

beating the Hidden Mould Challenge

BEATING THE HIDDEN MOULD CHALLENGE

When installers began replacing windows in the 20-year-old, million dollar home owned by friends of mine, they didn't expect to require the services of a framing carpenter. But where else could they turn when wall studs flanking window openings were rotten enough to be pulled out by hand?

The problem wasn't caused by water leaks, but by internal condensation within wall cavities that deposited enough moisture to cause mould and rot over the years. Though experts disagree on the extent to which household mould poses a health hazard, there's one thing for sure. Nobody likes it. Your challenge as a homeowner is to make sure renovations and additions don't encourage hidden rot, and this means you've got to understand how condensation happens and how to prevent it.

The sneakiest residential mould problems spring from migration of invisible, airborne water vapour into hollow stud wall and ceiling cavities. It's primarily a wintertime thing, and to understand why, think of a cold glass of water on a hot, humid day. As humid air cools around the cold surface, the air loses some of its ability to hold on to invisible water vapour. And when air loses its grip on water like this, the water has to go somewhere. This is



The black and grey patches on this fiberglass insulation are the telltale signs of air infiltration, wintertime condensation and mold growth.

the origin of all condensation droplets, and it's exactly what happens inside walls and attics during winter if you don't take steps to prevent it.

Cold zones inside walls and attic cavities act as condensation points for heated indoor air if the two are allowed to meet. And don't think that fiberglass insulation helps matters much. Moisture-laden air moves right through this stuff.

Stapling a polyethylene vapour barrier on the warm side of a hollow wall frame is the most popular way to keep heated, indoor air from migrating into hollow framing cavities and condensing during winter, but success depends on diligence. The results must be uniformly airtight to prevent internal condensation from happening, and achieving these results isn't easy around doors, windows, exhaust ducts, electrical outlets and