

Insulation 101

By MAGGIE LESLIE

There are many types of insulation. The most common type of insulation is batt or blanket type insulation (typically fiberglass) which is the least expensive, but requires more careful installation to ensure 100 percent coverage. Blown types such as fiberglass, cellulose (recycled newspaper) and foams are more easily installed, easily filling in gaps, cracks and ar-

reas around pipes and wiring. Foams have an added benefit that they also airseal all the gaps and cracks in the walls.

■ Insulation is installed to be in full contact with the air barrier (the sheet rock to the inside and the sheathing to the outside). If the insulation is not encapsulated by a rigid material on all six sides, it will not insulate properly.

■ Insulation should be installed to

fill 100 percent of every cavity.

■ If batts are installed, the insulation should be cut to fit around all plumbing, heating, and electrical penetrations in addition to other obstacles. They should be split to go behind and in front of wires and plumbing. This is to be done in such a way as to fill all cavity spaces and gaps, while NOT compressing the insulation.

■ The space behind electrical boxes needs to be fully sealed and insulated.

■ If faced (kraft or paper) batts are used in walls or cathedral ceilings, the flanges must be stapled to the face of the studs or rafters, not the side of the surface facing into the cavity.

■ Attic insulation should extend all of the way to the exterior edge of the top plate of the wall below without compression. This will require roof-framing details that allow for this, such as raised heel trusses or over-sized trusses.

■ Insulation baffles should be installed to prevent over blow into soffits and to prevent wind washing through the insulation. This means that baffle height must be no less than the thickness of the insulation.

■ Attic access openings (hatches or pull-down stairs) should be insulated to at least R-30 and weather-stripped to prevent air movement between the attic and the living space. The insulation must be glued or stapled to prevent misalignment. This is a great application for rigid foam.

■ Floor insulation must be in continuous contact with the sub-floor above. It should provide continuous

coverage with no compression of the insulation and with no gaps. Batt insulation must be cut and fit around pipes, blocking and bridging, and other obstacles so as to provide the full R-value in all spaces.

■ Band joists are insulated to at least the level of exterior walls, and cover the entire band joist area.

■ Walls between conditioned space and attic space, such as knee walls in bonus rooms, should always have a rigid material on the attic side, preferably rigid foam insulation, which will prevent air flow through the wall cavity and allow the R-value of the wall insulation to perform as intended. This rigid material must be sealed with caulk or spray foam at all connections to the framing.

■ Use single-ply headers where possible to allow for insulating headers above windows and doors. It is possible to insulate headers by using foam sheathing as a spacer between or on one side (preferably the exterior) of double headers. All headers should be insulated with rigid foam insulation (minimum R-3, i.e., half-inch foam board between two 2X10's)

■ Interior/exterior wall intersection should be framed using Ladder "T-Walls" in order to maximize the area of insulation on that exterior wall.

■ Outside and inside corners- Two stud corners or "California corners" should be used to decrease lumber and increase possible insulation levels compared to typical practice. Wood nailers and/or drywall clips should be used for ease of installing exterior and interior finishes.



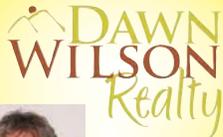
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