Mold and the roofing industry

by **Mark S. Graham**

During the past several years, there has been increasing discussion and concern regarding mold and mildew in buildings and possible resulting "sick building" syndrome, the physical effects of biological growth in buildings on buildings' occupants. This topic is not new; the recent furor appears to have started several years ago after CBS' "48 Hours" aired a news segment about toxic mold titled "Invisible Killers."

Since then, there have been an alarming number of mold-related claims and lawsuits filed by building owners in California. But the claims are not limited to the West Coast. In Chicago, for example, NRCA has received reports that a $250,000 residence recently was torn down and another residence is undergoing more than $160,000 in repairs as a result of mold claims. In these cases, roof leakage and moisture infiltration from ice damming specifically are cited.

Mold and mildew

Mold and mildew often are used as colloquial terms for many types of biological growth from any number of fungi species. For such biological growth to occur, mold spores must be present; a sufficient nutrient base must be available; temperatures must be between 40 F and 100 F (4 C and 38 C); and there needs to be moisture. Mold spores almost always are present in interior and exterior air, and almost all commonly used building materials can support mold growth. In addition, buildings' interior temperatures usually are within the ideal range for fungi growth. Therefore, attempting to control moisture typically is viewed as the most practical way to minimize biological growth.

Preventing water leakage into buildings' interiors is important in minimizing biological growth in buildings. Obviously, roof assemblies play a large role in preventing leaks and are possible sources of leakage. Quick detection and repair of any known leak, as well as proper repair of any affected surfaces or construction, also are crucial in preventing biological growth.

Moisture in forms (phases) other than liquid water also is a concern when considering biological growth. Many fungi species can grow and flourish in ambient humidities as low as 70 percent (water in its gaseous phase). Such relative humidity values are not uncommon in certain building types and spaces.

For example, in attics, relative humidities readily can exceed the 70 percent threshold even when code-prescribed vapor retarders and ventilation are used. Also, in humid climates, indoor and outdoor ambient relative humidity values of 70 percent or higher are not uncommon.

Health effects

The effects of mold and mildew in buildings are not only visual. Because of increased public consciousness, concern about indoor air quality and sick building syndrome are coming to the forefront.

Although mold and mildew typically have little or no physical effects on most people, some who contact such biological growth often experience significant effects. Mold, mildew and fungi exposure can elicit allergic-type responses varying from a runny nose to violent bronchial attack. The extent of effects varies from person to person.

Such possible significant health effects associated with mold and mildew appear to be the basis of most claims and litigation.

Closing thoughts

Scientists and litigators rely heavily on the concept of controlling moisture as the most practical means of preventing mold and mildew. Although this concept may be true theoretically (compared with attempting to eliminate mold spores and nutrient sources), it is not practical for most buildings.

The interior environments of most buildings capable of being occupied are conducive to biological growth. At the same time, it largely is impossible to prevent moisture in liquid or gaseous phases from entering buildings to the extent the moisture would not contribute to biological growth.

Given the amount of discussion and concern regarding mold and mildew in buildings, the roofing industry should prepare itself for additional scrutiny regarding these topics.

NRCA closely is monitoring developments related to mold and mildew, sick building syndrome, and related claims and litigation attributed to the roofing industry. If your company is involved with such a claim or litigation, contact NRCA's Technical Services Section at (800) 323-9545 to report the situation.

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