



# Community Development

## BUILDING INSPECTION NEWSLETTER

SEPTEMBER 2008

CITY OF GREELEY  
COMMUNITY DEVELOPMENT DEPARTMENT  
BUILDING INSPECTION DIVISION  
1100 10<sup>th</sup> Street, Suite 114

*This newsletter has been produced by the City of Greeley staff in an effort to provide better communication with the construction community.*

*If you have any questions or would like to see certain items addressed in this newsletter, please call (970) 350-9830.*

S E R V I N G   O U R   C O M M U N I T Y   .   I T ' S   A   T R A D I T I O N

*We promise to preserve and improve the quality of life for Greeley through timely, courteous and cost effective service.*



## Building Inspection Division Construction Activity Comparative Analysis

		Aug 2008	Aug 2007	YTD 2008	YTD 2007
<b>New Single Family Dwelling Units*</b>	<b># of Permits</b>	6	19	50	121
	<b># of Units</b>	6	19	50	121
	<b>Valuation</b>	1,035,914	3,563,460	7,849,234	20,278,705
<b>Single Family Footing &amp; Foundation Only**</b>	<b># of Permits</b>	1	0	6	17
	<b>Valuation</b>	10,000			
<b>New Multi-Family Dwellings Units</b>	<b># of Permits</b>	0	2	2	7
	<b># of Units</b>		2	6	7
	<b>Valuation</b>		167,914	577,164	731,477
<b>Multi-Family Footing &amp; Foundation Only**</b>	<b># of Permits</b>	0	0	0	0
	<b>Valuation</b>				
<b>Residential Additions and Remodels</b>	<b># of Permits</b>	73	72	547	608
	<b>Valuation</b>	513,914	584,899	4,551,681	4,939,970
<b>New Commercial Projects</b>	<b># of Permits</b>	0	3	6	22
	<b>Valuation</b>		507,319	16,759,419	19,691,157
<b>Commercial Footing &amp; Foundation Only**</b>	<b># of Permits</b>	0	1	1	7
	<b>Valuation</b>		336,577		
<b>Commercial Additions and Remodels</b>	<b># of Permits</b>	22	40	256	259
	<b>Valuation</b>	729,655	1,062,544	8,222,255	10,574,290
<b>Miscellaneous Permits</b>	<b># of Permits</b>	74	85	510	428
	<b>Valuation</b>	411,801	313,487	4,841,991	2,830,213
<b>Mobile Home Permits</b>	<b># of Permits</b>	7	1	32	14
	<b>Valuation</b>	3,500	500	16,000	8,000
<b>TOTALS</b>	<b># of Permits</b>	183	223	1410	1483
	<b>Valuation</b>	2,704,784	6,536,700	42,817,744	59,053,812

\*Number of units and number of permits will differ due to some multiple unit dwellings being issued under one permit.

\*\*Valuation of footings and foundations is included in the Y-T-D columns.

## **STAFF**

*Rebecca L. Safarik*  
*Community Development Director*  
350-9785

*Tim Swanson*  
*Chief Building Official*  
350-9853

*Denise Tenorio*  
*Building Inspector Technician*  
336-4028

*Lidia Garcia-Ryder*  
*Administrative Specialist*  
350-9832

*Clerical Assistant*  
350-9830

*Building Inspector*  
350-9838

*Steve Gregory*  
*Building/Electrical Inspector*  
350-9834

*Matt Wagy*  
*Plans Examiner/Building/Plumbing Inspector*  
350-9837

*Randy Eckhardt*  
*Building/Electrical Inspector*  
350-9381

*John Phillips*  
*Plans Examiner/Building Inspector*  
336-4157

*Mike Giroux*  
*Building Inspector*  
350-9835

*Building Inspector*  
350-9836

## PERSONNEL CHANGES

If you will look above, you will notice that Lidia Garcia-Ryder was promoted to the Administrative Specialist position that was vacant, due to Denise's promotion. Due to the continued slowdown in the new residential permitting, we will not be refilling the Clerical Assistant or the two vacant Building Inspector positions. Belated congratulations Lidia, and keep up the good work!

