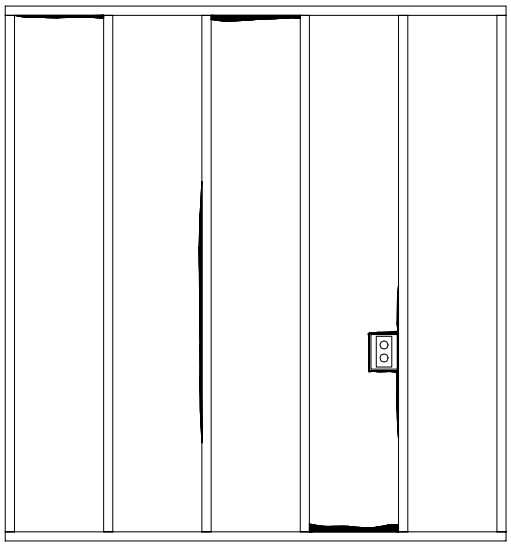
Builder Specification Sheet for Installation of **Insulation**

This report shall be used by the Insulation contractor as a guideline for the technical aspects of insulation installation. The following standards will be applied: NAIMA, *Recommendations for Installation in Residential and Other Light-Frame Construction* (PUB # BI402 – fiberglass batt insulation, PUB # BI403 – fiberglass loose fill insulation), CIMA, Technical Bulletin #2 – *Standard Practice for Installing Cellulose Building Insulation*, Technical Bulletin #3 – *Standard Practice for Installation of Sprayed Cellulose Wall Cavity Insulation.* For other products and materials, manufacturer's installation instructions will apply.

Exterior Walls

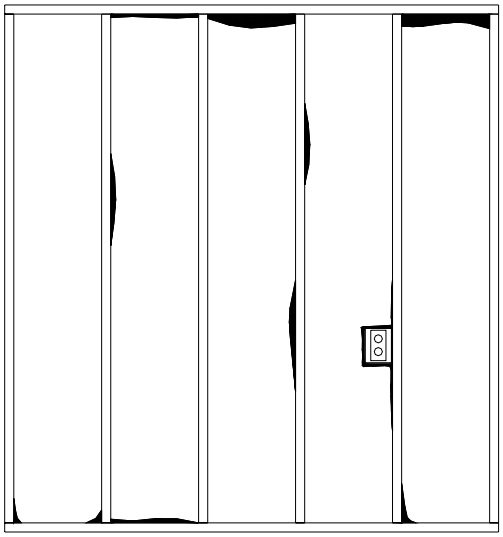
Inspectors shall rate wall cavity insulation as "good", "fair" or "poor" according to the following guidelines, regardless of insulation material or installation process. Note that all insulation installation techniques require proper care to ensure they are completed correctly; if they are not, thermal performance can suffer dramatically. These guidelines apply to cavity fill insulation as well as continuous rigid insulation.

"**Good**" shall be used to describe insulation that is installed according to manufacturers instructions and/or industry standards. A "good" installation requires that the insulation material uniformly fills each cavity side-to-side and top-to-bottom, without substantial gaps or voids around obstructions (such as blocking or bridging), and is split and/or fitted tightly around wiring and other services in the cavity. During inspection (typically before drywall is installed), if the exterior sheathing is visible through gaps in the material from the building interior, it is not considered a "good" installation. The diagram below represents "good" wall insulation.



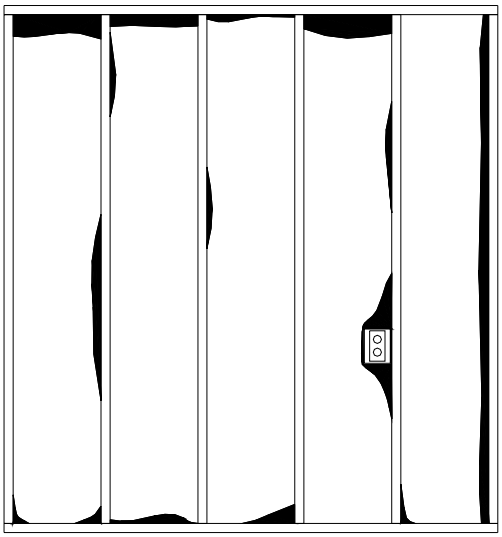
Insulated surfaces categorized as "good" shall be modeled such that the insulation R-value within the cavity is considered at its measured or rated value (including other assessments such as compression) for the cavity portion of the insulated surface area.

