

EXTERIOR BUILDING MAINTENANCE – A GOOD IDEA

Exterior building maintenance is a budget item that every property must carry. Unfortunately, the question is always how much maintenance and how often should it be done? The entire focus of any program should be the prevention of moisture from entering the building. The products and components designed for roofs and walls, including windows are intended to withstand Mother Nature for a specific period of time. Nothing lasts forever by itself. Moisture infiltration will cause aesthetic damage to both the exterior and interior of a property as well as potential structural damage if it continues for any length of time. In addition, moisture in a building is one of the key components in the growth of toxic mold.

Naturally there isn't one simple answer to this problem. But there are two simple choices to make from the very beginning. Will your maintenance process be a reactive one or a pro-active one?

A reactive maintenance program simply fixes things when they are either broken or become unsightly. A pro-active program identifies the immediate, the near future, and the long-term needs of the property, the potential costs associated with those needs and budgeting the funds necessary to satisfy those needs.

A consequence of a reactive maintenance program may be that once a problem is identified, the costs associated with the repair or replacement are not budgeted and naturally create turmoil within the organization. The general problem with a reactive maintenance program is that the planning process is an educated guess. The immediate idea is that a property will only look at the amount of money they are either saving, or not spending today. The appeal being that annual costs remain steady and/or low and thus can be viewed as a positive in the real estate market. The reality of the situation is that the property is going to become run down from lack of regular maintenance or as previously mentioned, not able to afford a necessary capital improvement that suddenly arises.

A pro-active or preventative maintenance program can be looked at like an insurance policy. Regular periodic investments (inspections) and intermittent investments (small repairs) can result in large capital projects being delayed well into the future. Another analogy is the old Fram Oil Filter commercial. You can pay small regular amounts for a long period of time, or you can pay one larger amount in the near future. The benefit of a preventative maintenance program works sequentially; in that a property can regularly budget for the necessary inspections (small fixed budget cost). When the inspection reports are submitted they should contain observations of component conditions with life expectancy projections, and recommended maintenance repairs. Now the property will have all of the necessary information to properly budget for those repairs when they are expected to become necessary. This whole process can ultimately save the property money, because if no maintenance repair work were to be done, then the capital improvement project could become necessary, much sooner. The question that needs to be answered is that if you could spend a little bit of money every year, and the result

being that you wouldn't have to spend a large sum of money for a very long time; do you believe it is a worth while investment?

Again, something very important to remember is that the focus of this process is to prevent moisture from entering the building. The benefits to prolonging the longevity of the building components are obvious, but another consideration is protection from possible mold growth. Recent developments from the legal side of the issue indicate that if you can demonstrate a clear and documented program that attempts to prevent moisture infiltration into your building, you can protect yourself from being found negligent, if a suit is brought against you. The costs associated with a good program will be far less than the settlement and legal fees if you leave yourself unprotected.

There are some very interesting articles on the internet, in various books and magazines, and even seminars that address mold and fungus and their effects on construction, re-construction, and the health of people in the buildings where mold is found to be growing. There are a variety of factors involved with this issue; the type of building or where in the building it is growing, the type of mold, and the types of people and their general health conditions. For example, if there is a musty odor in a room or office (an indication for mold) and the person sneezes a little more often, is it caused by the mold?

Most of the information regarding mold falls into five categories;

1. Cleaning solutions or mildewcides
2. What is mold? How does it grow? What supports the growth? How to test for it?
3. Legal implications and health implications.
4. Insurance implications
5. Any combination of the four items above.

Cleaning solutions or mildewcides are more relevant to small homeowner situations that might occur such as the mold and mildew you might need to address in your bathroom. And as a rule of thumb, affected areas of less than 10 square feet can be simply cleaned up using these cleaning solutions or mildewcides. However, if the area is over 100 square feet, a professional should be consulted and called in immediately.

Mold is a fungus, but not all fungi are molds. There are black, green and white varieties, gelatinous and furry varieties, opaque and clear varieties. There are thousands of mold species, but there is one that is considered problematic wherever it presents itself. This mold is called *Stachybotrus Chartarum*.

Stachybotrus Chartarum is problematic because of the microtoxins that it gives off at certain stages of its life. Some microtoxins are potent inhibitors of DNA, RNA, and protein synthesis while others are immunosuppressive agents. However, because these molds have not been proven to cause a health problem with people, there has been no level set by insurance companies, lawyers, and doctors as to what type or amount of mold is problematic to your health.

The sequence works like this; a musty odor is detected, possible health effects become evident, the musty odor is traced to a room or an area of a room. The mold infested building components are removed and replaced and the source of the moisture is identified and eliminated. Depending upon the legal and insurance situations, air testing can be done as the final step.

Air testing **and** dry residual testing is necessary for all public buildings because the insurance companies, lawyers, and doctors will all require this as a base line for future testing levels. However, testing is not always required in order to perform remediation.

There are two main types of sample testing; air sampling and bulk sampling. Through viable airborne sampling the concentration of *living* mold spores suspended in the air is determined and with non-viable air sampling the level of *all* molds suspended in the air is determined. Bulk sampling will stipulate what species of mold(s) is present, how severe the growth is on the sample and the CFU's (colony forming units) present in the sample.

Typically, when a mold spore lands or settles on an area, it will remain dormant until it has enough food and water to support growth. If it lands on food (organic material) it will simply wait for moisture to come in contact with it. Once the moisture is present, growth will occur at an alarming rate, taking only days to become a nuisance.

There are two key points to be considered when doing mold remediation when the affected area has not been subjected to gross water problems (i.e. plumbing, HVAC, roof, window, wall, or basement leak). These are (1) the temperature and (2) the %RH (relative humidity)

The basic premise is that most of the building materials present in our buildings (except brick, concrete, and steel) are considered a food source for mold. It is therefore imperative to prevent any moisture from entering the building. There is a Mold Restrictive Construction materials list that is currently being compiled and manufacturers are working to create new materials that can be added to the list. Items such as the previously mentioned concrete and brick are now on the list, and fiberglass backed sheetrock may soon follow.

The state of the art best prescription for preventing moisture intrusion and mold formulation is a preventative maintenance program utilizing consultants and professionals qualified in building envelope technology and mold detection/remediation and trusted on call licensed contractors.

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