

# Coatings Consultants Inc.

Telephone 561-775-7151

*A consulting firm specializing in:*  
Testing of Paints & Coatings  
Quality Assurance Inspections  
Specification Writing  
Failure Analysis  
[www.coatingsconsultants.com](http://www.coatingsconsultants.com)

8211 Needles Drive, Palm Beach Gardens, Florida 33418

## WHEN THOUGHTS TURN TO SPRING

By Bob Cusumano

In Spring, a young man's fancy may turn to thoughts of love, but a painting contractor's thoughts turn to booking a season's worth of exterior repaint work. Like all baseball teams use spring training to review the fundamentals and hone their skills, it's appropriate that we use this time of the year to review some basic observations and tests you should perform prior to turning in those exterior repaint bids.

It is of utmost importance that we adequately assess the surfaces that we intend to repaint. Any peeling areas should be noted as requiring extra preparation. However, even if there are no visible signs of paint delamination, tests should be conducted to assure that the existing paint is not poorly or marginally adhered. For this we turn to the cross hatch adhesion test that I have previously spoken so much about. To perform this test, make an X cut with a razor blade into the substrate. Clean any contaminants off the surface and apply a strong masking tape over the X. Rub it on so that it is well adhered. Then sharply remove the tape and see what comes off. If nothing comes off, then the surface appears to be sound. If some paint layers are removed during the test and some remain on the building, then the layers removed during the test may need to be removed before repainting is performed. A second adhesion test should be performed at the same location to determine if even more previously applied paint coats are poorly adhered. If all of the paint coats are removed to expose the bare substrate, then stripping of all previously applied paint is necessary. Photo #1 shows the result of a cross hatch adhesion test where a green topcoat and gray layer beneath it have been removed exposing a white coat of paint.



Photo 1

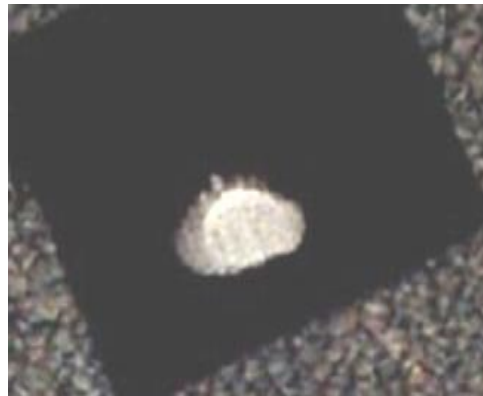


Photo 2

When the ultimate surface to be painted has been determined to be structurally sound, then that surface should be checked for contaminants that can interfere with the adhesion of additionally applied paint. The degree of surface chalk should be assessed by wiping a contrasting colored cloth across the surface (photo #2). Cleaning methods and the selection of an appropriate primer should depend upon the amount of chalk present.

Other contaminants which should be removed include rust stains, mildew, and dirt. Rust stains should be removed with an oxalic acid solution prior to repainting. Mildew and algae comes in several colors and is sometimes mistaken for dirt. Placing a drop of household bleach on the surface will identify which it is. If the discoloration is lightened or removed, it's mildew. If the discoloration is unchanged, it's dirt. Mildew can be removed with a sodium hypochlorite solution or a proprietary chemical. Dirt can usually be removed by pressure cleaning, but a detergent is sometimes required. When pressure cleaning, it is important to match the pressure to the need. On wood and other soft materials, a lower pressure must be used to prevent altering the profile of the substrate. On concrete, stucco, metal, and other hard surfaces, a greater pressure, including the use of a rotary tip, may be warranted.

At projects located in or near a marine environment, salts must be removed prior to repainting, otherwise a condition known as osmotic blistering can occur. Nature tries to dilute any chlorides trapped behind a paint film, so water vapor migrates through the coating causing the blisters. Salt deposits can be removed with a chloride ridding solution followed by flushing with clean water. Remember to paint these surfaces soon after cleaning so they are not re-contaminated.

Excessive substrate moisture and water intrusion should always be a consideration when an exterior inspection is performed. An electronic moisture meter can be an effective tool in detecting whether or not this condition exists. Physical signs to look for include water stains, peeling paint (photo #3), alkali burn (photo #4), and efflorescence (photo #5).



Photo 3

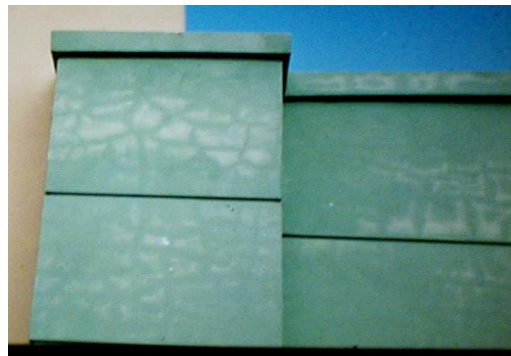


Photo 4

Once areas of high moisture have been confirmed to exist, it is necessary to determine the sources so they may be remedied. Flashings should be examined to ensure that there are no openings. All cracks or voids should be filled with an appropriate patching material, usually a flexible epoxy system for wood and an elastomeric patching material for masonry surfaces. Venting or weeping should be provided if needed to allow retained moisture to escape. Caulking should be checked for adhesion, flexibility, and cracking (photo #6). Where found to be defective, it should be removed and replaced.



Photo 5



Photo 6

Primers should be carefully selected to meet the deficiencies of the surfaces to which they are being applied. In some instances, the primer needs to be rust inhibitive, in other instances the purpose of the primer is to enhance adhesion, and in still other circumstances, the primer needs to have the ability to cover stains.

By conducting a thorough inspection and by performing appropriate field tests prior to submitting the painting bid, you can be sure that you have recognized the amount of surface preparation required to perform the job correctly. We all know that surface preparation is both the most expensive and most important part of a repaint job. By making a proper assessment of the job requirements, you'll eliminate potential pitfalls and will improve the value that your customer receives through a qualified bid. Make sure that you make the effort to educate the customer on why the extra work you intend to perform is warranted and will result in a longer paint life than some of your low price competitors.