## NEWSLETTER MAILINGS

This will be the last hardcopy mailing of the newsletter due to budget constraints. We had sent out a mailing at one point last year stating the same, but since it has been a while since we compiled a newsletter, we decided to send out one more. If you would like to get on the email list, please call 350-9832, or send an email to [lidia.garcia@greeleygov.com](mailto:lidia.garcia@greeleygov.com) and ask to be placed on the distribution list for future newsletters. We will also have copies available at our office, and it will be available in PDF format on our Divisions home page at <http://www.greeleygov.com/CommunityDevelopment/BuildingForms.aspx>.



# BUILDING INSPECTION DIVISION

## NEW OFFICE HOURS

As some of you know by now, on June 12<sup>th</sup>, the Building Inspection Division kicked off a pilot program of expanded office hours. Our new hours are Monday through Friday, 7:00 till 5:30. As part of the pilot, the staff is now working 4 -10 hour shifts each. One half of the staff is off on Fridays, and the other half is off on Mondays.

In order to make more efficient use of the expanded hours, and in an effort to conserve fuel, *inspection requests MUST be called in before 4:00 p.m. the business day PRIOR to the requested date.* This enables the inspectors to sort the inspections the day before, prioritize their routes, and be able to get started earlier. This also enables contractors, and homeowners, to get inspections earlier, possibly as early as 7:15 am

In the fall, we will evaluate the feedback we have received on the expanded hours, and decide if the change will become permanent, remain seasonal, or be discontinued.

## IMPORTANT NEWS DEFERRED FEES



As part of Ordinance 21, 2008, unanimously passed by City Council after the Final Reading and Public Hearing on July 1, 2008, the amendment that allowed the deferring of development fees for one year from the date of permit issuance was deleted from the City of Greeley's Municipal Code. The effective date of the ordinance was July 15, 2008. Due partly to the overall decline in the housing market, foreclosures and flaws in the program itself

that were not previously known, at the time of the vote there were 58 properties that were reported to be in default on their deferred fees. For all applications submitted after July 15<sup>th</sup>, all required fees must be paid prior to the issuance of a permit, with the exception of plan review fees, which will still be due when the application is submitted.

## CITY OF GREELEY'S WEBSITE Web Links

Another reminder, City staff works hard on trying to keep important information available on the City's website. Here's a few links that are helpful for Building Inspection related information.

This link will lead you to Chapter 16 of the City Code, which has all the construction code related amendments that the City has currently adopted;

<http://www.greeleygov.com/CityClerk/Documents/City%20Code/title16.pdf>

If you use this link it will lead you to our division home page where you can get applications, the fee schedule, and other valuable information;

<http://www.greeleygov.com/CommunityDevelopment/BuildingInspection.aspx>

This link will take you to our other page where you will find a variety of forms and documents; reports and design info;

<http://www.greeleygov.com/CommunityDevelopment/BuildingForms.aspx>

From any of these pages you can navigate to any other page, in any department within the City, by using any of the buttons on the menu bar above. Happy Surfing!



# INTERNATIONAL ENERGY CONSERVATION CODE (IECC)

All plans submitted for new residential construction, additions, major alterations and residential re-writes, shall include documentation to explain and/or illustrate specific construction details and components to be used to attain IECC compliance, whether using the prescriptive or simulated performance method.

If using the prescriptive method (per Section 402 of the 2006 IECC), the specific details shall be included on the plans for review and field inspections.

If using the simulated performance method (per Section 404 of 2006 IECC), a verifiable energy analysis report shall be submitted with the plans for review and a certificate of compliance shall be required as part of final inspections and to obtain a Certificate of Occupancy.

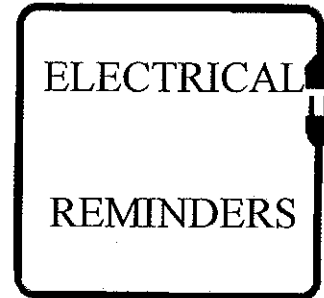
For residential re-writes additional information to add to the existing plans must be submitted with the application for prescriptive compliance, or an energy analysis for that plan if using the performance method.

