

2007 Appliance Efficiency Regulations – Table F-4

<i>Appliance</i>	<i>Minimum Energy Factor</i>	
	<i>Effective April 15, 1991</i>	<i>Effective January 20, 2004</i>
Gas-fired storage-type water heaters	0.62 – (.0019 x V)	0.67 – (.0019 x V)
Oil-fired water heaters (storage and instantaneous)	0.59 – (.0019 x V)	0.59 – (.0019 x V)
Electric storage water heaters (excluding tabletop water heaters)	0.93 – (.00132 x V)	0.97 – (.00132 x V)
Electric tabletop water heaters	0.93 – (.00132 x V)	0.93 – (.00132 x V)
Gas-fired instantaneous water heaters	0.62 – (.0019 x V)	0.62 – (.0019 x V)
Electric instantaneous water heaters (excluding tabletop water heaters)	0.93 – (.00132 x V)	0.93 – (.00132 x V)
Heat pump water heaters	0.93 – (.00132 x V)	0.97 – (.00132 x V)

V = rated volume in gallons.

Mandatory Measures Summary		MF-1R
Residential		(Page 1 of 3)
Site Address:	Enforcement Agency:	Date:

NOTE: Low-rise residential buildings subject to the Standards must comply with all applicable mandatory measures listed, regardless of the compliance approach used. More stringent energy measures listed on the Certificate of Compliance (CF-1R, CF-1R-ADD, or CF-1R-ALT Form) shall supersede the items marked with an asterisk () below. This Mandatory Measures Summary shall be incorporated into the permit documents and the applicable features shall be considered by all parties as minimum component performance specifications whether they are shown elsewhere in the documents or in this summary. Submit all applicable sections of the MF-1R Form with plans.*

DESCRIPTION
Space Conditioning, Water Heating and Plumbing System Measures:
§110-§113: HVAC equipment, water heaters, showerheads, faucets and all other regulated appliances are certified by the Energy Commission.
§113(c)5: Water heating recirculation loops serving multiple dwelling units and High-Rise residential occupancies meet the air release valve, backflow prevention, pump isolation valve, and recirculation loop connection requirements of §113(c)5.
§115: Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces, household cooking appliances (appliances with an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr are exempt), and pool and spa heaters.
§150(h): Heating and/or cooling loads are calculated in accordance with ASHRAE, SMACNA or ACCA.
§150(i): Heating systems are equipped with thermostats that meet the setback requirements of Section 112(c).
§150(j)1A: Storage gas water heaters rated with an Energy Factor no greater than the federal minimal standard are externally wrapped with insulation having an installed thermal resistance of R-12 or greater.
§150(j)1B: Unfired storage tanks, such as storage tanks or backup tanks for solar water-heating system, or other indirect hot water tanks have R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§150(j)2: First 5 feet of hot and cold water pipes closest to water heater tank, non-recirculating systems, and entire length of recirculating sections of hot water pipes are insulated per Standards Table 150-B.
§150(j)2: Cooling system piping (suction, chilled water, or brine lines), and piping insulated between heating source and indirect hot water tank shall be insulated to Table 150-B and Equation 150-A.
§150(j)2: Pipe insulation for steam hydronic heating systems or hot water systems >15 psi, meets the requirements of Standards Table 123-A.
§150(j)3A: Insulation is protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind.
§150(j)3A: Insulation for chilled water piping and refrigerant suction lines includes a vapor retardant or is enclosed entirely in conditioned space.

Prescriptive Certificate of Compliance: Residential		CF-1R-ALT
Residential Alterations		(Page 1 of 5)
Project Name:	Climate Zone #	# of Stories

General Information		
Site Address:	Enforcement Agency:	Date:
Building Type <input type="checkbox"/> Single Family <input type="checkbox"/> Multi Family	Circle the Front Orientation: N, E, S, W, or degrees _____	
Conditioned Floor Area (CFA): _____	Project Type: <input type="checkbox"/> Alterations <input type="checkbox"/> Envelope <input type="checkbox"/> Fenestration <input type="checkbox"/> Roof <input type="checkbox"/> HVAC Replacement or Change Out <input type="checkbox"/> Duct Replacement <input type="checkbox"/> Water Heater	
NOTE: This form is not to be used for Newly Constructed Buildings or Additions		

WATER HEATING					
<i>List water heaters and boilers for both domestic hot water (DHW) heaters and hydronic space heating. Individual dwelling DHW heaters must be gas or propane fired. Hot water pipe insulation from the DHW heater to the kitchen(s) and on all underground hot water pipes is required in all component packages in all climate zones.</i>					
Water Heater Type/Fuel Type ¹	Distribution Type (Standard, Recirculating) ²	Number In System	Tank Capacity (gal)	Energy Factor or Thermal Efficiency	External Tank Insulation R-Value ³
<ol style="list-style-type: none"> Indicate Type (Storage Gas, Heat Pump, Instantaneous, etc.) Recirculating systems serving multiple dwelling units shall meet the recirculation requirements of §150(n). The Prescriptive requirements do not allow the installation of a recirculating water heating system for single dwelling units. The external water heating tank and pipes shall be insulated to meet the requirements of §150(i). 					

