

RUIDOSO

Energy Efficiency Requirements
State of New Mexico

Wood Frame Wall Construction
Detached One- and Two-Family Dwellings

GENERAL REQUIREMENTS (continued on back) Compliance

1. Provide design documents that show the required insulation, as determined below.
2. Minimum requirements are given; better quality insulation and windows are acceptable and will provide improved comfort.
3. Caulk and seal all joints, cracks, and holes. Weatherstrip all doors and windows.
4. Up to 1% of heated area is allowed in skylight units. Skylights shall be insulated.
5. Piping insulation of circulating water heating systems shall be R-4 for up to 1.25-inch diameter pipe and R-8 for larger diameters.
6. For floor requirements, use floor system applicable to the design. In many cases, only one type will apply.
7. Slab perimeter insulation can be placed along slab edge in three ways: vertical, horizontal, or combination of vertical and horizontal.
8. Roof, wall, window, and door requirements are for a window-to-floor-area ratio of 12% or less; if greater than 12%, window units shall be upgraded to insulated, wood or vinyl frame, and low-e coating.

ROOF, WALL, WINDOW and DOOR REQUIREMENTS Compliance

Requirement	R-Value	Material	Compliance
Roof batt insulation	R-38	12" fiberglass batt	<input type="checkbox"/>
Wall batt insulation	R-19	6" fiberglass batt, 2x6 studs	<input type="checkbox"/>
Window units and glass doors	R-2.0	Insulated, wood or vinyl frame	<input type="checkbox"/>
Doors	R-2.5	1-3/4" solid core wood (paneling optional)	<input type="checkbox"/>

FLOOR REQUIREMENTS Compliance

Requirement	R-Value	Material	Compliance
Slab	R-6	2"x 48" expanded polystyrene board	<input type="checkbox"/>
Slab with radiant floor heating	R-8	2"x 48" expanded polystyrene board	<input type="checkbox"/>
Crawl space walls	R-17	4" expanded polystyrene board	<input type="checkbox"/>
Basement walls	R-11	3" expanded polystyrene board	<input type="checkbox"/>
Floor over unheated crawl space or unheated basement	R-19	6" fiberglass batt	<input type="checkbox"/>
Floor over outdoor air	R-38	12" fiberglass batt	<input type="checkbox"/>

Signature

Date

GENERAL REQUIREMENTS (continued): One- and Two-Family Detached Dwellings

Applicability

9. **New and Existing Dwellings:** All new construction of one- and two-family dwellings is covered by the energy code. Additions and remodeling of existing dwellings are also covered by the energy code; however, only new elements shall be made to comply. Unheated garages are exempt.
10. **Seasonal Usage:** Design of mechanical and envelope systems must be based on climate for a full year, regardless of occupancy schedule.
11. **Location:** Use requirements of the appropriate location or the requirements of the location that most closely matches the climate of the construction site.

Mechanical Systems

12. **Insulation:** Piping of space heating systems shall have R-4 insulation for up to 1-inch diameter pipe and R-8 insulation for over 1-inch diameter pipe. Refrigerant piping shall have R-4 insulation for up to 1-inch diameter pipe and R-6 insulation for over 1-inch diameter pipe. Air-handling ductwork in attics, crawl spaces, exterior cavities, and outside shall be R-8. For unheated basements use R-6. Seal duct joints with mastic, tape, or mastic plus tape.
13. **Showers:** Maximum discharge of hot water from showerheads shall be limited to 3 gallons per minute.
14. **Swimming Pools:** Heated swimming pools shall be equipped with a pool cover. Pumps must have a time clock. Heater must have an on/off switch.
15. **Water Heating System:** Circulating hot water systems must have on/off control.
16. **Heating System:** All dwellings shall have a heating system capable of maintaining 70 degrees F.
17. **Controls:** Provide at least one adjustable thermostat for each separate system. Thermostat shall have capability to setback to an energy-saving setting. Thermostats shall have the following ranges:

heating only
55-75 degrees F

cooling only
70-85 degrees F

heating and cooling
55-85 degrees F

Heat pumps must have a two-stage thermostat: stage #1 = heat pump alone; stage #2 = backup heat.

18. **Equipment Efficiency:** Space heating, space cooling, and domestic water heating equipment shall meet requirements of the National Appliance Energy Conservation Act of 1987 (NAECA). Minimum coefficient of performance for water source heat pumps shall be 3.0.

Envelope

19. **Moisture Control:** In frame walls, roof, or floor construction, use either a vapor barrier or venting to reduce moisture condensation. Ventilated crawl spaces below insulated floors shall have one square foot of venting per 150 square feet of floor area.
20. **Basement Insulation:** Basements below uninsulated floors shall have insulated walls down to the basement floor, or ten feet below grade, whichever is less.
21. **Batt Insulation:** Do not compress insulation to reduce thickness (R-value will be decreased).

Alternative Methods

22. **Design:** Designs not adequately covered by the requirements shown may comply through other compliance paths. Obtain compliance calculation worksheets and demonstrate energy efficiency equal to or exceeding what would be achieved by the requirements shown.
23. **Materials:** Materials not covered by the requirements shown may be utilized. Provide documentation of the material properties, including structural, fire, and energy characteristics. Obtain compliance worksheets and demonstrate energy efficiency equal to or exceeding what would be achieved by the requirements shown.