Attached is a simple, basic guide published by ICC for use in Colorado. We highly recommend the purchase of an International Energy Conservation Code book from [www.iccsafe.org](http://www.iccsafe.org) for approximately \$35.00. It is not a long or overly complicated book and offers good information and options to meet compliance.



# ATTIC INSULATION INSPECTIONS

**CONTRACTORS:** The City of Greeley Building Inspection Department will be requiring the contractor to provide a ladder so that the inspector may perform the required attic insulation inspection. This will be part of final inspections.



## 2008 NATIONAL ELECTRICAL CODE NFPA 70

There are many changes in the 2008 NEC that will result in a significant increase in the cost of the electrical installations, especially for residential construction. The timing of these changes comes at a very inopportune time due to the downturn in our regional economy. However, the State of Colorado has adopted the 2008 NEC in its entirety with no exceptions or deletions to be effective August 1, 2008.

The City of Greeley will begin enforcement of the 2008 NEC on all permits issued beginning August 1, 2008. The most significant changes are as follows:

**NEC 110.16. Flash Protection.** A field applied label warning of possible arc flash shall be installed by the electrician so as to be clearly visible to persons before they examine, adjust, serve, or maintain the equipment. This applies to all switchboards, panelboards, motor

control centers, meter enclosures, enclosed circuit breakers, industrial control panels, etc., in other than dwelling units.

**NEC 210.4(B). Multiwire Branch Circuits Disconnecting Means.** Each multiwire branch circuit shall be provided with a means that will simultaneously disconnect all ungrounded conductors at the point where the branch circuits originate.

**NEC 210.4(D). Grouping.** The ungrounded and grounded (neutral) conductors of each multiwire branch circuit shall be grouped by wire ties or similar means in at least one location within the panelboard or other point of origination unless the grouping is obvious.

**NEC 210.8(A) (1) through (5). Dwelling Units.** All 120-volt receptacle outlets that were previously not required to be GFCI protected in (1) through (5) now shall be GFCI protected with the exception of electric snow melting and de-icing equipment, fire alarm and burglar alarm systems.

**NEC 210.12(B). Arc-Fault Circuit-Interrupter Protection.** Combination-type AFCI protective devices are now required on all 120-volt, single phase, 15- and 20-ampere branch circuits in dwellings that supply outlets (see definition of outlet in Chapter 1) in all dwelling unit rooms except for areas where GFCI protection is required or areas not specified in this article.

**NEC 210.62. Show Windows.** The required receptacle outlets for show windows are now required to be located within 18 inches of the top of the windows.

**NEC 240.24(F). Not Located Over Stairs.** Overcurrent devices shall not be located over steps of a stairway.

## 2008 NATIONAL ELECTRICAL CODE AMENDMENTS

You may view the City of Greeley amendments to the 2008 NEC by logging on to the City of Greeley's web site at [www.greeleygov.com](http://www.greeleygov.com), and clicking on "your government" and then "city code" and go to Section 16.32 of the Electrical Code.

**Other amendments have been adopted that document installation methods required by the City of Greeley for several years. Log onto the City of Greeley's web site ([www.greeleygov.com](http://www.greeleygov.com)) to review Sections 16.32.010 through 16.32.170 of the Greeley Municipal Code for information on those amendments as well as the revised Administration and Enforcement Section 16.32.190 through 16.32.350 for electrical contractors and installations in Greeley.**

## ELECTRICAL PLAN SUBMITTALS



When a permit application is submitted for any project where the electrical service exceeds 200 amperes, the following shall be submitted for the application to be processed:

1. Load calculations
2. One-line diagram
3. Fault current calculations

For core and shell projects, use the values in the 2008 NEC Table 220.3(A).

For tenant finish and major projects, a complete set of electrical drawings must be submitted with the permit application.

