

Energy Star Insulation Project: R-Value Guidelines

Use this table for help in choosing R-values that are right for your home. Find your climate, your household heating system, and the area in your home that you plan to insulate and look for the matching R-value range.

Cost-Effective Insulation R-Values for Existing Homes a							
If you live in a climate that is...	and your heating system is... b	insulate to these levels in the...					
		ceiling	wood-frame wall	floor	basement/crawl space walls d	Ducts e in Unheated/Uncooled...	
Warm with cooling and minimal heating requirements (i.e., FL & HI; coastal CA; southeast TX; southern LA, AR, MS, AL & GA).	gas/oil or heat pump	R-22 to R-38	R-11 to R-15 c	R-11 to R-13	R-11 to R-19	R-4 to R-8	none to R-4
	electric resistance	R-38 to R-49	R-11 to R-22 c	R-13 to R-25	R-11 to R-19	R-4 to R-8	none to R-4
Mixed with moderate heating and cooling requirements (i.e., VA, WV, KY MO, NE, OK, OR, WA & ID; southern IN, KS, NM & AZ; northern LA, AR, MS, AL & GA; inland CA & western NV).	gas/oil or heat pump	R-38	R-11 to R-22 c	R-13 to R-25	R-11 to R-19	R-4 to R-8	R-2 to R-8
	electric resistance	R-49	R-11 to R-28 c	R-25	R-11 to R-19	R-4 to R-8	R-2 to R-8
Cold (i.e., PA, NY, New England, northern Midwest, Great Lakes area, mountainous areas (e.g., CO, WY, UT, etc.)).	gas/oil	R-38 to R-49	R-11 to R-22 c	R-25;	R-11 to R-19	R-6 to R-11	R-2 to R-11
	heat pump or electric resistance	R-49	R-11 to R-28 c	R-25	R-13 to R-19	R-6 to R-11	R-2 to R-11

a. Adapted from the U.S. Department of Energy 1997 Insulation Fact Sheet available at (800)-DOE-EREC and Modera et al., "Impact of Residential Duct Insulation on HVAC Energy Use and Life Cycle Cost to Consumers" ASHRAE Transactions (#96-13-4).

b. Insulation is also effective at reducing cooling bills. These levels assume your house has electric air conditioning.

c. R-values may be achieved through a combination of cavity insulation and rigid board insulation and are for insulation only (not whole wall).

d. Do not insulate crawl space walls if crawl space is wet or ventilated with outdoor air.

e. Use the lower R-value for return ducts and higher R-value for supply ducts.