

			CZ 1	CZ 16	Comments	
Insulation^A	Roofs No Radiant Barrier	Opt A No Air Space	No c.i. ^K R-38 ceiling No Rad Barrier	R-8 c.i. R-38 ceiling No Rad Barrier		
		Opt A With Air Space	No c.i. R-38 ceiling No Rad Barrier	R-6 c.i. R-38 ceiling No Rad Barrier		
		Opt B ^E No Air Space	No b.r.d. ^K R-38 ceiling No Rad Barrier	R-18 b.r.d. R-38 ceiling No Rad Barrier		
		Opt B ^E With Air Space	No b.r.d. R-38 ceiling No Rad Barrier	R-13 b.r.d. R-38 ceiling No Rad Barrier		
		Opt C	No c.i. R-38 ceiling No Rad Barrier Ducts in cond. space	No c.i. R-38 ceiling No Rad Barrier Ducts in cond. space		
	Walls	Above Grade	Framed ^F	U-0.051	U-0.051	
			Mass Wall Interior ^G	U-0.070 R-13	U-0.059 R-17	or higher
			Mass Wall Exterior ^G	U-0.125 R-8	U-0.070 R-13	or higher
		Below Grade	Below Grade Interior ^G	U-0.070 R-13	U-0.066 R-15	or higher
			Below Grade Exterior ^G	U-0.200 R-5	U-0.053 R-19	or higher
	Floors	Slab Perimeter		NR ^L	U-0.58 R-7	or higher
		Raised		U-0.037 R-19	U-0.037 R-19	or higher
		Concrete Raised		U-0.092 R-8	U-0.092 R-8	or higher
	Roofing Products	Low- sloped	Aged Solar Reflectance	NR	NR	
			Thermal Emittance	NR	NR	
Steep- sloped		Aged Solar Reflectance	NR	NR		
		Thermal Emittance	NR	NR		
Fenestration	Maximum U factor ^H		0.32	0.32		
	Maximum SHGC ^I		NR	0.25		
	Maximum Total Area		20%	20%		
	Maximum West Facing Area		NR	5%		
Space Heating^{B,C}	Electric-Resistance Allowed		No	No		
	If gas, AFUE		MIN	MIN	Central furnace <225,000 kBtuh: 80% AFUE or higher ^N	
	If Heat Pump, Heating Seasonal Performance Factor (HSPF)		MIN	MIN	Single-phase air source • Split: <65 kBtuh: 8.2 HSPF or higher ^N • Packaged: <65 kBtuh: 8.0 HSPF or higher ^N	
Space Cooling	SEER		MIN	MIN	Central air conditioner or central air source heat pump	
	Refrigerant Charge Verification or Charge Indicator Display		NR	NR	• Split: <45 kBtuh 14.0 SEER/12.2 EER ≥45 but < 65 kBtuh 14 SEER/11.7 EER	
	Whole House Fan ^J		NR	NR	• Packaged: <65 kBtuh 14 SEER/11 EER or higher ^N	
Central System Air Handlers	Central Fan Integrated Ventilation System Fan Efficacy		REQ	REQ		
Ducts^D	Duct Insulation		R-6 or R-8 ^M	R-6 or R-8 ^M	or higher	
Water Heating	All Buildings		Gas Storage ≤ 55 gallons; ≤ 105 kBtuh Tankless Instantaneous ≤ 200 kBtuh Apr 16, 2015: 0.675-(0.0015*V) ^O EF ^P or higher			

Notes

- A The U-factors/R-values shown for ceiling, wall and raised floor insulation are for wood-frame construction with insulation installed between the framing members, with continuous insulation where appropriate. For alternative construction assemblies, see [Section 150.1\(c\)1A, B and C](#).
- B A supplemental heating unit may be installed in a space served directly or indirectly by a primary heating system, provided that the unit thermal capacity does not exceed 2 kW or 7,000 Btuh and is controlled by a time-limiting device not exceeding 30 minutes.
- C Furnaces shall have an electrical standby mode power consumption and electrical off mode power consumption not more than the following:
- Non-weatherized gas furnaces (not including mobile home furnaces)..... 10W
 - Non-weatherized oil-fired furnaces (not including mobile home furnaces)..... 11W
 - Electric furnaces 10W
- Central air conditioners and central air conditioning heat pumps manufactured on or after January 1, 2015, shall have an average off mode electrical power consumption of:
- Split-system air conditioners..... 30W
 - Split-system heat pumps..... 33W
 - Single-package air conditioners..... 30W
 - Single-package heat pumps 33W
 - Small-duct, high-velocity systems..... 30W
 - Space-constrained air conditioners..... 30W
 - Space-constrained heat pumps..... 33W
- D Duct sealing is a Mandatory Requirement in all climate zones, as confirmed through field verification and diagnostic testing. See [Section 150.0\(m\)11](#).
- E For Option B, where insulation directly below the roof deck is required, either R-13 insulation between rafters with an air space or R-18 insulation between the rafters with no air space is required.
- F U-factors can be met by cavity insulation alone or with continuous insulation alone, or with both cavity and continuous insulation that results in a U-factor \leq the U-factor shown. Any combination of cavity insulation and/or continuous insulation that results in a U-factor \leq the Prescriptive requirement is allowed.
- G Mass wall has a thermal heat capacity ≥ 7.0 Btuh-ft². Below grade “interior” denotes insulation installed on the inside surface of the wall. Below grade “exterior” denotes insulation installed on the outside surface of the wall.
- H The installed fenestration products shall meet the requirements of [Section 150.1\(c\)3](#).
- I The installed fenestration products shall meet the requirements of [Section 150.1\(c\)4](#).
- J When whole house fans (WHF) are required, only those listed in the [Energy Commission Title 20 Appliance Efficiency Database](#) may be installed. Compliance requires installation of one or more WHFs with total airflow capable of meeting or exceeding a minimum 1.5 cfm/ft² of conditioned floor area per [Section 150.1\(c\)12](#).
- K c.i. = continuous insulation
b.r.d. = below roof deck insulation
- L NR = No Requirement
- M R-8 is required if rigid insulation above or below the roof deck complies with Option A or B in Prescriptive [Table 150.1-A](#). If Option C is used, duct leakage testing is required.
- N For information about other HVAC equipment efficiency requirements, refer to [Chapter 4 of the 2016 Residential Compliance Manual](#).
- O V = rated storage volume of water heater in gallons
- P Or equivalent [uniform energy factor](#).

For more information

- See Energy Code Ace Quick Reference Sheets: energycodeace.com/content/resources-fact-sheets/
 - Residential Heating & Cooling Equipment Minimum Efficiencies
 - Short Glossary of Terms



This program is funded by California utility customers and administered by Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E®), Southern California Edison Company (SCE), and Southern California Gas Company (SoCalGas®) under the auspices of the California Public Utilities Commission. © 2018 PG&E, SDG&E, SoCalGas and SCE. All rights reserved, except that this document may be used, copied, and distributed without modification. Neither PG&E, SoCalGas, SDG&E, nor SCE — nor any of their employees makes any warranty, express or implied; or assumes any legal liability or responsibility for the accuracy, completeness or usefulness of any data, information, method, product, policy or process disclosed in this document; or represents that its use will not infringe any privately-owned rights including, but not limited to patents, trademarks or copyrights. Images used in this document are intended for illustrative purposes only. Any reference or appearance herein to any specific commercial products, processes or services by trade name, trademark, manufacturer or otherwise does not constitute or imply its endorsement, recommendation or favoring.