IECC Compliance Guide for New Homes in California

Code: 2003 International Energy Conservation Code (IECC)   **First Edition**

How to Use This Guide

This pamphlet contains nine generic packages designed to simplify compliance with the IECC as it relates to residential occupancies in California. Each county is assigned to one of the nine packages (A through I), which vary according to the different climate zones in California.

Step-by-Step Instructions

1. Use the color-coded map to locate the county in which construction is taking place and find the package, A through I, associated with that county.

2. Use the "Table of IECC Building Envelope Requirements for California" (on the back of this sheet) to find the set of construction options or "path" associated with the package selected above.

3. Construct the building according to the corresponding path and comply with certain basic code requirements, which include:
   a. providing preventative maintenance manuals
   b. installing temperature controls
   c. limiting window and door leakage
   d. caulking or sealing joints and penetrations
   e. installing vapor retarders
   f. sealing and insulating ducts
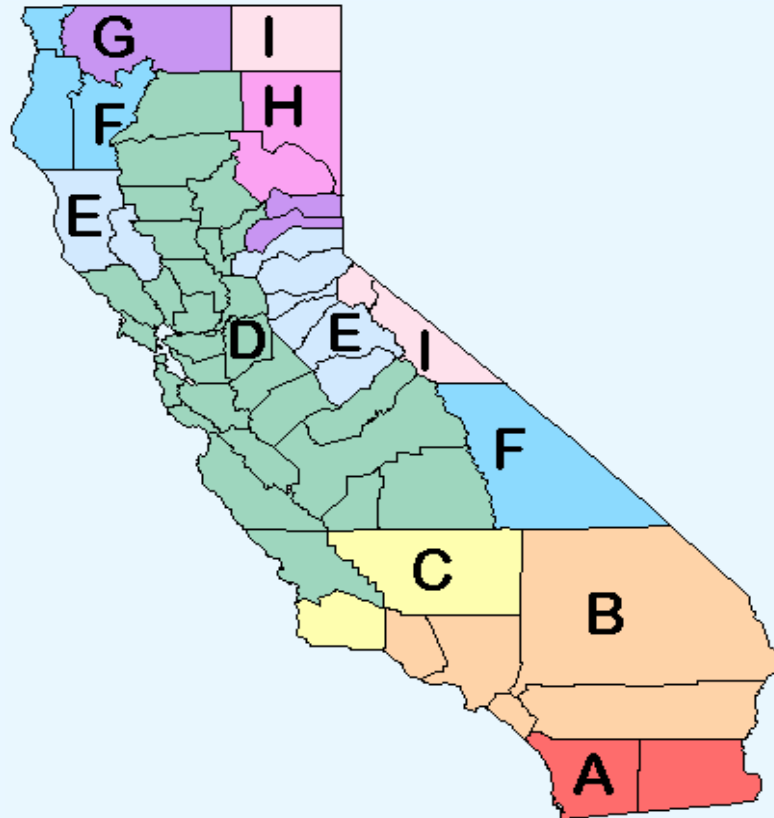
Example:
If you are constructing a home in Los Angeles County, you will comply with the IECC in California if you follow the path listed in Package B.

Limitations

This guide is an energy code (IECC based) compliance aid for California. It does not provide a guarantee for meeting the IECC. The guide has not been customized to reflect any state-specific amendments to the IECC that California may adopt or has adopted, and does not, therefore, provide a guarantee for meeting the state energy code. For additional details on California's energy code, please contact your local building code official.

Obtaining the IECC

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

The IECC is published by the International Code Council (ICC). For additional details on the IECC contact the ICC by phone at (703) 931-4533 or visit their website at www.iccsafe.org.

