

COLUMN FOR JUNE 4<sup>TH</sup>, 2005.

HEADLINE; UNDERSTANDING HUMIDITY

*Q: Our basement has always been musty smelling. What can we do to understand the problem and then what do we do?*

A: A musty smelling basement is often a sign of excess humidity in your home. The first thing the reader should do is establish the level of humidity in the home. Installing an instrument called a hygrometer does this. This measuring device, sometimes called a humidiguide or a humidity indicator measures the level of moisture or water vapour in the air. There are two types of hygrometers, mechanical and electronic. You will usually find these at your local hardware or building supply in the area where the thermometers are sold. Sometimes they are combined in one instrument. The mechanical type is the most inexpensive, they reasonably accurate once calibrated, do not require batteries and can be physically adjusted if found to be out of calibration. Their drawback is they lose their accuracy if the humidity does not change over a long period of time. The electronic models are very accurate in the mid to high ranges. Slow response to changes in humidity and lack of accuracy at low humidity coupled with the need for batteries are the major shortcomings of this type. These instruments measure in percentages. The commonly accepted levels of humidity are a minimum of 30% humidity and 60% as a maximum reading. During the winter if you notice your skin is very dry and you get excessive static from doorknobs or your carpets, it is likely the home lacks humidity. On the other side is the musty smell our reader has noticed, excess condensation on your windows and mould are also side effects when the levels are above 60%. Each home is different and while these numbers are the accepted averages, some homes at 50% humidity may be too high. There is an increasing concern over mould in today's homes and maintaining your humidity is the number one method of controlling conditions that permit mould growth. Once you have bought a hygrometer, do not expect instant results. It can take over two hours for this instrument to provide a stable reading. Do not position it anywhere that heat can come in direct contact with the instrument. Make sure you follow the manufacturers directions for calibration and then do this annually to reset your instrument. Position this instrument where the problem appears to be or in the area of the home that you spend most of your time.

The vast majority of moisture issues are in the basement as our reader suspects. This is where a dehumidifier comes into the picture. There are chemical absorbent bags and some people even use road salt. The salt is contained in a bag; it absorbs the water and drips into a pan for disposal. Both of these methods are very basic and not extremely efficient. The two most common types of dehumidifiers are the dehumidifying ventilator and the heat pump style. The ventilator type operates on a sensor and an exhaust fan. This type of dehumidifier works best in a basement. Ventilators use less electricity than the heat pump style but are not effective in very hot and muggy weather as they reintroduce exterior air to the home. If this unit is not air balanced it can cause combustion gas spillage if you use wood or gas for heating or hot water. A professional HVAC technician who understands these units should install it. The most common type used today is the heat pump style. They use a fan to draw the indoor air over a coil that is refrigerated to near freezing. The excess moisture in the air turns to water when it hits the coil. Most of these units have a small container to hold the water. The better models can be hooked to a garden hose and drained to a sump hole or the floor drain in your basement. The heated dry air then returns to the room. This is accomplished by using the heat from the compressor and fan motor. These units are not cheap, a good one with the energy star rating can easily run over \$300.00 and will cost anywhere from \$150.00 to \$180.00 per season to run. This is based upon operating for approximately 80 days a year. Take your time buying a dehumidifier and check the efficiency factor on the unit, the higher the EF rating the better. There are different sizes, know the square footage of your home before you buy one. Some have two speeds and check to see whether it has an automatic defrost. All of these features are important. Try and get the unit in a central location, not in a basement bedroom. They are noisy during operation. A laundry room works well but stay away from the furnace. Follow the manufacturers instructions for cleaning and maintenance.

One last tip, look outside your home. Are your eavetrough downspouts draining a good distance from the home? Is your landscape work containing water against the foundation? It should drain away at minimum of ¼" per foot. Proper management of ground water can go a long way to helping a damp basement.

Now the answer to last week's question. What is a Pent? The answer was C) a roof other than a shed roof having a single slope. Now this week's question. What is a ribbon? Is it A) a narrow board set into studs to support joists B) a style of brick accent on heritage brick veneer face C) a band effect used on horizontal vinyl siding. The answer in next week's column.

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