

Breathe the air - or Don't - depending

by Seth Portner

GREEN BUILDING



It is generally true that air quality within a home is significantly worse than the air outside. Ironic, at a time when major western cities advise residents to stay indoors on days when the outdoor air quality is poor. A plethora of maladies are associated with the toxic chemicals found in the materials that make up most new buildings and the resulting poor indoor air quality is coming to the fore-front of the green building movement. What started as a movement that embraced environmentally sustainable building materials and energy efficiency is now identifying indoor air quality as the major point of entry to health-conscious consumers.

This creates an interesting paradox. Houses built today are tighter, and designed to diminish the amount of air passing through. It's no question that this conserves energy by trapping conditioned (heated or cooled) air; this is good news as energy prices rise. However most newer homes have been constructed with materials containing toxic chemicals. Because the home is so tight and it's also less

breathable those chemicals are effectively trapped within the home. This tightening of the home is function of many things, not the least of which is dimensional building materials that fit together like Legos, better insulation, impermeable house wraps, sheetrock, and superior windows. There is still a gap between a well-built home and a slipshod production home, but even the worst home built today is tighter than a home built 300 years ago.

Compare the modern home to the older home; older homes were built with natural materials and didn't need to release their toxicity. No, this wasn't in response to the Natural Home issue from 1706. It was a function of what was readily available to build with. Rocks and trees are non-toxic. Toxic chemicals were not yet ubiquitous in building materials. Not true today. Take an inventory of materials that make up a home, the oriented strand board (OSB) that creates the floor, the carpet, the glue used to cement wood together, the paint, the fiber board cabinets and counter tops,

the "engineered" molding, sub-floors and rafters; it's a list as long as the chemicals are lethal.

The home that was designed to trap heated and cooled air has the same impact on the chemicals in the air. Those chemicals have no place to go.

There are solutions. Every building material that is comprised of toxic materials has a less or non-toxic counterpart. Cabinets built with toxic fiberboard can be built with non-toxic strawboard, real wood trim is non-toxic, OSB is available without toxic binders. Another strategy is to use natural building materials, used building materials that have already off-gassed their toxicity (if they ever had any) or inert materials like concrete and brick. Every building material comes with energy and health positives and negatives- but it is abundantly clear that creating a home with toxic chemicals is a bad idea.

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