Documentation Author's Declaration Statement	
• I certify that this Certificate of Compliance documentation is accurate and complete.	
Name:	Signature:
Company:	Date:
Address:	If Applicable <input type="checkbox"/> CEA or <input type="checkbox"/> CEPE (Certification #):
City/State/Zip:	Phone:

For assistance or questions regarding the Energy Standards, contact the Energy Hotline at: 1-800-772-3300.

Registration Number: _____ Registration Date/Time: _____ HERS Provider: _____
 2008 Residential Compliance Forms August 2009

INSTALLATION CERTIFICATE		CF-6R-MECH-01
Domestic Hot Water (DHW)		(Page 1 of 2)
Site Address:	Enforcement Agency:	Permit Number:

1. WATER HEATING SYSTEMS:

Heater Type	CEC Certified Mfr Name & Model Number	Distribution Type (Std, Point-of-Use, etc)	If Recirculation, Control Type	# of Identical Systems	Rated Input (kW or Btu/hr) ¹	Tank Volume (gallons)	Efficiency (EF, RE) ¹	Standby Loss (%) ¹

Note 1: For small gas storage (rated input less than or equal to 75,000 Btu/hr), electric resistance and heat pump water heaters, list Energy Factor (EF). For large gas storage water heaters (rated input of greater than 75,000 Btu/hr), list Recovery Efficiency (RE), Thermal Efficiency, Standby Loss and Rated Input. For instantaneous gas water heaters, list the Thermal Efficiency and Rated Input.

2. Mandatory Measures

TO COMPLY - ALL BOXES MUST BE CHECKED

§110-§113: Water heaters, showerhead and faucets are certified by the California Energy Commission.

§150(j): Water System Pipe and Tank Insulation. And Cooling Line Insulation

1. Storage tank insulation

- A. Storage gas water heaters rated with an Energy Factor no greater than the federal minimal standard are externally wrapped with insulation having an installed thermal resistance of R-12 or greater; and
- B. Unfired storage tanks or other indirect hot water tanks have R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.

2. Water piping and cooling system line insulation thickness and conductivity

- First 5 feet of hot and cold water pipes closest to water heater tank, non-recirculating systems, and entire length of recirculating sections of hot water pipes are insulated per Standards Table 150-B; and
- Pipe insulation for steam hydronic heating systems or hot water systems >15 psi, meets the requirements of Standards Table 123-A.
- Insulation is protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind.

§151(f)8D: If indicated on the CF-1R, all hot water piping that runs from the hot water source to the kitchen fixtures is insulated per Standards Table 150-B.

INSTALLATION CERTIFICATE		CF-6R-MECH-01
Domestic Hot Water (DHW)		(Page 2 of 2)
Site Address:	Enforcement Agency:	Permit Number:

3. Central Water Heating in Buildings with Multiple Dwelling Units (required for prescriptive)

TO COMPLY - ALL BOXES MUST BE CHECKED

- All hot water piping in main circulating loop is insulated to requirements of §150(j)
- Central hot water systems serving six or fewer dwelling units which have (1) less than 25' of distribution piping outdoors; (2) zero distribution piping underground; (3) no recirculation pump; and (4) insulation on distribution piping that meets the requirements of Section 150(j)
- Central hot water systems serving more than 6 dwelling units - presence of either a time control or a time/temperature control

DECLARATION STATEMENT

- I certify under penalty of perjury, under the laws of the State of California, the information provided on this form is true and correct.
- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for construction, or an authorized representative of the person responsible for construction (responsible person).
- I certify that the installed features, materials, components, or manufactured devices identified on this certificate (the installation) conforms to all applicable codes and regulations, and the installation is consistent with the plans and specifications approved by the enforcement agency.
- I reviewed a copy of the Certificate of Compliance (CF-1R) form approved by the enforcement agency that identifies the specific requirements for the installation. I certify that the requirements detailed on the CF-1R that apply to the installation have been met.
- I will ensure that a completed, signed copy of this Installation Certificate shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a signed copy of this Installation Certificate is required to be included with the documentation the builder provides to the building owner at occupancy.

Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)		
Responsible Person's Name:		Responsible Person's Signature:
CSLB License:	Date Signed:	Position With Company (Title):