"**Fair**" shall be used to describe an installation with moderate to frequent installation defects: gaps around wiring, electrical outlets, plumbing and other intrusions; rounded edges or “shoulders”; or incomplete fill amounting to 10% or more of the area with less than 30% of the intended thickness; or gaps and spaces running clear through the insulation amounting to no more than 2% of total surface area uncovered by the insulation. To attain a rating of "fair" or better, wall insulation must be enclosed on all six sides, and must be in substantial contact with the sheathing material on at least one side (interior or exterior) of the cavity. The diagram below shows “fair” wall insulation.



Insulated surfaces categorized as "fair" shall be modeled such that the insulation R-value within the cavity is considered R-0 for 2% of the insulated surface area, and its measured or rated value for the remainder of the cavity portion of the insulated surface area.

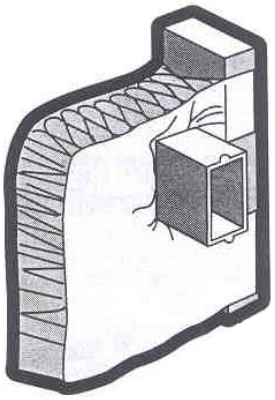
"**Poor**" shall be used to describe an installation with substantial gaps and voids, amounting to greater than 10% of the area compressed or 2% percent of the surface area is intended to occupy. This designation shall include wall insulation that is not in substantial contact with the sheathing on at least one side of the cavity, or wall insulation in a wall that is open (unsheathed) on one side and exposed to the exterior, ambient conditions or a vented attic or crawlspace. The diagram below represents “poor” wall insulation.



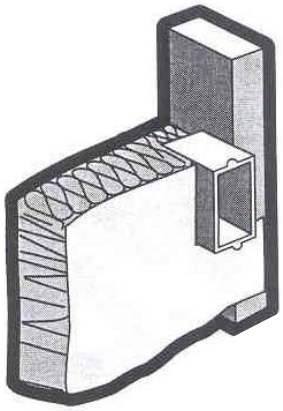
Insulated surfaces categorized as "poor" shall be modeled such that the insulation R-value within the cavity is considered R-0 for 5% of the insulated surface area.

Diagrams for installation

- Cut insulation around electrical boxes instead of compressing insulation behind box.

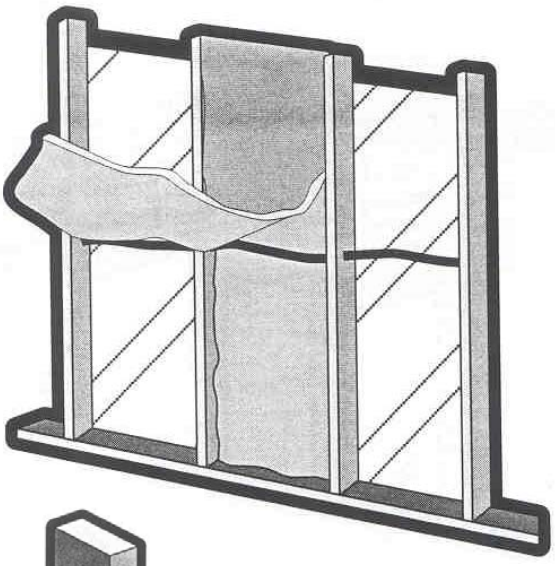


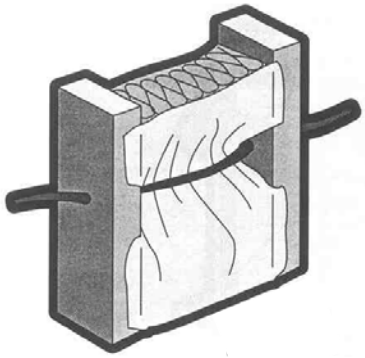
Wrong



Right

Separate insulation to fit around wires or pipes instead of compressing insulation behind or in front of such obstacles.





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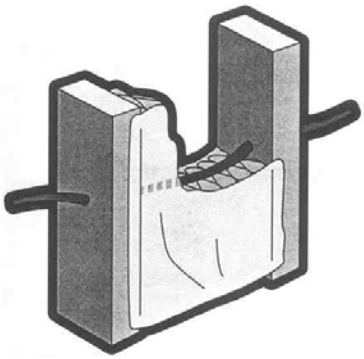

Right

- Knee walls must have backing, full cavity insulation, and sealing around all edges of backing.

Ceilings

- For sloped ceilings with no attic and batt insulation, face staple backing to front of studs. Do not tuck edges of backing into ceiling cavity.
- Separate insulation to fit around wires or pipes instead of compressing insulation behind or in front of such obstacles.
- Foam seal all penetrations through studs into attic, such as holes drilled for wires or plumbing.

Windows

- Seal any air penetrations around perimeter of windows.

These specifications are compiled and field tested specifications by Conservation Serv. Grp., Guaranteed Watt Saver, and ACCA Manuals J, D, and RS. More information: *www.gwssi.com*.