

## A Quick Guide to Insulating Your Building's Envelope

**After all gaps have been sealed:** you may need to add insulation or add storm or replacement windows.

### 1. Where to insulate and with what?

**Start with your attic:** Since heat rises, insulating an attic has more impact than insulating walls.

**Replace insulation that is damp or soiled** – often the case around gaps that have been sealed.

**Add insulation where current insulation is not consistently deep enough.**

**Suggested for attics** (according to ENERGY STAR®):



Zone 5: R49-60 (12" – 14")

Zone 4: R38-60 (10" – 14")

**Be sure to seal and insulate any ducts running outside insulated areas!**

#### What type to use in attics?

- **Fiberglass batts** are most easily installed.
- **Loose fill** is best added by someone with experience. Machines can be rented.
- "Unfaced" batts (with no paper or foil backing) & loose fill can usually be installed over existing insulation of either type.
- Professionally sprayed foam is expensive but seals as it insulates; good in hard to reach areas.

#### If Using Volunteer labor:

- Have someone with prior experience supervise.
- Keep Volunteers Safe! (See cautions in the *Guide on Sealing the Building Envelope*.)

### 2. Watching Out for Wiring & Ventilation

Before insulating attics or crawlspaces, confirm that any **wiring** being covered is not degraded or overloaded.

Prevent moisture problems by not insulating over attic soffit **vents**, which allow outside air into attic.

- To keep soffit vents clear, install rafter vents over them before adding insulation.
- Many rafter vents can be stapled to the roof decking.



*Rafter vent—in gray above—installed between rafters where the roof meets the attic floor.*

#### What about existing exterior walls?

- A thermal gun (see *Guide on Sealing the Envelope*) or thermal camera can show where walls are poorly insulated.
- Ask professionals about options for adding insulating materials; incorporate in renovations.
- Insulating hard-to-access walls often have a longer pay back period.

### 3. How to up the insulating value of windows?

Help keep heat inside in winter or outside in summer

- For decorative windows (e.g. stained glass), add a plain exterior layer of ("storm") glass.
- Replace dual pane windows that have lost their seal. Consider double or triple pane, argon-filled windows with low-emissivity glass.
- If a room has many windows can you replace one or more with an insulated wall? Even triple-pane windows let in and out much more heat than walls.
- When replacing windows, casement or awning styles seal more effectively than sliding.

See *Seventh Day Energy-Saving Resources* at [www.seventhdayinitiative.org](http://www.seventhdayinitiative.org)

#### The Seventh Day Initiative



**Caring for Creation**