OREGON DEPARTMENT OF ENERGY

# Insulation

## D-I-Y Energy Audit

## *DOES YOUR HOME NEED MORE INSULATION?*

You can answer that question by checking to find out how much insulation you have. Generally if you have insulation in the walls and under the floors, you will not add more. If you have less than R-19 in the attic, you should add enough to reach at least R-38. Also, remodeling or reroofing projects offer an opportunity to add insulation.

### *INSULATION*

There are many different types of insulation. Fiberglass insulation can be in a batt or loose-fill and yellow, pink, or white in color. Rock wool is a little heavier than fiberglass, usually loose-fill, and gray with black specks, but it can also be near white. Cellulose insulation is made from recycled newsprint or other forms of waste paper. Cellulose insulation is usually a fine, gray loose-fill. Older homes may have granular vermiculite or perlite loose-fill insulation that is no longer used. Some older homes may have loose fill wood fiber that is no longer used either (and if untreated, may be a fire hazard). The amount of heat loss resistance that insulation has depends on the type of insulation and how well it is installed. Resistance to heat loss is measured in R-value per inch.

***Insulation R-Values***

| *Type* | *Color* | *R-value per inch* |
|---|---|---|
| Fiberglass Batt | Pink, Yellow, or White | 3.0* |
| Fiberglass Loose-Fill | Pink, Yellow, or White | 2.3 |
| Rockwool Loose-Fill | Gray/White | 3.1 |
| Cellulose Fiber | Light gray/brown | 3.7 |
| Vermiculite | Silver/Brown | 2.1 |
| Perlite | Silver/White | 3.1 |
| Wood Fiber Loose-Fill | Dark Brown/Silver | 3.0 |

**R-value may vary by batt manufacturer depending on density and fiber thickness. Check for R-value printed on insulation facing.*

Decide what type of insulation you have, measure its depth in inches, and multiply the number of inches times the R-value for that type of insulation to find the total R-value. For example, if you measure 8 inches of fiberglass loose fill, multiply 8 by 2.3 (the R-value per inch for fiberglass loose fill) to get 18.4 which rounds up to R-19.



### *MEASURE INSULATION LEVELS*

***Attic Insulation*** – Look for insulation in unfinished attic areas above heated areas. Make sure that any attic hatch is insulated as well. Your home should have at least R-38, but if you have R-19 or more now, you may save more by insulating other uninsulated areas before you add more attic insulation.

***Wall Insulation***

- Unfinished Walls – There may be walls in heated areas that are open on the unheated side in a finished attic, a basement, a garage, or other areas. Look at the open areas to find out if there is insulation.

- Finished Walls – Looking for insulation in finished exterior walls is more difficult. First, some walls may be insulated, while others are not. Check exterior walls on all stories and in old and new parts of the house. Second, you don't have easy access to check for insulation. You may be able to remove an outlet cover and look using a flashlight or probe in the space outside the outlet box for insulation. Before you do that, turn off the circuits for exterior wall outlets. Try a lamp or portable radio in the outlet you will use to make sure the outlet is off. If there is insulation, you will see it or if you probe with a lead pencil you may feel pressure by pushing against the insulation.

***Floor Insulation*** – Look for insulation in the floor over unheated crawl spaces. Any floor insulation will most likely be fiberglass batts hung below the floor. Make sure any inside access hatch is insulated and that all ducts and water pipes are insulated.