CURECRETE DISTRIBUTION, INC.

Technical Services

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THE ASHFORD FORMULA AND MOISTURE MIGRATION

The Ashford Formula is used primarily on concrete floors, or "slabs on grade," that are poured on a level soil surface. Moisture from below the slab can migrate through the concrete in the form of moisture, especially if no adequate barrier is in place to stop or retard it. The situation is worse if there is a high water table or poor drainage. These conditions can create water moisture that is under pressure and therefore difficult to control.

This "rising damp" or moisture migration does not always create a problem. On exposed concrete floors, the water moisture is released into the air, usually without consequence. The problem occurs if the floor is covered with something, such as tile or carpet, which traps the moisture. Water-based adhesives that will re-emulsify if moisture is present hold down most floor coverings, and in extreme cases, the tile, or carpet will detach. The moisture can also affect the bonding of many surface coatings.

Potential customers often ask if The Ashford Formula will sufficiently retard the migration of moisture to solve these problems. While the answer is generally that it can, it does so only under certain circumstances.

The volume of water moisture that migrates through concrete is measured by a simple test. Before we recommend The Ashford Formula, we advise that this test be done. A small pre-weighed dish of calcium chloride is placed on the floor. It is then sealed inside a small plastic cover and left for a minimum of 60 hours (do not exceed 72 hours). The dish is then weighed, and the results are compared with the previously known weight of the dish. The difference is then run through a formula, and a result is obtained. The result is expressed in pounds of water per 1,000 square feet, per 24-hour period.

That number should be compared with what the manufacturer of the flooring material or adhesive normally recommends. For rubber, solid vinyl, or wood flooring materials, the upper limit is usually around three lbs/1,000 $ft.^2$ /24 hrs. For composition tile, the number is slightly higher, around 5-lbs/1000 $ft.^2$/24 hrs. If the result of the test is below 8 lbs., The Ashford Formula will probably be able to bring the moisture transmission levels down to the specified standards, depending on the porosity of the concrete. If the reading is between 9 and 15 lbs., The Ashford Formula will likely not be the proper solution, but could still be tested as indicated below. On readings higher than 15 lbs, the Ashford Formula should not be recommended. (Incidentally, very few products can deal with hydrostatic pressure at these levels, especially in The Ashford Formula's price range.)

The performance of The Ashford Formula in controlling moisture migration is not guaranteed, as there is too many variables that affect moisture migration. Concrete porosity, ambient temperature, humidity, air pressure, and rising or lowering water tables to name only a few.

Even though field-testing has shown encouraging results, The Ashford Formula should be sold only as something to try as a possible solution, not as an ironclad remedy. Note also that the application of The Ashford Formula only *begins* the process of sealing the floor. If it does make a difference, it will take several weeks.

As a testing procedure, The Ashford Formula should be applied on a small area of the floor as per our normal instructions. Before re-doing the calcium chloride test on the area treated with The Ashford Formula, allow for at least two week's reaction time as the concrete begins to seal.

Note: *If the results are not satisfactory after two weeks, continue to test at two-week intervals as time allows. In the presence of moisture, the concrete's reaction with The Ashford Formula is accelerated, and the results should improve with each trial.*

The calcium chloride test is not expensive, and is easy to obtain. Complete kits can be purchased from Taylor Tools, 11075 E. 47th Avenue, Denver, CO. 80239. They can be reached by telephone at (303) 371-7667. Or Vaprecision located in Santa Ana, CA who can be reached at (800) 449-6194 or www. Vaportest.com. The suggested list price is approximately $15.00.

After each test has been performed, the dish may be submitted to the above address. The manufacturer can then calculate the results. However, the dish does not necessarily have to be sent in, as the instructions in the kit indicate how to perform the proper calculations.