

## Restoration of Cuernavaca Stucco

(From a helpful homeowner)

Soon after Cuernavaca was built there was much discussion about the maintenance of stucco. Stucco is supposed to be a low maintenance surface that can last for forty or fifty years with little maintenance. Cracks are normal and usually don't present a problem, but some owners had leaks and believed that cracks in the stucco were responsible.

(I had some leaks which I finally traced to the half round windows that were installed in my unit. The problem was that the gasket that was installed along the half round radius did not make a good seal with the horizontal member. Water collected on the flat horizontal portion and ran to the right and left into the framing and down to the ground floor wetting the plaster. Using caulk to seal these joints on the half round windows corrected the problem and I have had no more leaks. I expect that everyone with half round windows may have experienced the same problem.)

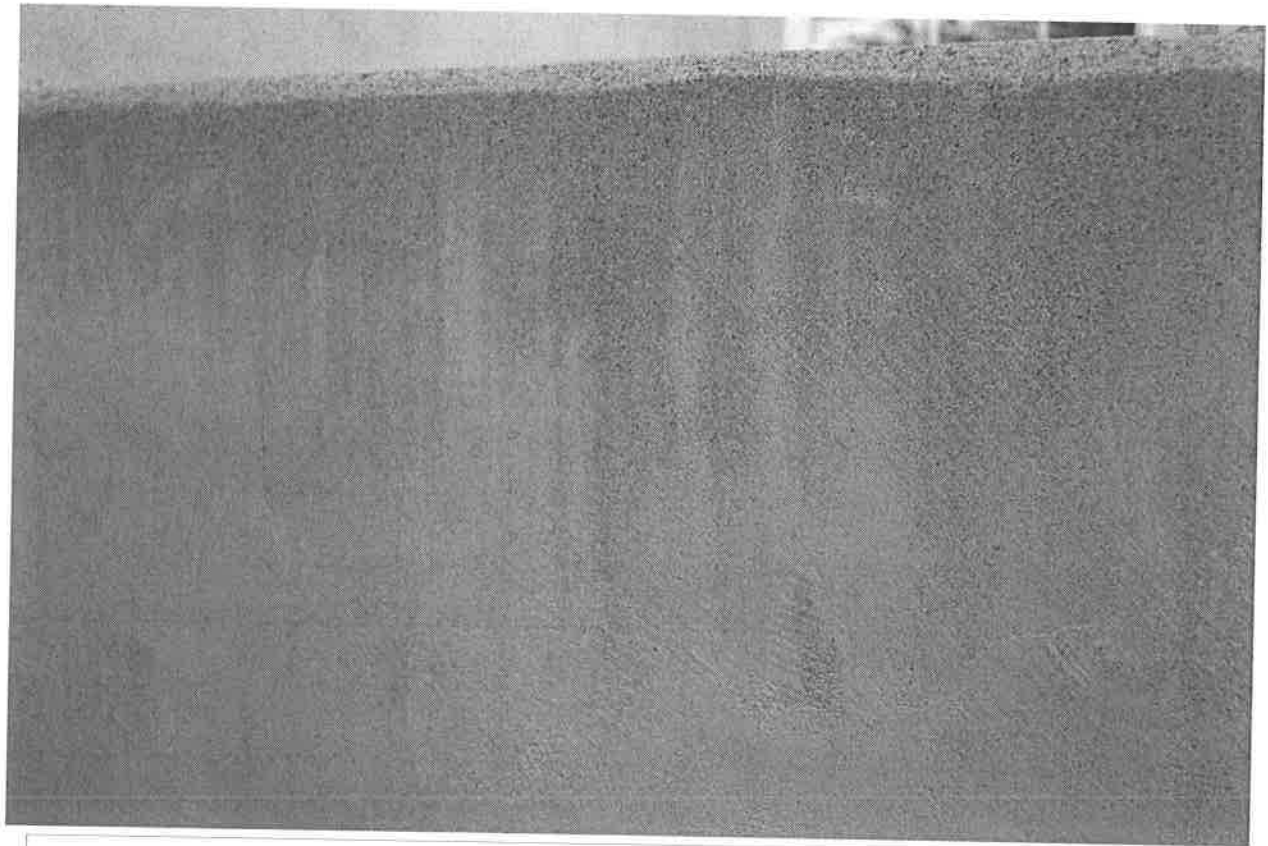
After much controversy and discussion the decision was finally made by the HOA to allow owners to paint the stucco with acrylic paint, and most of the units have now been painted.

The recommended method of restoring the stucco surface was a "fog coating" consisting of a fine cement coating of the same color which is customarily sprayed onto the surface in a fine spray, giving it the name "fog coating". This kind of coating is commonly used in Southern California, but is not common in Northern California for reasons that I do not know.

Although commonly applied, paint has some disadvantages when applied to stucco. Stucco is porous and moisture is absorbed when it rains and evaporated away when it dries. Water is prevented from entering the structure by the paper barrier applied under the first stucco coat. This is normal and according to design. If stucco is painted the outside surface is no longer porous. Some water still may find its way behind the paint over time and be trapped behind the paint. This may lead to blistering or peeling of the paint, to the growth of mold in the structure, and to damage to the paper barrier. As more paint is added over the years the problem is made worse. The long term low maintenance advantage of stucco has been compromised.

