

ASK THE INSPECTOR COLUMN FOR AUGUST 3, 2016  
HEADLINE: PLANNING AHEAD FOR A BASEMENT RENOVATION

The popularity of finished basements never seems to diminish and, with the approval and guidance of the city, permission for use as a rental suite is a lot easier to do today. From an urban use perspective, this use for a single person, a couple, a retired individual or a family member makes good sense today.

However, far too often I see basements that are a collection of partial renovations with little thought to overall comfort and function. Failure to address the dampness issue, improper heating distribution and incorrect installation of insulation are some of the larger concerns I see. The results are often poor air quality and the resulting mould problems.

Recently, most of the questions I have had are about older homes with block foundations. A single concrete block can absorb up to four pounds and the cavities can hold up to a gallon and a half of water. Anywhere up to or over 1500 blocks make up the foundation of an average bungalow. The likelihood that the asphalt coating called damp-proofing, which was commonly applied on the exterior of blocks on homes of this age, is still effective is questionable.

While everyone wants to start their project today, I recommend you confirm the status of your basement for dampness before getting started. If you are not sure, monitor the basement walls and floor for a year first, especially if you have any inclination that the basement has dampness issues. Make up a supply of one foot square pieces of clear plastic and tuck-tape them to the walls. Attach a minimum of two dozen pieces to the walls in a random pattern and 4-6 pieces on the floor. Most basements are dry in the winter, humid in the summer. With a normal spring thaw and fall rains, plus the occasional wet period, you will see varied changes in these test patches. If you find they are consistently wet for the majority of the year, you should be talking to a reputable foundation contractor.

If, however, the patches seem to vary with the seasons, you stand a reasonable chance of controlling the dampness. Purchase a good dehumidifier; one that is EnerStar rated is the best choice. Your basement should remain under 50% humidity, 12 months of the year. If you find the dehumidifier never stops while the testing period is going on, call in that foundation specialist.

While the vast majority of block basements will pass the test, just for peace of mind, a good coating of reputable interior foundation paint is worth the extra dollars. While tarpaper attached to the blocks, wood studs and fiberglass insulation is the most common method of framing and insulating a basement, when asked, I recommend using polystyrene foam board. Tests have shown this material is not as susceptible to wetting and will dry out more quickly when it comes in contact with moisture. Strap over this material and then apply drywall, as required by code. Foam boards can be installed with construction adhesive or tapcons. Polystyrene foam cuts easily with a handsaw or utility knife. It comes in 2 foot by 8 foot sheets and has an overlapped edge to fit tight. My personal choice is to use tapcon screws. These hardened screws are designed for concrete; they do not need an anchor. If you buy a starter box they usually

include the special drill you need to pre-drill your holes. One tip, use a 5/8 electrical drill, not a portable power pack drill; the bigger drill has more constant power.

When it comes time to finish the area between the floor joists sitting on your foundation known as the rim joist area, you have two choices. You can fit smaller pieces of the foam board and caulk the seams or use standard spray foam in the can. I prefer the foam, as it gets into the cracks and fills around any ducting fully. Take your time here; the regular foam expands considerably quicker than the window formula. Seal along the edge of the plate that the floor joists sit on, a good grade of urethane sealant works well here.

The one area many people ignore is the concrete pad. You have a couple of choices here, as well. If you are convinced your pad is dry and are looking for a warmer floor, you can lay the foam board directly on the pad and then install a 3/4 inch plywood subfloor on top of the foam board. The other option is a raised sub-floor. There are a number of companies that manufacture these two foot square sub-floor tiles, Dri-Core being the most well recognized. They have a raised polyethylene material that looks like bubble pack on one side and the finished side is water resistant chipboard/OSB. This is your finished sub-floor and you can install carpet or laminated flooring right over top. The advantage to this floor is, if you do get any moisture, your floor is raised and it will dry up or drain away. The manufacturer's claim that their "tiles" help reduce mould because of the air passage. I have used this floor in the basement of my former home and was impressed with the ease of installation and the immediate warmth to walk on, even as a sub-floor.

My last suggestion is to have your heating contractor review the ducting and your plans for creating rooms in the basement. The vast majority of basements I see lack proper return air and, in some cases, there is simply not enough heat. With that in mind, check to see if your furnace is large enough to heat the additional finished area. Remember you are creating finished rooms, not unlike building a house.

Done properly, with some planning, a finished basement can add a second income or provide a place for the kids to escape while Mom and Dad have company, a guest space or another bedroom for a growing household. It will also add some amount of value to your home.

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