CERTIFICATE OF COMPLIANCE:	Page 1 of 5)	CF-1R	
Project Title	Date	Building Permit #	_
Project Address			
		Plan Check / Date	
Documentation Author	Telephone		
		Field Check / Date	
Compliance Method (Prescriptive)	Climate Zone		
		Enforcement Agency	Use Only

✓ ☐ Alternative Component Package Method: (check one) C D D (Alternative)

• Package C and Package D choices require HERS rater field verification and/or diagnostic testing (see CF-1R page 3)

For Package D Alternative see Appendix B Table 151-C Footnotes 7-14

GENERAL INFORMATION

Total Conditioned Floor Area (CFA) ft²

Average Ceiling Height: ______ ft

Maximum Allowed West Facing Fenestration Products Per Table 151-B or 151-C ---- (5% X CFA) ft²

Maximum Allowed Total Fenestration Products Per Table 151-B or 151-C ----(20% X CFA) ft²

✓ □ Building Type: (check one or more) _____ Single Family _____ Multifamily _____ Addition _____ Alteration (If adding fenestration fill out WS-4R, Fenestration Maximum Allowed Area Worksheet and see Section 8.3.2 for Additions and 8.3.3 for Alterations.)

Number of Stories: Number of Dwelling Units:

Floor Construction Type: _____ Slab/Raised Floor (circle one or both)

Front Orientation: North / South / East / West / All Orientations (input front orientation in degrees from True North and circle one).

OPAQUE SURFACES INCLUDING OPAQUE DOORS

Component Type (Wall, Roof, Floor, Slab Edge, Doors)	Frame Type (Wood or Metal)	Cavity Insulation R-Value	Continuous Insulation R-Value	Assembly U- factor (for wood, metal frame and mass assemblies) ¹	Joint Appendix IV Reference	Roof Radiant Barrier Installed Yes or No	Location Comments (attic, garage, typical, etc.)
	/			/			51 / /

1) See Joint Appendix IV in Section IV.2, IV.3 and IV.4, which is the basis for the U-factor criterion. U-factors can not exceed prescriptive value to show equivalence to R-values.

CERTIFICATE OF COMPLIANCE: RESIDENTIAL (Page 2 of 5) CF-1R

Project Title

Date

FENESTRATION PRODUCTS – U-FACTOR AND SHGC

✓ ☐ FENESTRATION MAXIMUM ALLOWED AREA WORKSHEET WS-4R –must be included for New Construction, Additions and Alterations.

Fenestration #/Type/Pos. (Front, Left, Rear, Right, Skylight)	Orien- tation, N, S, E, W ¹	Area (ft ²)	U-factor ²	U-factor Source ³	SHGC ⁴	SHGC Source⁵	Exterior Shading/Overhangs ^{6, 7} ✓ box if WS-3R is included

1) Skylights are now included in West-facing fenestration area if the skylights are tilted to the west or tilted in any direction when the pitch is less than 1:12. See §151(f)3C and in Section 3.2.3 of the Residential Manual

- 2) Enter values in this column are either NFRC Rated value or from Standards default Table 116A.
- 3) Indicate source either from NFRC or Table 116A,
- 4) Enter values in this column from NFRC or from Standards Default Table 116B or adjusted SHGC from WS-3R.
- 5) Indicate source either from NFRC or Table 116B.
- 6) Shading Devices are defined in Table 3-3 in the Residential Manual and see WS-3R to calculate Exterior Shading devices.
- 7) See Section 3.2.4 in the Residential Manual.

HVAC SYSTEMS

Heating Equipment Type and Capacity	Minimum Efficiency	Distribution Type and Location	Duct or Piping	Thermostat	Configuration
(furnace, heat pump, boiler, etc.)	(AFUE or HSPF)	(ducts, attic, etc.)	R-Value	Туре	(split or package)

Cooling Equipment Type and Capacity (A/C, heat pump, evap. cooling)	Minimum Efficiency (SEER or EER)	Duct Location (attic, etc.)	Duct R-Value	Thermostat Type	Configuration (split or package)

CERTIFICATE OF COMPLIANCE: RESIDENTIAL CF-1R (Page 3 of 5)

Project Title

Date

SEALED DUCTS and TXVs (or Alternative Measures)

A signed CF-4R Form must be provided to the building department for each home for which the following, are required.

