

# HAND-SCULPTED ROCK

Starting with raw concrete that gets molded by hand, this classic method allows you to re-create any variety of rock

**By Rebecca Robledo** Most hand-sculpted artificial rock is made by pneumatically applying concrete to a rebar frame. Some companies initially shoot a structure coat, and cover it with a texture coat for the sculpting and details. The product often is hollow and shot over a forming material such as metal lath.

Carvers sculpt the stone into the right shape. Then they create crevices and texture to give the appearance of individual rocks.

## THE BENEFITS

Hand-sculpting is more economical, particularly on large projects. It can also be carved to look like any kind of rock, rather than having to work with pre-existing molds.

## THE DRAWBACKS

This method can take more time to install than GFRC castings. In addition, it

relies heavily on the artisan's skill level to re-create a particular kind of rock.

## TIPS

**1** Make the frame as detailed as possible.

When designing the frame, or armature, some builders only outline a rough impression, then leave it to sculptors to carve the shape. This can remove a level of detail,



NATURAL DESIGN SWIMMING HOLES

Made from scratch: Using the hand-sculpted method for creating artificial rock, workers carve the product from pneumatically applied concrete.



NATURAL DESIGN SWIMMING HOLES

according to Diane Minks, art director at CemRock Naturalistic Environments in Tucson, Ariz.

“If the shapes are done well, then the carving enhances them, and the paint enhances the carving,” she says. “When you have a poor shape underneath and you’re trying to fix everything in the carving, it’s never going to quite hit the mark.”

When bending the rebar to depict major cracks, be sure to exaggerate them so they don’t fill up when you shoot the gunite. For a 3-inch crack running diagonally across the face, for example, you would want to make the steel gap from 7- to 10 inches wide, says David L. Manwarren, president of David L. Manwarren Corp. in Rancho Cucamonga, Calif.

## 2 Create the right amount of angularity.

Rounder forms are easier to design when hand carving because of the concrete’s natural slump, says William Ehler, owner of Natural Design Swimming Holes in Auburn, Calif. But take the time to create proper angles. To make this easier, Ehler’s crews enhance the concrete mix with 2 pounds

of structural fiber per yard. “It doesn’t want to sag as much,” he says. “The fiber helps you keep some substance to it, so you can model it more like you would clay.”

## 3 Do the right work at the proper time.

After the concrete is sprayed, carvers have a limited amount of time to work while the material sets up. Do some tasks while the material is fresh and leave others for after it sets up a bit. Start by forming the basic shape and then move on to the delicate cracks and fissures when the concrete is still at its most impressionable.

“You try to nail down the composition quickly — in the first 15 or 20 minutes of a carve — because the concrete is the most pliable,” Minks says.

After the gunite has set a bit, carve larger cracks. This leaves a rougher, more jagged feel. Otherwise, it may look like the cracks were cut cleanly as if through butter. “You’re using harder, denser tools such as trowels or knives, and cutting in the bigger lines,” Minks says. “As the surface hardens up, you pick away at it with trowels.”



DAVID L. MANWARREN CORP.

**Fine details: The level of detail on hand-sculpted rock relies solely on the skills of the carvers (top). The method can be used to create any variety of stone (above).**

## 4 Use the gun mark.

Some hand sculptors do everything they can to eliminate the pebbly texture left by the spray. But Minks uses it as much as possible. “You slightly modify it, but you don’t have to completely eliminate it,” she says. “There’s a natural randomness to the spray.”

“So if you try to maintain the integrity,” she adds, “you get this wonderful randomness in the carving that you don’t get if you hand-trowel and hand-touch everything.” ■