

Q. How Should I Finish an Existing Basement Wall?

I am about to start a basement remodel project in a cold climate. I plan to apply a waterproofing product to the inside of the basement wall, then stick a sheet of polyethylene directly to the basement wall over the waterproof coating. Once that is in place, I'll frame a 2x4 wood-frame wall on the inside, insulate it with fiberglass batts, and staple a poly vapor barrier to the inside face of the studs. Does this seem like a good approach?

A. Paul Fiset, director of Building Materials and Wood Technology at the University of Massachusetts Amherst and a JLC contributing editor, responds: For the typical basement remodel, this is probably not a good plan. In fact, I think that in most cases it's a recipe for collecting moisture, and it has the potential to create an unhealthy level of mold and mildew. The first question to ask is: What moisture are you trying to control? The answer may be slightly confusing, because your wall assembly needs to control moisture moving from the outside to the inside as well as from inside to outside.

Unless you can verify that the basement was built with good moisture protection, I would proceed with caution.

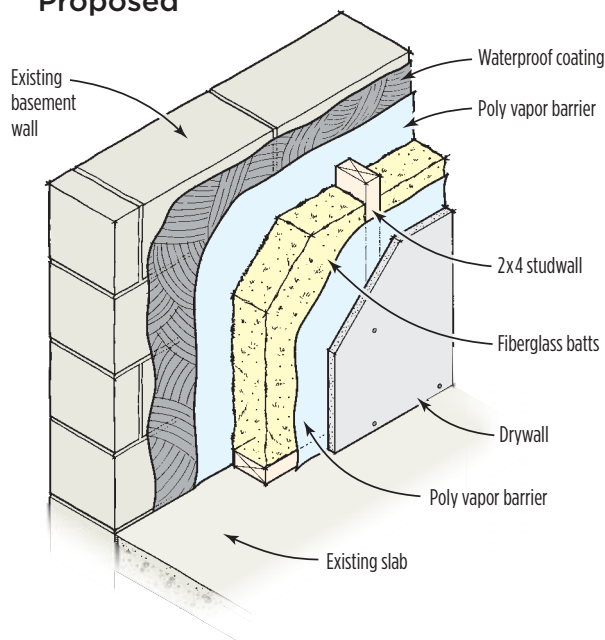
Your approach places an impermeable plastic vapor barrier on the both the warm and the cold side of the 2x4 wall you want to build.

Insulating the 2x4 cavities with fiberglass batts will cause the space between the wood-frame wall and the foundation wall to stay much colder than the indoor space. This means that any warm air that leaks through the 2x4 wall from the tempered basement space will cool as it reaches the cold basement wall and condense on the plastic sheet. Also, if even a small amount of water finds its way in from the outside through the foundation waterproofing coating and the poly, that moisture will be trapped inside the 2x4 wall. There is virtually no drying potential.

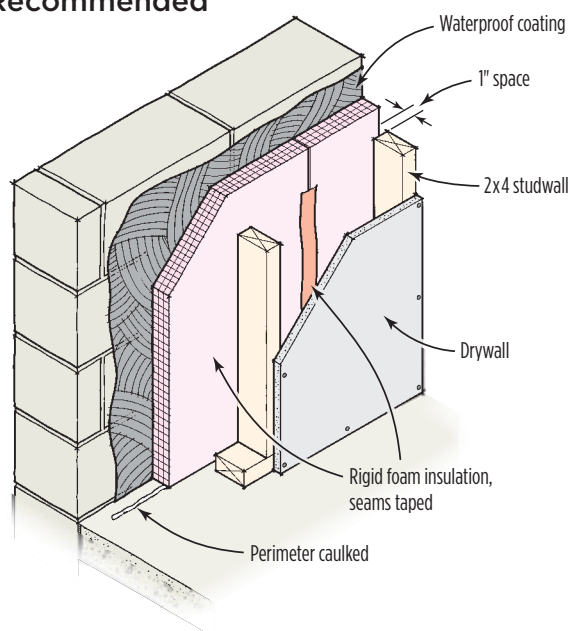
Instead, I would apply a coating of waterproofing to the inside surface of the basement wall, followed by a continuous layer of rigid foam insulation. Caulk the perimeter of the foam boards and tape the seams. Then build your 2x4 wall on the inside, leaving a 1-inch space between the studs and the insulation board. Don't insulate the 2x4 wall cavities and don't install a poly vapor retarder.

The waterproof coating will minimize moisture transfer from the outside into the basement, and any moisture that does get into the foundation wall from outside

Proposed



Recommended



will be able to dry to the outside. If a small amount of exterior moisture does migrate through the waterproofing into the basement area, it will be able to dry to the inside living space through the open-frame construction.

And let's not forget the water vapor contained in the indoor air. Installed carefully, this method reduces the potential for condensation because the indoor air is not exposed to cold condensing surfaces. The uninsulated stud wall allows the face of the foam insulation to remain at roughly the same temperature as the indoor air. With little or no condensation, the likelihood of mold and mildew growth is very low.

Q. Mold on Framing Lumber

I occasionally receive framing lumber that has some mold on it. Will this mold continue to grow and cause rot once the wood is in the dry? Do I have to clean it off? I'm also concerned about customer perception.

A. Mac Pearce, an environmental health consultant in St. Paul, Minn., responds: Decay is a process that starts with wood and ends with dirt. Surface mold growth is the beginning of the process. If the wood stays wet enough for long enough, wood rot can set in and destroy the structural integrity of the lumber. By themselves, most molds lack the digestive enzymes needed to penetrate the complex matrix of lignin compounds. Therefore mold growth on framing lumber tends to be confined to the surface, where the colonies feed on wood sugars and cellulose. By aggressively treating the surface, you can render the wood "good as new."

First scrub the wood with soap and water, then soak it with bleach for 15 minutes before rinsing. The wood can then be sanded and painted with a fungistatic

coating. If damp conditions return and persist, mold will grow on the wood, regardless of its past history — but leaving the moldy surface untreated gives the process a head start. Cleaning the wood properly leaves it at no greater risk for further mold problems than wood that has never shown previous mold growth.

Unfortunately, this is a time-consuming and therefore expensive procedure. Better to select lumber that has no visible mold growth. If your lumber is delivered with mold on it, your lumber supplier should be giving you a big discount. If the mold is the result of poor storage on the job site, then you'll have to bear the cost.

Given the choice, customers will always pick a building that is mold-free. Trying to persuade a buyer that a little mold on the framing lumber is no big deal has to be a tough sell.

Q. Fogging for Mold?

I've come across a product that was created to combat the anthrax spore and was later found to be effective against mold as well. It's fogged throughout the job for 24 hours, with no access allowed. The product is said to eradicate mold, not just put it in a dormant state. Does this work?

A. Mac Pearce responds: Fogging is an appropriate technique for destroying an infectious agent such as anthrax spores. Once they are dead, they can't cause disease. Mold problems, though, can't be "fogged away," because the mold spores are just as irritating dead or alive. While the dead mold spores cannot initiate new growth, they must be physically removed or they will remain inside the building as an irritating component of the dust. Unless the mold is rinsed or vacuumed away, it's still there, dead or alive. It has been my experience that elbow grease trumps such chemical treatments.