

WARM FLOORS – BUT ONLY SOME OF THEM



The PEX tubing for the hydronic heat being installed. Next week, the concrete floor will be poured, and this tubing will be embedded inside

In our current two-story townhouse, we always struggled with balancing the internal temperature throughout the house. During the winter we were always trying to close off the forced air vents in the upstairs bedrooms (as we all like to sleep in cool bedrooms without super heated desert dry air blowing down on us). Short of taping the ducts closed, however, we were never very successful at keeping the hot air from blowing into the bedrooms, so we hired some HVAC contractors and had them split the heating and cooling into two separate upstairs and a downstairs zones with separate thermostats and separate ducting. What a wonderful difference this made! After a few years of living with the two zones, we have discovered that not only do we *never* turn the heat on upstairs during *any* season, but that even if we only heat the downstairs, we often **still** have the bedroom windows open to keep them cool enough to sleep at night. Yes, warm air rises.



"Warmly Yours" electric heating mat being embedded in Natalie's bathroom floor

I suppose if we were smart, we'd put the bedrooms all downstairs, and the living spaces upstairs, but maybe in the next house we build (ha ha).

For this house, we decided that given the large central stairwell, and the extremely open upstairs floorplan, we would only put hydronic heat in the downstairs concrete floors, and count on the HRV (Heat Recovery Ventilation) system to keep the air circulated during the winter when it is cold enough to shut the house up tight.

The only heating upstairs we are putting in are electric warming mats embedded underneath the stone bathroom floors. Because the bathrooms are the farthest from the stairwell, and also we tend to like the bathroom a bit warmer than the bedrooms, we decided we should heat these. (Not to mention that cold stone floors are quite unpleasant under bare feet!)

The energy we will use for two heated floor bathrooms if we heat the floors for two hours in the morning, and two hours at night is about 1 kWh per day. We have the same type of floor warmer in our current bathroom on a similar schedule with a programmable thermostat and we have found that we use it from October through May (8 months of the year – interestingly more of the year than we use the central heat). Assuming we do the same thing with our two upstairs bathrooms in the new

house, this puts the bathroom floor heating in the 250 kWh per year range which is about 1/100th of my estimate of the space heating requirements of the old house, and about 1/15th of my (hopefully) generous estimate of what the space heating requirements will be for the new house.

Source : <http://www.301monroe.com/?p=659>