your sidewalks following the instructions in section four of Part One. If you don't want sidewalks, build a form along the outer edge of the paving with 1/8" tall .060" wood or styrene strips.

The main advantage of pouring asphalt streets is that you can accommodate changes in elevation and curvature that would be difficult to achieve using flat pieces of styrene. Typically, roads are crowned, that is, they are higher at the center than at the gutters. This lets rainwater flow off the street to make driving safer. When a crowned road is near a railroad grade crossing, the crown gradually flattens out to a flat plane at the crossing. If you don't have or want such changes, you could make your asphalt road with sheet styrene as

described in Part One for concrete roads -- then jump down to the asphalt painting instructions below.

a. GETTING STARTED

Note 2: Mixing and pouring your own "asphalt" takes a bit of practice so it is best to start small. You might start by pouring a few linear inches of the area between the rails to get a feel for it. Once you've tried it a few times, you can work on larger areas up to about six by six inches.

Note 3: We have been using Durham's Water Putty for some time because it mixes and pours like plaster but it is actually a plastic material that does not shrink or expand and is very resistant to cracking. When set it is a really tough material.

1) Put three heaping teaspoons of the Durham's powder in clean 6 ounce plastic food container. Slowly add a little water and gently stir it in. Don't stir vigorously as it will cause air bubbles to form in the plaster. Go slow and gradually add water while stirring the mixture to the consistency of sour cream.

2) Make a "screed" from .080" styrene to fit between the rails. Notch each corner of the screed about .030" so the top of the paving will be below the rail so it won't be damaged when the rails are cleaned with a Bright Boy abrasive pad. Make another screed from .080 styrene to span the distance from the rail to the curb. Notch it about .030" on the rail end and whatever your curb height will be on the sidewalk end. This screed should have an arc to simulate the crowned road. Test the screeds by dragging them in the areas you're going to pave to be sure that the rails and curbs are smooth.

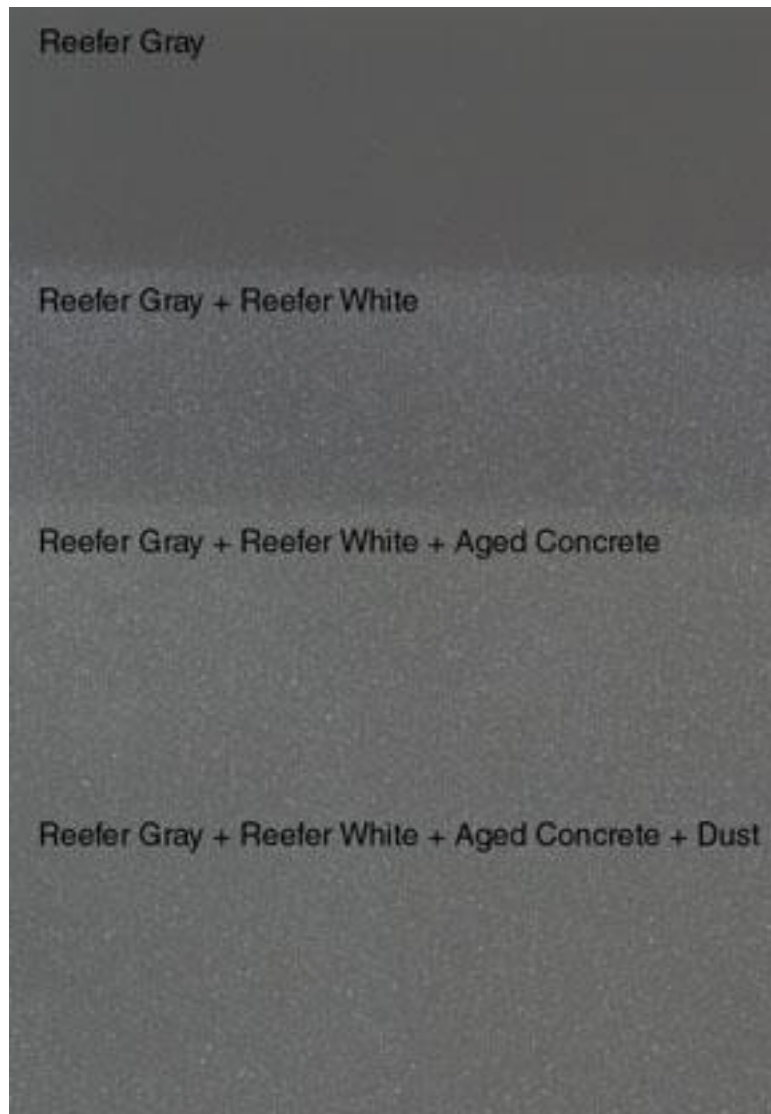
b. POURING THE PUTTY

Spoon out the putty and make it flow between the rails and around the ties of the street trackage. Use a toothpick to push it into the gaps. Gradually add more putty and screed the top surface to make it smooth. The putty takes about twenty minutes to start setting up so you don't need to rush. After an hour or so, you can use a single-edge razor blade and water to "shave off" excess material, if needed, before the putty hardens. After it has set for several hours and no longer feels damp, sand it with 100-grit sandpaper then wet sand it with 240 grit wet-or-dry. It's very difficult to get a smooth surface the first time. Mix up more putty and apply it to the low areas then sand it as above after it is hard.

c. PAINTING AN ASPHALT STREET/ROAD

NOTE 4: Color is a very subjective subject. Feel free to vary the choice of colors and the amount applied to suit your situation. We have found that oil-base Floquil paints adhere much better and are more durable than water-based paints. While it might be possible to use spray cans, much more control can be achieved by using an airbrush. When spraying, try to avoid having the exact same shade over the entire area. By misting on various colors, you can apply different amounts to different areas to keep it from

looking too uniform. Not shown is additional painting to simulate crosswalks, dirt, oil drips, skid marks, cracks and repaired areas.



1) Painting will be accomplished in a series of steps with the results appearing as in the above illustration as follows:

- a) Carefully mask the running rail of the track and the curbs/sidewalks.
- b) Spray Floquil Reefer Gray [110012] over the surface.
- c) Then lightly spray (mist) the following colors:
 - a) Floquil Reefer White [110011]
 - b) Floquil Aged Concrete [110016]
 - c) Floquil Dust [110006]

2) Asphalt comes in many colors. Newer asphalt is medium gray, as shown above (but don't make the mistake of using black to simulate it -- even when just laid, it is dark gray). Older asphalt is a much lighter gray. For this you might want to start with your own custom mix of Reefer White [110011] and a little Reefer Gray [110012]. The mist coats of paint will create speckles of color that simulate the various particles in the asphalt. You could even mist on some Roof Brown [110070], too.

4. FOR MORE INFORMATION

If you desire to model street railways, review other lessons in the Trolleyville Schoolhouse, especially Paving Streets, Part 1 or the four lessons on street railway track. Also you should visit the EAST Penn Traction Club web site at www.eastpenn.org. You can email us at orrtrack@customtraxx.com with any questions. When asking questions about proposed track plans, please provide all data, especially a scale drawing of the proposed plan, so that we can answer your questions as accurately as possible.