At Cuernavaca "discoloration" of stucco has appeared on all units along the roof

lines where rain water runs down from horizontal surfaces. It does not appear on the roof lines where a tile roof protects the stucco and prevents direct exposure to rainwater running off the roof. The "discoloration" may be reduced somewhat by power washing to remove the black material but it cannot be removed with any amount of power washing. A close examination of the "discoloration" reveals that the surface layer of the stucco has been etched away. All horizontal surfaces collect a black layer with time. It is organic as indicated by its removal by snails in a few places. My guess is that the origin of the black layer is in road or freeway debris, including tire particles. Tire treads contain 2.5% sulfur, which when oxidized will produce sulfuric acid. In any case, an acid is produced. The acid dissolves the surface of the horizontal stucco surface, and washes down the vertical surface where it etches away the fine surface of the stucco exposing the sandier undercoat. Where the horizontal surface is not stucco, the acid still washes down vertical stucco surfaces and dissolves the stucco.



**Wall illustrating etching of surface layer of stucco at top of wall**

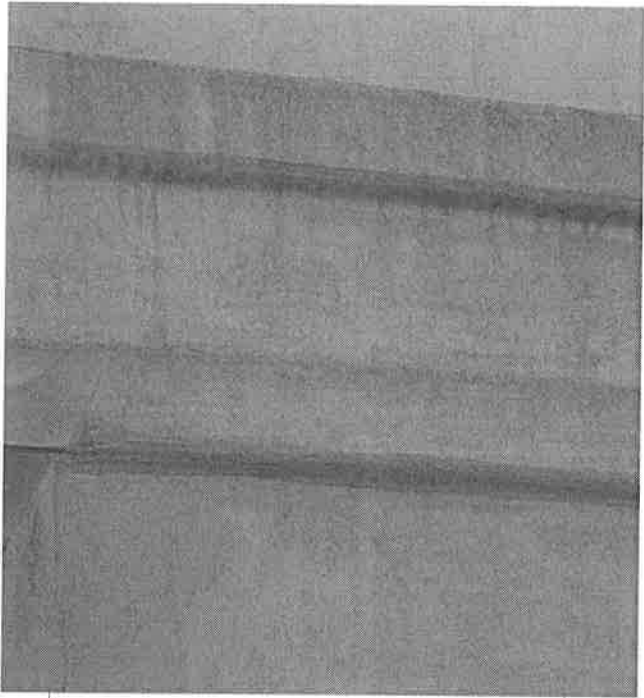


**Example of etching of stucco along roof line below horizontal surfaces**

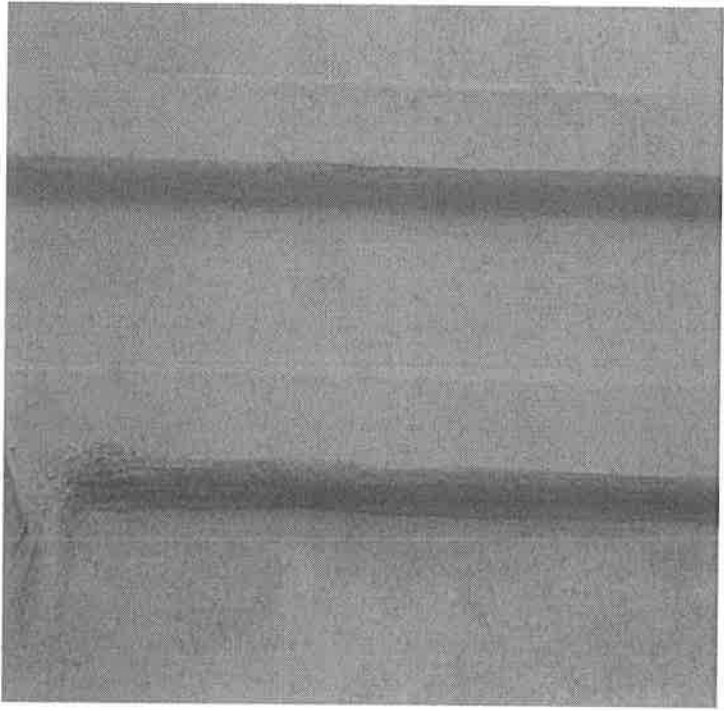
This etched surface can be restored very easily with a “fog coat”. Although customarily applied commercially by spraying, I have found that it is easily applied with a paint brush. La Habra Fog Coat No. 71 Miami Peach is an excellent match for our stucco. This is a cement product shipped in a bag like any other cement. It is mixed with water before applying and sets up in a few hours and continues to cure for days. The finished surface is indistinguishable from the original surface and wets with water as expected for any stucco surface. The material is very inexpensive. The major cost is in application. Spraying generally requires scaffolding and masking and an experienced applier. Application with a paint brush requires only a ladder but longer application time.

The next two pictures show the same area before and after Fog Coat application. This shows the good coverage of the etched area and the elimination of the problem. The Fog Coat has been applied to the two raised ridges and the area between the ridges but not to the wall below. The lighting is different in the two pictures accounting for the apparent color difference between the two pictures. In

the bottom picture the fog coat has been applied to the two ridges and the area between but not below the bottom ridge.



**Before Fog Coat**



**After Fog Coat**

This illustrates the close match in color between the coated and uncoated stucco.

I would recommend that this material be approved and offered as an option for units that have not been painted and whose appearance has been degraded by etching away of the surface layer of stucco as described here. I have done the work myself but painters can surely be found to do this. The material is easily prepared and applied. It is much more watery than paint requiring a little different technique, but I have done it and if I can do it, any good painter can do as well or better. I bought the fog coat from Cal Ply in San Jose. A 75 pound bag costs \$18 and I estimate that most units can be restored with one or at most two bags. It appears to me that restoring the etched areas does not require coverage of the entire unit.