In addition to the above items, these plans shall include:

- Luminaire schedule
- Luminaire layout including exit and egress fixtures
- Receptacle outlet layout

- MDP and/or panel board(s) layout
- Circuitry of all luminaries
- Circuitry of all outlets and devices
- Panel board schedule showing balanced loads

In other words, the contractor needs to provide a complete set of working drawings with the permit application. It is a lot easier to do the field installation if you have already laid it out on paper. Plus, the City of Greeley can review the plans to see if they meet NEC requirements.

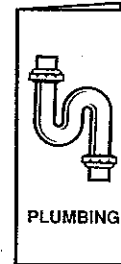
### TEMPORARY ELECTRICAL SERVICES

As some of you may have already found out the hard way, we are checking the Available Fault Current on construction temporaries. The only single phase transformers you can set a regular "house" temporary, without cold sequencing, is a 25 KVA transformer. 50 KVA and larger transformers exceed the 10K limit that the breakers in the temporary are rated for, and will have to be cold sequenced with the appropriate fuses.

*References: 2005 NEC Article 110.9 and XCEL Energy Standard for Electric Installations, page 48.*



## Your Plumbing Connection



### REMINDER: C.S.S.T. GAS PIPING

The City of Greeley Building Inspection Department requires gas calculations on all new construction. Please have them ready at the time of rough inspection along with all other required paper work.

For all who use any type of C.S.S.T. gas piping, the City of Greeley Building Inspection Department will also require the use of black iron gas piping on all exterior walls. Once in the attic, the use of transition fitting may be used and C.S.S.T. piping can continue through out the structure.

## PLANNING & ZONING

### NO PERMIT NEEDED ≠ NO CODE COMPLIANCE

The City does not currently require a permit for flatwork or fencing, but that doesn't mean you don't have to meet the Development Code requirements. Be aware of the following common requirements when placing concrete:

- The side setbacks on an interior lot are five feet. That means no concrete

(or other hard surface) can be located in that area.

- Driveways cannot exceed 36 feet in width at the curb.
- Driveways cannot exceed 50 percent of the front yard (the other half must be landscaped).

Some common requirements for fencing include:

- Fences in residential front yards (usually all the yard in front of the house) cannot exceed 42 inches (or 36 inches in a Clear Vision Zone) unless they are decorative wrought iron and visually open.
- Slats cannot be used in chain link.
- Chain link is not allowed in residential front yards.

You may be required to remove paving or fencing if it doesn't meet the City's codes. So, check the zoning regulations before you build and you'll possibly save yourself a lot of time and money. You can reach the Planning Division at 350-9780.

## WATER & SEWER DEPARTMENT

### DOUBLE CHECK BACKFLOW PREVENTION ASSEMBLIES

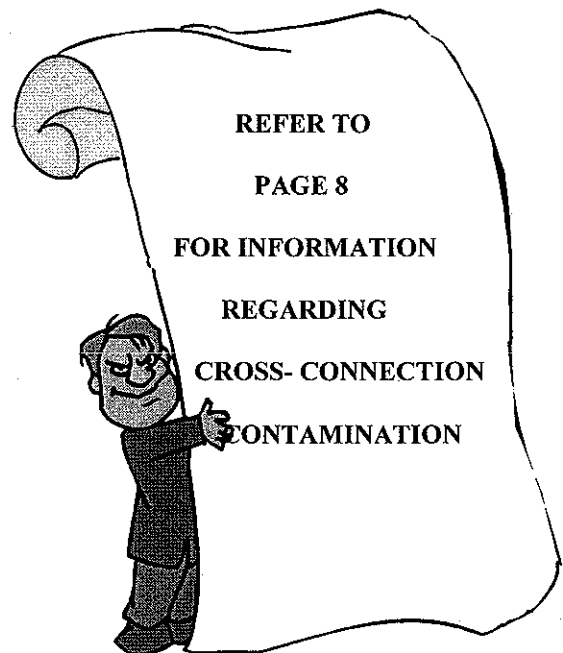
A Message to all Irrigation Installers, Contractors, and Plumbers:

**The installation of double check backflow prevention assemblies on irrigation systems is prohibited by your local water purveyor and according to State Health Department regulations for cross-connection control.** Approved assemblies are pressure vacuum breakers (PVBs) and reduced pressure principle assemblies (RPs), and atmospheric vacuum breakers (AVBs).

