

TOWN OF RICO

BUILDING DESIGN CRITERIA

Building Codes

2006 International Building Code – Governs the conditions and maintenance of all property, buildings and structures - Multi-family and commercial

2006 International Residential Code – Governs detached one and two family dwellings and townhouses

2006 International Mechanical Code – Governs the installation of heating, ventilating and air-conditioning

2006 International Fire Code – Governs the safeguarding of life and property from fire and explosion hazards

2006 International Existing Building Code – Governs the repair, alteration, change of occupancy and relocation of existing buildings

2006 International Energy Conservation Code – Governs the energy efficient building envelopes and installation of energy efficient mechanical, lighting and power systems

Electrical, Plumbing and Fuel Gas Codes are governed by the State of Colorado.

Additional information:

Town of Rico Ordinance 2016- 1 for amendments and modifications to adopted building codes

Town of Rico Land Use Code (RLUC) Article II - Zone Districts, for design regulations

Climatic and Geographic Design Criteria

Ground Snow Load	77 Lbs/ Sq. Ft. (8,820 ft. A.S.L.)
Wind Speed	90mph/3sec gust
Seismic Design Category	C
Weathering	Severe
Frost Depth	48 inches from grade to bottom of footer
Termite	Slight to Moderate
Winter Design	-10 F
Ice Barrier Underlayment	Required inside 24 inches of the exterior wall line
Flood Hazards	See FIRM dated August 5, 1986 along with 1995 flood hazard study maps prepared by Wilbur Engineering (1995)
Air Freezing Index	2500
Mean Annual Temp	40 degrees F
Climate Zone	6

Commercial building thermal envelope requirements can be taken from Table 502.2(1) of the International Energy Conservation Code and Ordinance 2016 - for amendments

and modifications to adopted building codes. Additional mandatory requirements are in (IECC Chapter 5)

**RESIDENTIAL - BUILDING THERMAL ENVELOPE
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a**

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE	FLOOR R-VALUE	BASEMENT ^c WALL R-VALUE	SLAB ^d R-VALUE & DEPTH	CRAWL SPACE ^e WALL R-VALUE
6	0.35	0.60	NR	49	19 or 13 + 5 ^g	15	30 ^f	15/19	10, 4 ft	15/19

- a. R-values are minimums. U-factors and SHGC are maximums. R-19 insulation shall be permitted to be compressed into a 2 × 6 cavity.
- b. The fenestration U-factor column excludes skylights. The solar heat gain coefficient (SHGC) column applies to all glazed fenestration.
- c. 15/19 means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. 15/19 shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home.
- d. R-10 shall be added to the required slab edge R-values for heated slab. Insulation depth shall be 2 feet below grade.
- e. There are no solar heat gain coefficient (SHGC) requirements in the Marine Zone.
- f. Or insulation sufficient to fill the framing cavity, R-19 minimum.
- g. "13+5" means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 25% or less of the exterior, R-5 sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25% of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.

Below additional mandatory requirements for energy efficiency, see (IRC Chapter 11) or (IECC Chapter 4) for complete list.

- Ducts outside the thermal envelope must be insulated to a minimum R-8. Ducts in floor trusses require R-6 insulation, minimum. Joints must be substantially sealed with mastic or (UL-181) approved tape.
- Pipe for fluids over 105°F or below 55°F require R-2 insulation. Circulating hot water systems require a switch for the pump and R-2 insulation on piping in the circulation loop.
- Mechanical ventilation systems require dampers at outdoor air intakes and exhausts. Heating and cooling equipment must be sized according to ACCA Manual J.
- Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces by being airtight and rated Type IC, or boxed on site.