✓			
	Sealed Ducts (all climate zones) (Installer testing and certification and HERS rater field verification required.)		
	TXVs, readily accessible (climate zones 2 and 8-15 only)		
(Installer testing and certification and HERS Rater field verification required.)			
п	Refrigerant Charge (climate zones 2 and 8-15 only) (Installer testing and certification and HERS Rater field		
	verification required.)		
	OR		
п	Alternative to Sealed Ducts and Refrigerant Charge /TXVs (See Package D Alternative Package Features for		
	Project Climate Zone in the RM Appendix B Table 151-C, Footnotes 7-14.		
	OR		
	For additions and alterations, duct systems that are not documented to have been previously		
	sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the		
	Residential ACM Manual and duct systems with more than 40 linear feet in unconditioned		
	spaces shall meet the requirements of Section 150(m) and duct insulation requirements of Package D.		
WA	ATER HEATING SYSTEMS		
✓			
	Check box if system meets criteria of a "Standard" system. Standard system is one gas-fired water heater per		
	dwelling unit. If the water heater is a storage type, 50 gallons is the maximum capacity and recirculation system is		
	not allowed.		
п	Check box when using Preapproved Alternative Water Heating table, Table 5-4 in Chapter 5 in the Residential		
	Manual. No water heating calculations are required, and the system complies automatically.		
	Check box if system does not meet criteria of "Standard" system, and does not comply with the Preapproved		
Alternative Water Heating table. In this case, the Performance Method must be used and must be include			
	submittal.		
	Check box to verify that a time control is required for a recirculating system pump for a system serving multiple		
	units		
Sys	stems serving single dwelling units		

Water Heater Type/Fuel Type	Distribution Type	Number in System	Rated Input ¹ (kW or Btu/hr)	Tank Capacity (gallons)	Energy Factor ¹ or Thermal Efficiency	Standby ¹ Loss (%)	Tank External Insulation R-Value

System serving multiple dwelling units

Water Heater Type	Distribution Type	Number in System	Rated Input ¹ (kW or Btu/hr)	Tank Capacity (gallons)	Energy Factor ¹ or Thermal Efficiency	Standby ¹ Loss (%)	Tank External Insulation R-Value

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

<u>Pipe Insulation</u> (kitchen lines \geq 3/4 inches) All hot water pipes from the heating source to the kitchen fixtures that are ³/₄ inches or greater in diameter shall be thermally insulated as specified by Section 150 (j) 2 A or 150 (j) 2 B.

CERTIFICATE OF COMPLIANCE: RESIDENTIAL (Page 4 of 5) CF-1R

Project Title

Date

/2 0)

SPECIAL FEATURES NOT REQUIRING HERS VERIFICATION (add extra sheets if necessary)

Indicate which special features are part of this project. The list below only represents special features relevant to the prescriptive method.

\checkmark	Feature	Required Forms (if applicable)	Description
	Metal Framed Walls	CF-1R	
	Radiant Barriers	CF-1R	
	Exterior Shades	WS-4R	
	Cool Boof	N/A; Attach CRRC Label to	
	C001 R001	Forms.	
	Dedicated Hydronic Heating	Performance Calculation	
	System	Required; Attach Run to Forms.	
	Combined Hydronic System	Performance Calculation	
	Combined Hydroine System	Required; Attach Run to Forms.	
	Gas Cooling	Performance Calculation	
	Gas Cooling	Required.	
	Buried Ducts	N/A; Indicate on building plans.	
	Kitchen Pine Insulation	See Section 5.6.2 Distribution	
	Kitchen Tipe Insulation	Systems in Residential Manual.	
	Multiple Water Heaters Per	See Table 5-13 or use	
	Dwelling Unit	Performance Calculation and	
		attach Run to Forms.	
	Central Water Heating System	Performance Calculation and	
	Serving Multiple Dwellings	attach Run to Forms.	
	Non-NAECA Large Water	CF-1R	
	Ileater	See Table 5-12 or use	
	Indirect Water Heater	Berformance Calculation and	
	muneet water fleater	attach Run to Forms	
		See Table 5.12 or use	
	Instantaneous Gas Water Heater	Performance Calculation and	
	Instantaneous Gas water freater	attach Run to Forms	
		See Table 5-13 or use	
	Solar Water Heating System	Performance Calculation and	
	Solar Water Heating System	attach Run to Forms	
		Performance Calculation and	
	Wood Stove Boiler	attach Run to Forms	
	l		

SPECIAL FEATURES REQUIRING HERS RATER VERIFICATION

(add extra sheets if necessary) Indicate to the HERS Rater which credits are part of this project and need verification.