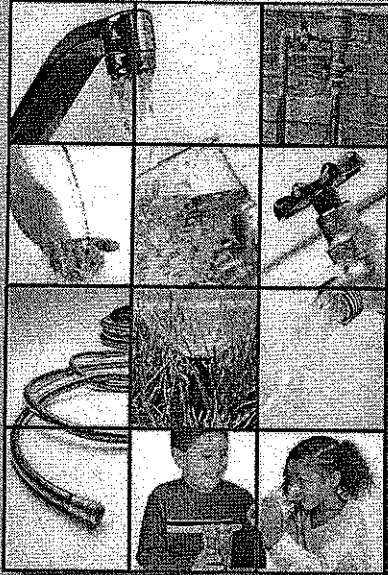
Only assemblies approved by the water purveyor may be installed in the City of Greeley.

Testing of all such assemblies is required by a certified tester upon installation. Thereafter, testing is required annually. Send copies of all test/maintenance reports to the Water and Sewer Department at 1100 10<sup>th</sup> Street, Suite 300, Greeley, CO 80631, or fax test reports to 970-350-9805. A current list of certified testers is available in our office and on our website at [greeleygov.com](http://greeleygov.com).

Repairs to backflow prevention assemblies shall be performed by certified testers; assemblies that cannot be repaired shall be replaced. Testers are required to inform the water purveyor when an approved assembly has been removed and replaced. These records become part of an assembly database for three years, subject to State inspection.



## Cross-Connection Control Program Keeping Your Water Safe



### What is a cross-connection?

It is any connection to the drinking water system that could introduce pesticides, fertilizers, used water, fluids, gases, or anything else into the water distribution system.

### Don't let it happen!

### What causes a cross-connection?

Normally, water flows out of the distribution system under pressure. When a cross-connection exists, a drop in water pressure can cause a reversal of flow, allowing harmful substances to enter the public water system.

Water and Sewer Department  
1100 10th Street, Suite 300 • Greeley, CO 80631  
970-350-9810  
[www.greeleygov.com/backflow](http://www.greeleygov.com/backflow)



### What are common sources of cross-connection contamination?

**Residential water systems:** Irrigation systems, fertilizer injection systems, hoses connected to chemical spray bottles; chemicals in water beds, hot tubs, indoor/outdoor swimming pools, water features, aquariums, and swamp coolers.

**Commercial/industrial systems:** Cooling systems, boilers, solvents and chemicals used in manufacturing processes, liquid storage tanks, waste disposal systems, fire sprinkler systems, including applicable residential sources previously listed.

### What can water customers do to protect the public water system?

Be observant. Check for potential sources of cross-connections around your home, business, or industrial site. Never leave hoses in buckets, pools, or sinks.

If you suspect you may have a cross-connection, contact a qualified plumber who is familiar with cross-connections, hydraulics, and pollution factors.

Install backflow prevention assemblies to prevent potential cross-connections, and have a certified backflow tester inspect and test your assemblies once a year to ensure they work properly. A list of certified backflow testers is available in our office and online.

