



## Minimizing mold growth

- **Air Conditioner Operation:** Always set the fan mode switch of your air conditioner thermostat in the AUTO position, never in the ON position. Why? When set to the ON position the blower fan runs continuously and the moisture which has condensed on your air conditioner's evaporator coil during cooling is re-evaporated and blown back into your home before it can drain off the coil and out of your home. This causes the relative humidity in your home to be significantly greater than if the air conditioner thermostat fan mode switch is set to the AUTO position.
- **Air Conditioner Selection:** If you are building a new home and can choose, then choose an air conditioning system with a variable speed air handler and an operating selection mode for "enhanced moisture removal." This is a good option for multiple reasons: the units are SEER 14+, they are quiet and they do a better job removing moisture, particularly under part load conditions. They accomplish this by starting the air handler fan at a lower speed during each cycle, which improves moisture removal.
- **Air conditioner sizing:** The more an air conditioner is oversized, the poorer its humidity removal performance, especially at higher thermostat settings. This is because, during each air conditioning on cycle, the moisture removal does not reach full capacity for about the first three minutes of operation. The more the system is oversized, the shorter the on-cycle during which moisture is removed.
- **Thermostat Set Point:** Set the summertime thermostat to the highest temperature that is comfortable for you. A temperature of 78 F or greater is recommended. Never lower

the thermostat temperature in an attempt to control humidity in your home - this will not work. Why? Setting the thermostat temperature lower does two things that are counter to your goal of reducing the moisture content of the materials in your home. First, contrary to what you might intuit, it actually slightly increases the indoor relative humidity in your home! And second, and more important, it decreases the temperature of the materials in your walls, floors and ceilings of your home, thereby significantly increasing the potential for actual moisture condensation on these elements of your home. A side benefit of setting your thermostat at higher temperatures is that it significantly decreases cooling energy costs.

- **Ceiling Fans:** Use ceiling fans in the summer – they allow you to be comfortable at higher air conditioning thermostat temperatures. And they will save air conditioning energy costs if you use the most efficient ones.
- **Interior Doors:** Interior doors should be kept open when air conditioning unless your heating and cooling system has a fully ducted return air system from each room of the home or unless specific and sufficient return air transfer pathways have been installed to ensure that closed interior doors do not result in space depressurization problems in the home.
- **Measure the RH in Your Home:** Indoor relative humidity (RH) should be between 20% and 40% in the winter and less than 60% the rest of the year.<sup>6</sup> Some experts recommended that the indoor humidity levels in general should be between 40% and 60%.
- **Bathrooms:** Most bathrooms, particularly tile in and around showers and tubs is regularly wet. As a result, most bathrooms grow mold and require regular cleaning. A weak solution of water and common household bleach can be used to regularly clean these areas and keep them free of mold.

- **Air Conditioner Maintenance:** Change your filters regularly and use pleated filters. Once a year get your air-conditioners professionally serviced. At that time make sure coils are clean, the condensate drains properly and that the drain pan has no mold.
- **Exterior Water Management:** Redirect water away from the home's exterior – redirect sprinklers so that they don't spray on the walls. Do not landscape with hills that direct water flow towards the home. Use gutters. Keep down-spouts free of debris and direct outflow away from the home.
- **Small Leaks:** Even small water leaks will cause mold problems. Rainwater leaks from improperly flashed windows, wall and roof penetrations and plumbing leaks should be promptly repaired. Periodically inspect under sinks and vanities for signs of water leakage. Use your nose and smell for "musty" or "earthy" odors - they usually indicate the presence of mold. Fix all water leaks promptly.
- **Water Damage:** Water damage from flooding or other major water intrusion in homes should be dried within 24 hours if at all possible. For severe flooding and severe water damage for more than 48 hours, a trained restoration professional should be consulted regarding cleanup procedures.
- **Moisture Condensation:** Single-pane, metal windows, which are common in Florida, generally condense water on the inside in winter. It is good practice to remove this condensation before it can run off and be absorbed by porous materials like wood casing or gypsum wallboard. Condensation can also occur on other surfaces in homes. If condensation is noticed on interior surfaces in summer, it may indicate a number of problems, including inability to control indoor humidity; air conditioner supply registers aimed directly at interior surfaces; duct leakage problems and pressure imbalances; or all of the above. If you notice indoor surface condensation during summer, you should

contact a professional to help diagnose the cause. However, during early spring when the ground is still cool, it is quite possible to experience some condensation on tile floors on slab-on-grade homes that are open to the outdoors. This should not be a regular occurrence, but only something that occurs rarely.

- **Exhaust Fans:** Make sure the clothes dryer vent goes all the way to the outside of the home, not to the crawlspace or to the inside of the attic or the house. The same goes for bathroom vent fans. It is also important for the kitchen range hood to vent to the exterior as well. Re-circulating stove and kitchen vents provide no removal of stovetop moisture and inferior control of cooking related pollutants compared with venting completely to the outdoors. It is best practice to either have bathroom vent fans interlocked with the light switch so they do not get left on or have them switched by a manual timer that will shut them off after a period of time, or control them by humidistat.
- **Closets:** Fungi like the dark and closets are rarely supplied with conditioned air as a standard part of air conditioning systems. As a result it is not all that uncommon to have mold or mildew occur in closets, especially on leather. Leaving the closet doors open to provide more conditioned air circulation or leaving the closet lights on with the door closed so as to raise the temperature (which lowers the RH) can reduce these problems.
- **House Plants:** Minimize live house plants, especially if you have any trouble controlling the relative humidity in your home.