

2019 ENERGY EFFICIENCY STANDARDS

1 or 2 FAMILY DWELLINGS – ADDITIONS (≤ 700 sf) or ALTERATIONS ONLY ¹

PRESCRIPTIVE COMPLIANCE METHOD			Climate Zone 6 (southwest of I-405)	Climate Zone 8 (northeast of I-405)	
INSULATION ³	Roof / Ceiling <i>with attic</i> (Option B)	Roof (between roof joists)	No Requirement		
		Ceiling (below attic)	R-30 ² (between & over ceiling joists)		
		Ducts (in ventilated attic)	R-6	R-8	
	Roof / Ceiling <i>with no attic</i>	Cathedral ceiling	R-22 (between rafters)		
	Walls ⁵	2"x4"@16"o.c.	R-13 + R-5 CI or R-15 HD + R-4 CI	R-13 + R-10 CI or R-15 HD + R-8 CI	
		2"x6"@16"o.c.	R-19 + R-2 CI or R-21 HD + R-2 CI	R-19 + R-7 CI or R-21 HD + R-5 CI	
Floor	Raised Wood Framed	R-19			
	Concrete - raised or slab on grade	No Requirement			
RADIANT BARRIER			Required		
FENESTRATION (windows & doors with >25% glazing)	Maximum U-factor		0.30		
	Maximum SHGC (Solar Heat Gain Coefficient)		0.23		
	Added glazing max total area (all directions)	≤ 400 sf addition	Greater of 75 sf; or, 30% of CFA added		
		>400 to 700 sf addition	Greater of 120 sf; or, 25% of CFA added		
Added West Facing glazing max area	≤ 700 sf addition	Not limited	Greater of 60 sf; or, 5% of CFA added		
DOORS (<25% glazing)	Maximum U-factor		0.20		
SPACE HEATING	HERS VERIFICATION REQUIRED	Electric-Resistant Heating	Not permitted		
		Gas Central Furnace	≥ 225,000 Btu/hr 80% AFUE or higher		
		Heat Pump	Split or Mini Split Units:	< 65,000 Btu/hr; 8.2 HSPF	
		Packaged Units:	< 65,000 Btu/hr; 8.0 HSPF or higher		
SPACE COOLING	HERS VERIFICATION REQUIRED	Central AC or central air source heat pump	Split or Mini Split Units:	< 45,000 Btu/hr; 14.0 SEER/12.2 EER ≥ 45,000 Btu/hr; 14.0 SEER/11.7 EER	
			Packaged Units:	< 65,000 Btu/hr; 14.0 SEER/11.0 EER or higher	
		Refrigerant Charge Verification; or, Fault Indicator Display		No Requirement	Required
CENTRAL SYSTEM AIR HANDLERS	HERS VERIFICATION REQUIRED	Central Fan Integrated Ventilation System Fan Efficacy	Required		
WATER HEATING		Gas Storage Type (tank)	≤ 105,000 Btu/hr and ≤ 55 gallons		
		Gas Tankless	≤ 200,000 Btu/hr		

Footnotes:

- Projects which do not comply with all parts of the listed requirements shall provide a computer generated CF-1R energy analysis, with HERS registration number and 2019 Low-Rise Residential Mandatory Measures, on full-size sheets in the construction documents.
- In additions that are 700 sf or less, roof and ceiling insulation in an attic shall be with R-30 or greater in climate zones 2-10. (CEES 150.2(a)1Bi)
- The U-factors/R-values shown are for wood-frame construction with cavity insulation installed between the framing members and continuous insulation (CI) as noted. (CEES 150.1(c)1, Table 150.1-A & JA4 Table 4.3.1)
- CEES (California Energy Efficiency Standards) CFA (conditioned floor area). HD (higher density fiberglass batt) is required for these cases CI (continuous insulation) typically rigid polystyrene or polyisocyanurate foam insulation, may be installed on either face of the wall studs. (CEES JA.3 Table 4.3)
- Extension of existing wood-frame walls along the same straight line may install R-15 HD in 2x4 framing or R-21 HD in 2x6 framing, in lieu of stated cavity and continuous insulation assembly. (CEES 150.2(a)1B iii)
- Photovoltaic (PV) systems are not required for additions or alterations to low-rise residential buildings. (CEES 150.2(a) Exc. 7 & 150.2(b))
- IAQ and/or WHF ventilation systems are not required for alterations or additions, less than 1000 sf, to low-rise residential buildings. (CEES 150.2(a)1C)