### What is Greeley doing to prevent cross-connections?

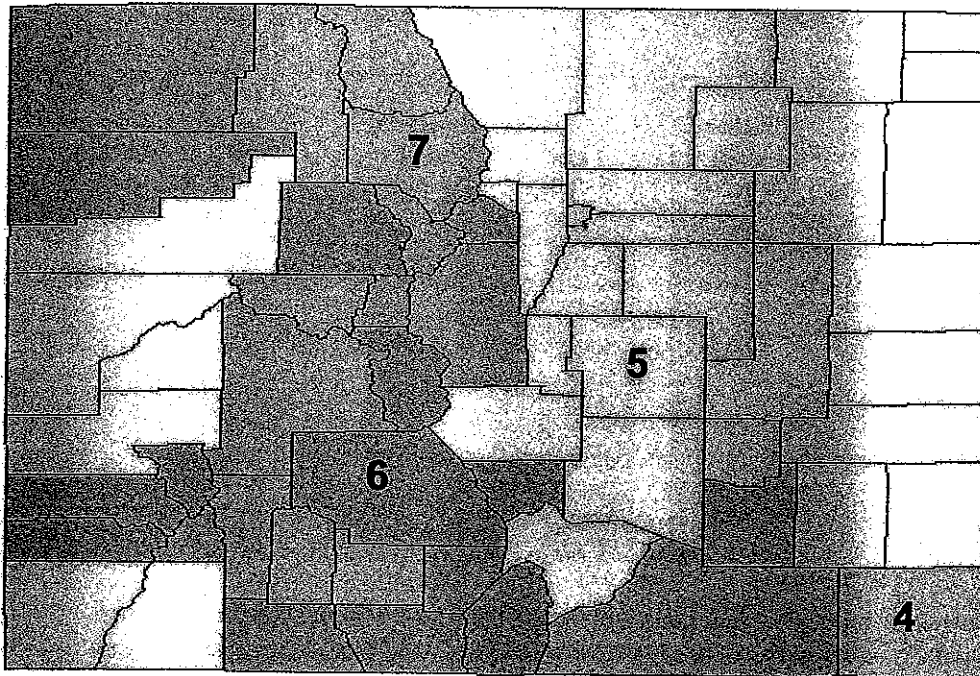
The Water and Sewer Department has a Cross-Connection Control Program, and its staff is committed to keeping your water safe and free from pollutants and harmful substances that could affect your health. Our program focuses primarily on containment and prevention.

Currently, commercial and industrial sites are being surveyed to identify potential cross-connections. Each site's water service system is being inspected for potential hazards. All commercial and industrial customers must install backflow prevention assemblies on their water service lines, fire sprinkler systems, and irrigation systems.

Residential customers should have backflow prevention assemblies on fire sprinkler systems and irrigation systems.

# IECC Compliance Guide for Homes in Colorado

Code: 2006 International Energy Conservation Code



The IECC assigns the counties in the state of Colorado into four climate zones. The envelope performance requirements vary for each zone as detailed in the building requirements found on the back of this sheet.

*Example: If you are constructing a home in Denver County, you will comply with the 2006 IECC if you follow the requirements for Climate Zone 5.*

## Step-by-Step Instructions

1. Use the color-coded map or list of counties to locate the IECC climate zone in which construction is taking place.
2. Use the "Table of IECC Building Envelope Requirements for Colorado" (on the back of this sheet) to determine the envelope performance requirements associated with the climate zone.
3. Construct the building according to the envelope performance requirements and comply with certain other basic code requirements, which include:
  - a. providing preventative maintenance manuals
  - b. attaching a permanent certificate listing insulation, window and HVAC performance information
  - c. installing temperature controls
  - d. limiting window and door leakage
  - e. caulking or sealing joints and penetrations
  - f. installing vapor retarders (in certain circumstances)
  - g. sealing and insulating ducts

## The 2006 International Energy Conservation Code

The 2006 IECC was adopted during the 2005 International Code Council (ICC) code cycle and is currently available to states for adoption. It is published by the International Code Council. For additional details or to obtain a copy of the 2006 IECC, contact the ICC by phone or visit their website at [www.iccsafe.org](http://www.iccsafe.org)

The IECC is the national model energy standard certified by the U.S. Department of Energy pursuant to the Energy Policy Act (EPAAct). EPAAct requires that all states review and consider adopting the IECC as the state building energy code.