California Counties by Package

A — **1,000 - 1,499 HDD**

Imperial	San Diego

B — **1,500 - 1,999 HDD**

Los Angeles	Riverside	Ventura
Orange	San Bernardino	

C — **2,000 - 2,499 HDD**

Kern	Santa Barbara

D — **2,500 - 2,999 HDD**

Alameda	Monterey	Shasta
Butte	Napa	Solano
Colusa	Sacramento	Sonoma
Contra Costa	San Benito	Stanislaus
Fresno	San Francisco	Sutter
Glenn	San Joaquin	Tehama
Kings	San Luis Obispo	Tulare
Madera	San Mateo	Yolo
Marin	Santa Clara	Yuba
Merced	Santa Cruz	

E — **3,500 - 3,999 HDD**

Amador	Lake	Placer
Calaveras	Mariposa	Tuolumne
El Dorado	Mendocino	

F — **4,000 - 4,499 HDD**

Del Norte	Inyo	Trinity
Humboldt		

G — **5,000 - 5,499 HDD**

Nevada	Sierra	Siskiyou

H — **6,000 - 6,499 HDD**

Lassen	Plumas

I — **7,000 - 8,499 HDD**

Alpine	Modoc	Mono

HDD = Heating Degree Days

Table of IECC Building Envelope Requirements for California
Simplified Prescriptive Paths for Compliance with the IECC in California

WINDOWS AND INSULATION

Package		Window U-factor	Window SHGC	Ceiling	Wall
A	1,000-1,499 HDD	0.75	0.40	R-19	R-11
B	1,500-1,999 HDD	0.75	0.40	R-26	R-13
C	2,000-2,499 HDD	0.65	0.40	R-30	R-13
D	2,500-2,999 HDD	0.60	0.40	R-30	R-13
E	3,500-3,999 HDD	0.50	NR	R-30	R-13
F	4,000-4,499 HDD	0.45	NR	R-38	R-13
G	5,000-5,499 HDD	0.45	NR	R-38	R-18
H	6,000-6,499 HDD	0.35	NR	R-38	R-18
I	7,000-8,499 HDD	0.35	NR	R-49	R-21

FOUNDATION TYPE

Floor	Basement Wall	Slab Perimeter	Crawl Space Wall
R-11	R-0	R-0	R-5
R-11	R-5	R-0	R-5
R-11	R-5	R-0	R-6
R-19	R-6	R-4, 2 ft.	R-7
R-19	R-8	R-5, 2 ft.	R-10
R-19	R-8	R-5, 2 ft.	R-11
R-19	R-9	R-6, 2 ft.	R-17
R-21	R-10	R-9, 4 ft.	R-20
R-21	R-11	R-13, 4 ft.	R-20

"NR" means no requirement is specified in this package.

HDD = Heating Degree Days

* This table of prescriptive requirements is applicable to homes in which the ratio of the rough opening of windows to the gross wall area, expressed as a percentage is 15%. For homes with glazing areas that are greater than 15%, please refer to Tables 502.4(4) - (6) in the IECC.

NOTES:
1. This table is based upon the 2003 International Energy Conservation Code (IECC), published by the International Code Council, and does not reflect any state-specific amendments to the IECC.
2. Source of requirements for the Table: 2003 IECC, Ch. 5, Prescriptive Packages for Climate Zones 3-6, 8-9, 11, 13 and 15. Alternate compliance approaches must be used for glazing areas over 25%.
3. Window area %, U-factors, and SHGCs are maximum acceptable levels.
4. Insulation R-values are minimum acceptable levels.
5. This table applies to single-family, wood-frame residential buildings. For steel-framed wall construction or high-mass wall construction refer to Chapter 5 of the IECC.
6. "Window" refers to any translucent or transparent material (i.e., glazing) in exterior openings of buildings, including skylights, sliding glass doors, the glass areas of opaque doors, and glass block, along with the accompanying sashes, frames, etc.
7. Window U-factor and SHGC 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.
8. Window area % is the ratio of the rough opening of windows to the gross wall area, expressed as a percentage
9. Opaque doors must have a maximum U-factor of 0.35. One exempt door allowed.
10. 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 AAMA/WDMA 101/I.S.2 (ASTM E 283).
11. R-2 shall be added to the requirements for heated slabs.
12. Floors over outside air must meet ceiling requirements.
13. R-values for walls represent the sum of cavity insulation plus insulated sheathing, if any. Crawl space wall R-value shall only apply to unventilated crawl spaces.
14. Prescriptive packages are based upon normal HVAC equipment efficiencies (see Chapter 5 of the IECC). The code also requires the HVAC system to be properly sized using a computational procedure like ACCA Manual J.