✓	Feature	Required Forms (if applicable)	Description
	Duct Sealing	CF-6R part 4 of 12	
	Refrigerant Charge	CF-6R part 5 of 12	
	Thermostatic Expansion Valve	CF-6R part 6 of 12	

CERTIFICATE OF COMPLIANCE: RESIDENTIAL	(Page 5 of 5)	CF-1R
Project Title	Date	

COMPLIANCE STATEMENT

This certificate of compliance lists the building features and specifications needed to comply with Title 24, Parts 1 and 6 of the California Code of Regulations, and the administrative regulations to implement them. This certificate has been signed by the individual with overall design responsibility. The undersigned recognizes that compliance using duct design, duct sealing, verification of refrigerant charge and TXVs, insulation installation quality, and building envelope sealing require installer testing and certification and field verification by an approved HERS rater.

Designer or Owner (per Business and Professions Code) Documentation Author

Name:	Name:
Title/Firm:	Title/Firm:
	1 IIIC/ I IIII.
Address:	Address:
Telephone:	Telephone:
License #:	
(signature) (date)	(signature) (date)

Enforcement Agency

Name:		Comments:
Title		
Agency:		
Telephone:		
(signature / stamp)	(date)	

MANDATORY MEASURES SUMMARY: RESIDENTIAL (Page 1 of 2) MF-1R

Project Title

Date

Note: Low-rise residential buildings subject to the Standards must contain these measures regardless of the compliance approach used. More stringent compliance requirements from the Certificate of Compliance supersede the items marked with an asterisk (*) below. When this checklist is incorporated into the permit documents, the features noted shall be considered by all parties as minimum component performance specifications for the mandatory measures whether they are shown elsewhere in the documents or on this checklist only.

Instructions: Check or initial applicable boxes when completed or check NA if not applicable.

DESCRIPTION		Designer	Enforce -ment
Building Envelope Measures:	✓	✓	✓
* §150(a): Minimum R-19 in wood frame ceiling insulation or equivalent U-factor in metal frame ceiling.			
§150(b): Loose fill insulation manufacturer's labeled R-Value:			
* §150(c): Minimum R-13 wall insulation in wood framed walls or equivalent U-factor in metal frame walls (does not apply to exterior mass walls).			
* §150(d): Minimum R-13 raised floor insulation in framed floors or equivalent U-factor.			
§150(e): Installation of Fireplaces, Decorative Gas Appliances and Gas Logs.			
1. Masonry and factory-built fireplaces have:			
a. closeable metal or glass door covering the entire opening of the firebox			
b. outside air intake with damper and control, flue damper and control			
2. No continuous burning gas pilot lights allowed.			
\$150(f): Air retarding wrap installed to comply with \$151 meets requirements specified in the ACM Residential Manual.			
§150(g): Vapor barriers mandatory in Climate Zones 14 and 16 only.			
§150(1): Slab edge insulation - water absorption rate for the insulation material alone without facings no greater than 0.3%, water vapor permeance rate no greater than 2.0 perm/inch.			
§118: Insulation specified or installed meets insulation installation quality standards. Indicate type and include CF-6R Form:			
§116-17: Fenestration Products, Exterior Doors, and Infiltration/Exfiltration Controls.			
1. Doors and windows between conditioned and unconditioned spaces designed to limit air leakage.			
 Fenestration products (except field-fabricated) have label with certified U-factor, certified Solar Heat Gain Coefficient (SHGC), and infiltration certification. 			
3. Exterior doors and windows weatherstripped; all joints and penetrations caulked and sealed.			
Space Conditioning, Water Heating and Plumbing System Measures:			
\$110-\$113: HVAC equipment, water heaters, showerheads and faucets certified by the Energy Commission.			
§150(h): Heating and/or cooling loads calculated in accordance with ASHRAE, SMACNA or ACCA.			
§150(i): Setback thermostat on all applicable heating and/or cooling systems.			
§150(j): Water system pipe and tank insulation and cooling systems line insulation.			
1. Storage gas water heaters rated with an Energy Factor less than 0.58 must be externally wrapped with insulation having an installed thermal resistance of R-12 or greater.			
2. Back-up tanks for solar system, unfired storage tanks, or other indirect hot water tanks have R-12 external insulation or R-16 internal insulation and indicated on the exterior of the tank showing the R-value.			
3. The following piping is insulated according to Table 150-A/B or Equation 150-A Insulation Thickness:			
1. 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 shall be insulated to Table 150B.			
2. Cooling system piping (suction, chilled water, or brine lines), piping insulated between heating source and indirect hot water tank shall be insulated to Table 150-B and Equation 150-A.			
4. Steam hydronic heating systems or hot water systems >15 psi, meet requirements of Table 123-A.			

