

## HOW TO SOLVE YOUR MOISTURE PROBLEMS

There is no one solution for all moisture problems. However, one common element to all moisture problems is a high level of humidity in the dwelling. To complicate matters, most people do not know the level of humidity in their homes.

### BASIC TERMS:

1. **Humidity** is the percentage of the moisture vapor in the air at a given temperature.
2. **Moisture Vapor** is created when water evaporates and it is usually invisible.
3. **Dew Point** is the temperature at which water vapor condenses back to water again.
4. **Moisture Problems** are created when an excessive amount of water condenses on windows, walls, and floors, often giving rise to mildew growth.

### STEP ONE:

Get an inexpensive humidity gauge and keep a daily record of the level of humidity both morning and night through the coldest months. Keep a record of the outside temperature also.

### STEP TWO:

Check the chart at the right to see if your level of humidity exceeds the amount allowed. Windows are the first surfaces to show condensation typically. Newer windows may allow an additional 10 to 25 percent greater level of humidity.

#### Allowable Relative Humidities to Minimize Condensation on Windows

Outside Temperature °F	Inside Relative Humidity
-20	15 TO 20
-10	20 TO 25
0	25 TO 30
+10	30 TO 35
+20	35 TO 40

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**STEP THREE:**

Try to determine what the sources of moisture production are in the dwelling unit. Attempt to reduce the amount of water vapor being introduced into the dwelling. Then, try to bring the humidity level down by increasing the amount of ventilation within the unit. On warm days, the windows can be opened and the exhaust fans can be used to change the air within the unit.

Common Sources of Moisture Production	Action Taken to Reduce Humidity
• <b>Cooking on stove top with no lids</b>	<ul style="list-style-type: none"> <li>• Cover pots and pans.</li> <li>• Use range hood exhaust fan when cooking.</li> </ul>
• <b>Showering</b>	• Use bath fan with shower or bath.
• <b>Drying wet clothes</b>	• Use dryer vented to the outside.
• <b>Several Plants</b>	• Reduce number of plants.
• <b>Fish tanks</b>	<ul style="list-style-type: none"> <li>• Fish tanks should be covered.</li> <li>• Reduce or eliminate tanks.</li> </ul>
• <b>Several occupants in small space</b>	• Leave fans on for one hour/day for every two persons.
• <b>Wet areas around the foundation</b> (Check with a professional)	• Improve drainage away from the foundation.
• <b>High water table</b> (Check with a professional)	<ul style="list-style-type: none"> <li>• Insure footing drains are working.</li> <li>• Install continuous ridge and soffit vents, if possible.</li> </ul>
• <b>Poor attic ventilation</b> (Check with a professional)	<ul style="list-style-type: none"> <li>• Extend the attic insulation to eaves.</li> <li>• Make sure vent areas remain clear of insulation.</li> </ul>
• <b>Storing wet wood in the basement</b>	• Bring in a small amount of seasoned wood for storage in the basement.

### **MOLD AND MILDEW PROBLEMS:**

Mold and mildew can be removed with bleach or vinegar. Those surfaces should then be painted with mildew resistant paint to resist their recurrence. A temporary solution might be to install a dehumidifier or air purifier until a more permanent solution can be found. Dehumidifiers can be expensive to run.

### **COMPLEX MOISTURE PROBLEMS:**

Some situations take more time and expertise to solve. Even so, these three steps should be taken first. Basements and crawl spaces can add a large quantity of moisture to the air and must be checked by a professional for possible solutions. Because these spaces are generally cooler, that air can hold more moisture. Then, when air rises into the heated space, the humidity goes up significantly. Some people store wet wood or vent their dryers in these spaces as well. These kinds of practices must be stopped before a permanent solution can be achieved.

Using exhaust fans is usually part of the solution, but sometimes additional fans or better quality fans may be needed. In some cases, these fans may be switched to timers or humidistats to ensure that enough ventilation is maintained.

Adding storm windows and doors may provide some relief from condensation. Sometimes windows, doors, sills, and even frames have to be replaced because of severe mildew and rot. This condition should never be allowed to go that far typically.

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