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GREEN BUILDING: For healthy, dry home, focus on head and core

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This article is the second in a three-part series.

I have discovered, through years of experience, that our homes can be the culprit for many immune system issues.

Past and present construction practices often do not focus on creating a toxin- and mold-free home. Most people are now requesting it because of the growing health problems resulting from living in homes that are not built with these things in mind. Factually, the only way to keep a home free of moisture in our high humidity climate is through airtight construction techniques, regardless of the building materials you use. Using the least toxic materials possible inside the home is important, too.

The first article in this series focused on the foundation (or feet) of the home. This part focuses on the framing, insulation, siding and roofing (the head and core of the home). Part three will focus on the HVAC and ventilation system, dehumidification and chemical pollutant issues (the immune system of the home).

When talking with a builder, be specific about what it is you want. Here is an example of a conversation you might have and requests you might make. The implied dialogue with the builder gives direction on how to take responsibility for creating a healthier home:

Leave a 2-inch air space behind my siding, I know this is not required by code, but I prefer it. It should not add extra cost. The O.S.B. (oriented strand board) sheathing needs to be sealed on both sides. On the side facing the siding, I would like to seal it with a good waterproofing sealer and on the surface facing inside I would like to seal it with AFM Safe Seal, which will prevent outgassing of formaldehyde to my indoor air. I understand that this is the most common chemical pollutant in new homes. I will purchase and apply these sealers myself so that no extra cost is added to my contract.

Please insulate my recycled, finger-jointed, 2 x 4 stud walls with formaldehyde-free fiberglass batt insulation. Before installing the insulation, all cracks, seams, joints and openings need to be air sealed (with caulk). I can download important areas to air seal from the Internet and do it myself. I will go buy the caulk now. By the way, I heard there is a low toxic caulk available through AFM Safecoat. Unfortunately, it costs more than standard caulk. The plastic vapor barrier on the inside of my wall needs to be installed carefully, to prevent air leakage or else the efforts to air seal will be nullified.

My roof needs to overhang enough to protect my exterior walls from heavy rains. I would love to use a less toxic, longer lasting, more renewable material than asphalt shingles, but I cannot find an alternative that is affordable.

I have heard that attic spaces can also be a problematic mold source. I would like to prevent that by insulating

and air sealing the underneath side of the roof framing rather than the floor of the attic, allowing the air infiltration to flow back into the conditioned floors of the house instead of staying sealed up in the unconditioned attic space. Ceiling fans can help to direct indoor air.

I know you need to go back to your other job site, so we can continue this next week when we meet.

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