IECC Climate Zone 4		
Baca	Las Animas	Otero

IECC Climate Zone 5			
Adams	Elbert	La Plata	Prowers
Arapahoe	El Paso	Larimer	Pueblo
Bent	Fremont	Lincoln	Sedgwick
Boulder	Garfield	Logan	Teller
Cheyenne	Gilpin	Mesa	Washington
Crowley	Huerfano	Montezuma	Weld
Delta	Jefferson	Montrose	Yuma
Denver	Kiowa	Morgan	
Douglas	Kit Carson	Phillips	

IECC Climate Zone 6			
Alamosa	Costilla	Moffat	San Miguel
Archuleta	Custer	Ouray	
Chaffee	Dolores	Rio Blanco	
Conejos	Eagle	Saguache	

IECC Climate Zone 7			
Clear Creek	Jackson	Pitkin	Summit
Grand	Lake	Rio Grande	
Gunnison	Mineral	Routt	
Hinsdale	Park	San Juan	

## Limitations

This guide is an energy code compliance aid for Colorado based upon the 2006 IECC. It does not provide a guarantee for meeting the IECC. The guide is not designed to reflect the actual energy code, if any, in Colorado and does not, therefore, provide a guarantee for meeting the state energy code. For details on Colorado's energy code, please contact your local building code official.

# Table of IECC Building Envelope Requirements for Colorado

Prescriptive Path for Compliance with the 2006 IECC

## WINDOWS AND INSULATION

## FOUNDATION TYPE

Package	WINDOWS AND INSULATION					FOUNDATION TYPE			
	Window U-factor	Skylight U-Factor	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R-Value	Basement Wall R-Value	Slab R-Value and Depth	Crawl Space Wall R-Value
Climate Zone 4	0.40	0.60	R-38	R-13	R-5	R-19	R-10/13	R-10, 2 ft.	R-10/13
Climate Zone 5	0.35	0.60	R-38	R-19 or 13+5	R-13	R-30	R-10/13	R-10, 2 ft.	R-10/13
Climate Zone 6	0.35	0.60	R-49	R-19 or 13+5	R-15	R-30	R-10/13	R-10, 4 ft.	R-10/13
Climate Zone 7	0.35	0.60	R-49	R-21	R-19	R-30	R-10/13	R-10, 4 ft.	R-10/13

- This table applies to new construction, as well as all additions, alterations and replacement windows and is based upon the envelope performance requirements for Climate Zones 4-7, Table 402.1.1 in the 2006 IECC, and does not reflect any state-specific amendments to the IECC. This table applies to residential buildings, as defined in the IECC, with wood framing and/or mass walls. For steel-framed buildings, refer to Section 402.2.4 of the IECC.
- Window refers to any translucent or transparent material (i.e., glazing) in exterior openings of buildings, including skylights, sliding glass doors and glass block, along with the accompanying sashes, frames, etc.
- Window and skylight U-factor values are maximum acceptable levels. An area-weighted average of fenestration products shall be permitted to satisfy the U-factor requirements. Window U-factor must be determined from a National Fenestration Rating Council (NFRC) label on the product or from a limited table of product default values in the IECC. Up to 15 square feet of glazed fenestration is permitted to be exempt from the U-factor requirement.
- The code requires that windows be labeled in a manner to determine that they meet the IECC's air infiltration requirements; specifically, equal to or better than 0.30 cfm per square foot of window area (swinging doors below 0.50 cfm) as determined in accordance with NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory.
- Opaque exterior doors must meet the window U-factor requirements. One exempt door is allowed.
- Insulation R-values are minimum acceptable levels; R-19 shall be permitted to be compressed into a 2x6 cavity. R-values for walls represent the sum of cavity insulation plus insulated sheathing, if any.
- If structural sheathing covers 25% or less of the exterior, insulated sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25% of the exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.
- Supply and return ducts shall be insulated to a minimum of R-8. Ducts in floor trusses shall be insulated to a minimum of R-6.  
Exception: Ducts or portions thereof located completely inside the thermal building envelope.
- Where there are two different values for basement and crawl space insulation requirements, the first R-value applies to continuous insulation, the second to framing cavity insulation. Crawl space wall R-value shall only apply to unventilated crawl spaces; R-5 shall be added to the required slab edge R-values for heated slabs; and floors over outside air must meet ceiling requirements.
- Prescriptive packages are based upon normal HVAC equipment efficiencies (NAECA minimums). The code also requires the HVAC system to be properly sized using a computational procedure like the ASHRAE Handbook of Fundamentals.