



FREQUENTLY ASKED QUESTIONS MOLD/ODOR ISSUES - RESIDENTIAL BASEMENTS

QUESTION: The 1500SF basement at my residence has a mold/odor problem. A dehumidifier alone has not resolved the problem. Any recommendations are appreciated.

ANSWER

First... Identify and control any source of active water impact. Make sure the water from the roof drains away from the foundation (not pools). Extend the downspouts from the gutters at least 5 feet from the foundation. Keep in mind, moisture is not only from bulk sources but also from water vapor penetrating through foundation walls and floors.

Second... Check the relative humidity level in the basement. Relative humidity exceeding 60% can promote mold growth and amplify bacteria resulting in the typical musty odor. Excessive RH may require more than 1 dehumidifier; frequent emptying (more than once per day) may indicate your dehumidifier is undersized.

Note: A dehumidifier's capacity is classified by its water removal rate (pints per day). Household refrigerant dehumidifiers work best at high temperatures (80°F) and high moisture levels (60% RH). As the temperature or RH falls, the effectiveness of the dehumidifier to remove water diminishes.

Third... If the basement is finished, open up interior doors within the basement to allow air to circulate for more effective dehumidification. Use a fan at slow speed to aid in circulation. Do not open windows to the outdoors as outdoor moisture in the air can condensate on cold interior surfaces.

Fourth... If there is a sump pump in the basement, install a cover over the opening. This is frequently done where there is also a radon problem.

Mold/odor problems in residential basements frequently occur when the homeowner converts the basement into a family room. This looks easy, but it takes planning and utilizing the right building materials. Your basement is like a cave, it is below grade with a lower temperature and little illumination. It was not designed for occupancy and in many cases there may be no active supply or return vents to condition the space with the residence HVAC system. Cloth covered furnishings, drapes and ceiling tiles may act like a sponge and also cause odors in high humidity conditions.

Do's and Don'ts of basement conversions include:

- **Don't carpet the floor... use tile.** The tile should not be applied directly to a bare concrete floor slab. A vapor barrier (such as plastic sheeting) should be installed over the concrete slab, followed by a subfloor.....
- **Do not panel or drywall directly against walls...** Painted exposed block surfaces works best since you can visually inspect any water damage if/when it occurs. Never wallpaper walls. If you plan to drywall walls, again water resistant construction and methods must be utilized.
- **Do coat the floors and walls** with a suitable sealer that penetrates into the concrete and creates a vapor barrier. Note that new concrete needs to cure prior to application.
- **Do add sufficient supply/return vents** throughout the basement to provide air circulation.
- **Do have a plan for water removal** if/when a water release or flood occurs.

When you need professional help or advice, email Alan Sutherland, CIH, CHMM at a.sutherland@aetinc.biz or call 610-891-0114. We provide nationwide services; phone consultations are free. Check out the full range of environmental contracting/consulting services we provide at our website www.aetinc.biz

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