

Coatings Consultants, Inc.

www.coatingsconsultants.com

8211 Needles Drive

Palm Beach Gardens, FL 33418

561-775-7151

fax 561-775-7050

HERE'S THE RUB

By Bob Cusumano

Once you've been a painting contractor for a short while, you start to realize that you'll often be blamed for problems aren't particularly your fault. Here's a situation that I've consulted on quite a few times:

A painting contractor has the job of painting several new apartment buildings. The specifications state that the contractor shall apply two coats of latex flat to interior drywall surfaces. The paint will be applied over a drywall texture applied by the drywall contractor. The contractor submits a contractor grade latex that meets the intention of the specifications and it's approved for use on the project. The first building is completed and tenant move in. As a result of scuff marks on the walls when the movers brought in the furniture, the tenants try to wash away the blemishes. Low and behold, the paint comes off! The painting contractor is told that the paint used has no "scrubbability". On the next building, the paint is changed to a "top of the line" latex flat. After that building is completed and attempts are made to clean the wall paint, the same result occurs; the paint comes off the wall. Although no one is sure of the cause of the problem, everyone's convinced that it is something that the painting contractor did wrong. Sound familiar?

The paints utilized on the project have been accused of poor scrubbability, but that's not the problem, Scrubbability is an inherent property of the coating and is in effect its abrasion resistance. ASTM D 2486 Scrub Resistance of Wall Paints describes a method in which paints that have been prepared and cured are tested for abrasion resistance by passing a stiff bristle brush over the surface and counting the number of cycles to failure by erosion. But in our case, the paint is delaminating, not eroding.

Some would describe this failure as a paint adhesion problem, but its actually a cohesive failure of the drywall texture beneath the paint. If a piece of masking tape is placed on the painted drywall and sharply pulled, then the paint is removed from the drywall. In this instance, light blue paint had been applied to the walls. Examination of the back side of the delaminated paint shows that white texture is attached to the rear of the paint as shown in photo #1. This is confirmed to be texture when a drop of acid is placed on the surface and violent fizzing occurs (photo #2).



Photo 1

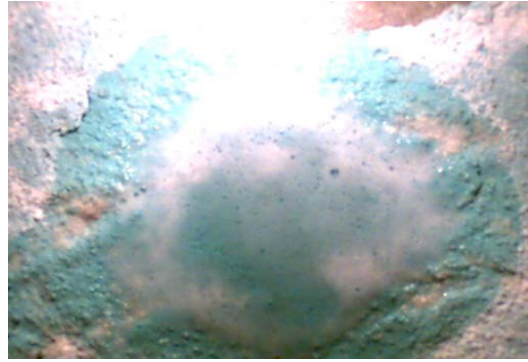


Photo 2

A cotton swab was dipped in red dye and taped to the surface of the drywall. After approximately fifteen minutes, the swab was removed and a section of the paint/drywall composite was extracted using a razor blade. Photo #3 shows a microscopic cross-sectional view. The various colored layers are the blue paint over the white drywall texture over the brown surfacing paper of the drywall. It can be seen that the red dye has penetrated through the paint and into the drywall texture.

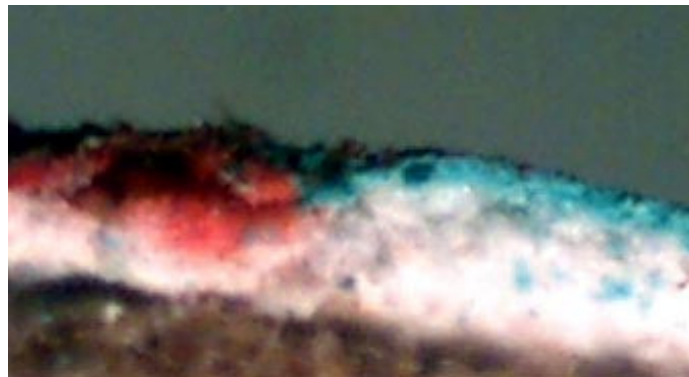


Photo 3

What's occurring on this project is that when water is applied to the painted drywall surface for the purpose of removing scuff marks, it penetrates through the paint into the drywall texture beneath. The drywall texture is re-emulsified, and the paint literally floats from the surface. The cause of the problem is the water sensitivity of the texture. This is caused by the fact that not enough resin has been used in the texture. I've had some cases where all living units in a complex were equally affected. In other cases, only some of the units had this problem. Upon further investigation, some texture installers mix up a large bulk batch of texture in the morning initially adding enough acrylic resin to provide a sound texture. After spraying for a few hours, water is added for consistency. After this is done several times throughout the day, and no additional resin is added, the texture loses its hardness and cohesiveness and the failure we've described occurs.

Once paint has been applied to an improper texture, there is little that can be done to improve the performance because the paint acts as a shield against penetration of a different coating. It is possible to predict and prevent this mode of failure. Take a piece of soft black cloth and perform a chalk test by wiping across the surface. If a heavy chalk is transferred to the cloth, then that

surface is likely to be trouble. Wet a cotton ball and rub gently on the texture, if it is easily removed, then the texture is sensitive to moisture. As we've stated in previous articles, it's always wise to do a "patch test" prior to full scale production. If marginal texture is encountered, then treating the surface like a chalky exterior repaint and priming with a penetrating primer can yield good results. Check with your paint manufacturer to determine a suitable primer. Of course, if an extra coat is now required, you should seek additional compensation. As painting contractors, we have enough of our own problems without being burdened by those created by other trades.