

# PAINTING AND INSTALLING ROCK CASTINGS

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#### OUTLINE

1. Why Castings?
2. Basic Geology – rocks and their color
3. Your scenery concept – choosing a landscape and choosing castings
4. How to install the castings
5. Painting castings

#### WHY CASTINGS?

Real rocks are characterised by multiple small facets – faces made by the intersection of various geological planes (bedding, jointing, cleavage, small faults etc). It is very difficult to model such facets by carving Plaster of Paris. Pieces of rock you can collect from the roadside commonly contain such facets, and latex casting of rocks replicates the facets.

This clinic assumes that you know how to make latex molds, and how to make Plaster of Paris castings from the molds. If you have never made molds or castings, there is a vast amount of information on the web – just Google “Making a basic latex rock mold”, and then “Model railroad rock castings”. Ignore the commercials – you can use any brand of latex.

#### BASIC GEOLOGY – ROCKS AND THEIR COLOR

There are three types of rock – sedimentary, igneous and metamorphic (which are in turn sedimentary or igneous rocks that have changed their form). These rocks look different, and preferably should not be mixed indiscriminately on a layout. My comments below are broad generalizations – there is a lot more variability than I describe. My comments on rock color refer to relatively fresh rock. In the real world, rock faces can be covered with mosses and lichens that give a variety of colors. Take lots of pictures in the area you are modeling to capture the local color of your rocks. I'll give appropriate acrylic paint colors for each rock type.

**Sedimentary rocks** consist of particles that have settled through water and accumulated as flat horizontal layers on the sea floor. The commonest types are sandstone, shale and limestone. Sandstones consist mainly of sand (quartz) grains, shale is composed largely of compacted mud, and limestone consists largely of the hard parts of various organisms that lived in the sea. To model sedimentary rocks, always use castings that emphasize the layering of the rocks. Keep the layering consistent in any given area of your layout.

Sandstones tend to be brown, buff and gray (Neutral Gray, Raw Umber, Burnt Umber, Yellow Ochre). Shales are normally dark gray to black (Mars Black), and limestones are a bluish gray

(Payne's Gray). Limestones are commonly associated with dolomites (limestones with some magnesium), and dolomites are a buff color (combinations of Yellow Ochre and Raw Umber).

Sedimentary rocks are common all over North America. In the mid-Continent, they occur in horizontal layers. In the Appalachian Mountain chain, and in the western Cordillera, sedimentary rocks are commonly tilted. In any layout-sized small area, the amount and direction of tilt will be consistent.

**Igneous rocks** crystallize from magma (molten rock). The crystallization may take place deep in the earth's crust, resulting in granite, or at the surface (as in lava flows) resulting in basalt. Granites are commonly gray (Neutral gray, Mars Black), and basalts are mostly black (Mars Black). Granites are homogeneous and have no stratification or layering. Lava flows commonly show layering (as in the Columbia Gorge). For geological realism, do not randomly juxtapose castings of sedimentary rocks and granites! The exposed faces of granites can be smooth (where they have been polished by the movement of ice) or roughly textured.

**Metamorphic rocks** begin life as sedimentary or igneous rocks. They have changed their form by geological heat and pressure such that the original minerals have melted and reformed. Colors are variably, and surface textures can be smooth or rough. Whereas you can easily distinguish sedimentary from igneous rocks on your layout, metamorphic rocks will closely resemble igneous rocks at the 1:87.1 scale.

## YOUR SCENERY CONCEPT

Before randomly planting castings on your layout, give some thought to what sort of rock scenery you want. For example, you may want to model a shallow cutting, or build a more substantial cliff toward the back of the layout. Choose some suitable rock castings, and see how they fit together. Trim them if necessary, to make them fit better. For sedimentary rocks, be sure the stratification is consistent in direction from casting to casting. When you have a clear idea of your scenery, build the hardshell with these castings in mind, so that the castings fit into the hardshell as closely as possible.

On the web, you'll find videos of folks who have made hardshell cuttings. They then cover this with Scuptamold, and randomly stick small castings into the Sculptamold. This is not usually geologically realistic, and may result in individual castings with stratification trending in various directions, or a random mixture of igneous and sedimentary rocks. This approach may be quick and easy, but is not so realistic as a carefully thought out scenery concept, with specific castings chosen to fit together in specific locations.

