

TCO 341

The Carlyle-Windsor House: A Case Study

As your first job after receiving your B.S. in civil engineering you go to work for your friend Bill Morrasco, who owns Vintage Restorations. Bill's company specializes in restoring older houses in the historical section of the city and they've been very successful.

For your first assignment, however, Bill asks you to clear up the company's first disaster. Six months ago, the company restored the Carlyle-Windsor house, a large wood-frame Victorian on the city's west side. Extensive structural repairs were necessary, and these proceeded without problems. However, the final step was repainting the exterior. Something apparently went wrong; the new paint is now blistering and peeling. The owner of the house is understandably upset and demands an explanation and a new paint job. Bill asks you to investigate.

Your investigation produces the following facts (in no particular order):

The Carlyle-Windsor house had several coats of paint previously.

The choice of exterior paint was between latex and alkyd (oil base).

It had rained heavily two days before the house was painted.

Latex paints perform better than alkyd on damp surfaces because moisture passes through them readily.

The Carlyle-Windsor house has a large elm tree on the north side; the south, west, and part of the east sides are in full sunlight.

Three days before the house was painted, the exterior was sanded down to bare wood, then a primer coat was applied.

Alkyd paints perform better than latex on previously painted surfaces.

Moisture meters are used before painting to test the percentage of moisture by weight of actual water present in the wood, plaster, or concrete.

Paint applied in direct sunlight may blister because the surface paint dries before thinner can escape; as the sun vaporizes the remaining thinner, the paint blisters because the thinner cannot escape through the outer skin of dried paint.

The percentage of water permitted in wood that is to be painted is usually 15 percent to 18 percent. 20 percent is too high.

It was partly cloudy on the day the house was painted; the high temperature was 76 degrees.

The primer coat should be allowed to dry at least two days before the finish coat is applied.

The moisture found in the walls on the day the house was painted was 19 percent.

The forecast for the week after the house was painted called for clear skies and unusually high temperatures.

The project supervisor selected alkyd paint as the most suitable for the Carlyle-Windsor house.

Allowing too long an interval between the application of the primer coat and the finish coat can result in intercoat peeling.

The most common cause of blistering and peeling is moisture.

Study these facts and arrive at a decision about the cause of the paint failure at the Carlyle-Windsor house.

Assignment: Write a short memo report for Bill Morrasco in which you explain your findings and make recommendations.

Source: T. Tryzna & M. Batshelet, 1988. *The Technical Writing Casebook*. Belmont: Wadsworth Publishing Company.