MANDATORY MEASURES SUMMARY: RESIDENTIAL (Page 2 of 2)			
Space Conditioning, Water Heating and Plumbing System Measures: (continued)	NA	Designer	Enforce- ment
5. Insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind.			
6. Insulation for chilled water piping and refrigerant suction piping includes a vapor retardant or is enclosed entirely in conditioned space.			
7. Solar water-heating systems/collectors are certified by the Solar Rating and Certification Corporation.			
* §150(m): Ducts and Fans			
1. All ducts and plenums installed, sealed and insulated to meet the requirement of the CMC Sections 601, 602, 603, 604, 605 and Standard 6-5; supply-air and return-air ducts and plenums are insulated to a minimum installed level of R-4.2 or enclosed entirely in conditioned space. Openings shall be sealed with mastic, tape or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than 1/4 inch, the combination of mastic and either mesh or tape shall be used.			
 2. Building cavities, support platforms for air handlers, and plenums defined or constructed with materials other than sealed sheet metal, duct board or flexible duct shall not be used for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms shall not be compressed to cause reductions in the cross-sectional area of the ducts. 3. Joints and seams of duct systems and their components shall not be sealed with cloth back rubber adhesive duct tapes. 			
unless such tape is used in combination with mastic and draw bands.			
4. Exhaust fan systems have back draft or automatic dampers.			
5. Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually operated dampers.			
6. Protection of Insulation. Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Cellular foam insulation shall be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation that can cause degradation of the material			
7. Flexible ducts cannot have porous inner cores.			
§114: Pool and Spa Heating Systems and Equipment.			
1. A thermal efficiency that complies with the Appliance Efficiency Regulations, on-off switch mounted outside of the heater, weatherproof operating instructions, no electric resistance heating and no pilot light.			
2. System is installed with:			
a. at least 36" of pipe between filter and heater for future solar heating			
b. cover for outdoor pools or outdoor spas			
3. Pool system has directional inlets and a circulation pump time switch.			
§115: Gas fired fan-type central furnaces, pool heaters, spa heaters or household cooking appliances have no continuously burning pilot light. (Exception: Non-electrical cooking appliances with pilot < 150 Btu/hr)			
§118(i): Cool Roof material meets specified criteria			
Residential Lighting Measures:			
§150(k)1: HIGH EFFICACY LUMINAIRES OTHER THAN OUTDOOR HID: contain only high efficacy lamps as outlined in Table 150-C, and do not contain a medium screw base socket (E24/E26). Ballast for lamps 13 watts or greater are electronic and have an output frequency no less than 20 kHz			
\$150(k)1: HIGH EFFICACY LUMINAIRES - OUTDOOR HID: contain only high efficacy lamps as outlined in Table			
§150 c), turning has factory installed time online \$150(k)2: Permanently installed luminaires in kitchens shall be high efficacy luminaires. Up to 50 percent of the wattage, as determined in § 130 (c), of permanently installed luminaires in kitchens may be in luminaires that are not high efficacy luminaires, provided that these luminaires are controlled by switches separate from those controlling the high efficacy luminaires.			
§150(k)3: Permanently installed luminaires in bathrooms, garages, laundry rooms utility rooms shall be high efficacy luminaires. OR are controlled by an occupant sensor(s) certified to comply with Section 119(d) that does not turn on automatically or have an always on option			
§150(k)4: Permently installed luminaires located other than in kitchens, bathrooms, garages, laundry rooms, and utility rooms shall be high efficacy luminaires (except closets less than 70ft ²): OR are controlled by a dimmer switch OR are controlled by an occupant sensor that complies with Section 119(d) that does not turn on automatically or have an always on option.			
\$150(k)5: Luminaires that are recessed into insulated ceilings are approved for zero clearance insulation cover (IC) and are certified airtight to ASTM E283 and labeled as air tight (AT) to less than 2.0 CFM at 75 Pascals			
§150(k)6: Luminaires providing outdoor lighting and permanently mounted to a residential building or to other buildings on the same lot shall be high efficacy luminaires (not including lighting around swimming pools/water features or other Article 680 locations) OR are controlled by occupant sensors with integral photo control certified to comply with Section 119(d).			
§150(k)7: Lighting for parking lots for 8 or more vehicles shall have lighting that complies with Sec. 130, 132, and 147. Lighting for parking garages for 8 or more vehicles shall have lighting that complies with Sec. 130, 131, and 146			
§150(k)8: Permanently installed lighting in the enclosed, non-dwelling spaces of low-rise residential buildings with four or more dwelling units shall be high efficacy luminaires OR are controlled by occupant sensor(s) certified to comply with Section 119(d).			