## INSTALLATION

1. Work on your concept, and select rock molds that will be suitable.
2. Make lots of castings of different shapes and sizes. Let them dry for at least a week. A "wet" casting will feel heavy and look a little gray. A dry casting will feel light, and will be a bright white color. Then paint them appropriate colors (see next part of handout).
3. Shape your hardshell or Styrofoam so that the castings will fit easily.
4. Test fit the larger castings against the hardshell. Make supports below the castings if necessary. Rub the casting against the hardshell to identify the contact points. To make two

castings fit together along one plane, first file the castings to make them as flat as possible, then rub the castings against each other along the contact plane until they fit without gaps.

5. Glue the first casting to the hardshell (“Amazing GOOP” or equivalent) and leave for an hour. Alternatively, use Sculptamold to secure the casting to the hardshell (examples on the web).

6. Fit the adjacent casting as closely as possible. Trim where necessary with a file, or break bits off the casting with pliers.

7. When the castings are in place, fill the gaps with Plaster of Paris. Try to keep it off the castings as much as possible, or alternatively, allow the plaster to cover part or all of one of the faces of the casting. Use hardshell to blend the top of the casting with adjacent scenery – you’ll cover this with scenic ground cover later.

8. There is commonly rock talus (scree) under steep rock walls. Use scrapings from your plaster bowl, or break up unwanted castings with a hammer. Stain the talus with acrylic paints, and install below the cliffs. Commercial talus is commonly too even in size and color, and tends to be rounded rather than angular.

9. Grass and other ground cover may encroach on top of rock walls, but leave the edges as bare rock.

10. Water commonly runs down rock faces. Use clear varnish, applied with an eye dropper, to make water streaks. Vegetation (lichens, mosses) may grow in and around these water streaks – use green or brown turf from Woodland Scenics or equivalent.

## **PAINTING CASTINGS**

You’ll find many videos on YouTube about painting rock castings. Some are effective, but they do not address the issue of varying colors on the different facets of real rocks. One of the most popular is the “leopard spot” technique put forward by Woodland Scenics (Google “How to color plaster rocks with Earth Colors liquid pigments”). The technique is based on random applications of color (“leopard spots”) to the casting. This can be effective if the casting is not strongly faceted. However, sedimentary rocks with distinct layers and facets are more realistically painted layer by layer, facet by facet. It takes much longer, but really looks good.

Study your casting, noting the various sedimentary planes (beds) and facets. Decide on your basic color palette – grays, browns and brownish yellows for sandstones, Payne’s Gray for limestones, Mars Black for shales and lava flows, and grays for granites. All of these rock types can be much darker and blacker on heavily weathered outcrops.

Once you have chosen the colors for your palette, you should aim to paint each bed or facet a very slightly different color. This will emphasize the various facets and hence enhance the textures and “rockiness” of your casting.

Begin with a small squeeze of each color on your palette (I use an aluminum pie plate). Tilt the palette and make a small puddle of water at the bottom. Use a soft brush about ¼ to ½ inch wide and mix a small amount of your basic color (probably Mars Black or Burnt Umber) into the puddle of water. Make sure all the paint is mixed in, or you will have dark spots all over your casting. Test this dilute wash on the back of the casting – if it is not too intense, paint one of the larger facets with this dilute wash. You can intensify the color later, but you can’t lighten it if you

applied the color too dark. Cover the facet as quickly as possible and keep the brush moving, or you will make round brush blobs on the casting. Gradually cover the whole casting this way, but vary the colors slightly from facet to facet. Do this by mixing colors on the palette, but keep taking newly-mixed colors through the puddle of water. Always test on the back of the casting before applying paint to the front.

You now have a casting that is painted, but the colors are weak and unsaturated. Go back over the facets with slightly more color on the brush, gradually building up the color to the intensity you want.

In general, foreground rocks will be darker, and background rocks lighter.

If you are placing several castings side by side, use the same group of colors for each casting.

After the castings are set in place, you will have filled in the gaps between them with Plaster of Paris. This always seems to adsorb paint differently from the casting, and you may need to use quite strong colors on your brush.