



CERTIFICATE OF COMPLIANCE

This compliance document is only applicable to additions less than or equal to 1,000 square feet (ft²) and do not require HERS field verification for compliance. When HERS verification is required, a CF1R-ADD-01 shall first be registered with a HERS Provider Data Registry.

Alterations to Space Conditioning Systems that are exempt from HERS verification requirements may use the CF1R-ADD-02 and CF2R-ADD-02 compliance documents. Possible exemptions from duct leakage testing include: less than 25 feet (ft) of ducts were added or replaced; or the existing duct system was insulated with asbestos; or the existing duct system was previously tested and passed by a HERS Rater. If space conditioning systems are altered and are not exempt from HERS verification, then a CF1R-ADD-01 and CF1R-ALT-02 must be completed and registered with a HERS Provider Data Registry.

Additions or alterations that utilize closed cell Spray Polyurethane Foam (ccSPF) with a density of 1.5 to less than 2.5 pounds per cubic foot having an R-value greater than 5.8 per inch, or open cell Spray Polyurethane Foam (ocSPF) with a density of 0.4 to less than 1.5 pounds per cubic foot having an R-value of 3.6 per inch, shall complete and register a CF1R ADD-01 with a HERS Provider Data Registry.

If more than one person has responsibility for installation of the items on this certificate, each person shall prepare and sign a certificate applicable to the portion of construction for which they are responsible. Alternatively, the person with chief responsibility for construction shall prepare and sign this certificate for the entire construction. All applicable Mandatory Measures shall be met. Temporary labels shall not be removed before verification by the building inspector.

Project Details

Field Name	Data Entry	Field Name	Data Entry
Project Name:		Enforcement Agency:	
Dwelling Address:		Permit Number:	
City and Zip Code:		Date Permit Issued:	



A. GENERAL INFORMATION

Field	Field Name	Data Entry
01	Project Name:	
02	Date Prepared:	
03	Project Location:	
04	Building Front Orientation (deg):	
05	CA City:	
06	Number of Dwelling Units with Additions:	
07	Zip Code:	
08	Fuel Type:	
09	Climate Zone:	
10	Total Conditioned Floor Area (ft ²) (Addition):	
11	Building Type:	
12	Slab Area (ft ²):	
13	Project Scope:	
14	Exceptions to Fenestration U-factor and SHGC 150.1(c)3A:	



**PRESCRIPTIVE RESIDENTIAL ADDITIONS THAT DO NOT REQUIRE HERS FIELD
VERIFICATION**

CEC- CF1R-ADD-02-E

B. Opaque Surface Details – Framed (Section 150.2(a) and 150.1(c)1)

Field	Field Name	Data Entry 1	Data Entry 2	Data Entry 3
01	Tag/ID			
02	Assembly Type			
03	Frame Type			
04	Frame Depth (inches)			
05	Frame Spacing (inches)			
06a	Proposed Cavity R-value			
06b	Proposed Continuous Insulation R-value			
07	Proposed U-Factor			
08	Proposed <i>Joint Appendix JA4 Reference Table</i>			
09	Proposed <i>Joint Appendix JA4 Reference Cell</i>			
10	Required U-Factor from Table 150.1-A			
11	Comments			



**PRESCRIPTIVE RESIDENTIAL ADDITIONS THAT DO NOT REQUIRE HERS FIELD
VERIFICATION**

CEC- CF1R-ADD-02-E

C. Opaque Surface Details – Nonframed Walls (Section 150.1(c)1)

Field	Field Name	Data Entry 1	Data Entry 2	Data Entry 3
01	Tag/ID			
02	Assembly Type			
03	Assembly Materials			
04	Thickness (inches)			
05	Proposed Core Insulation R-value			
06	Proposed Continuous Insulation R-value			
07	Proposed U-Factor			
08	Proposed <i>Joint Appendix JA4 Reference Table</i>			
09	Proposed <i>Joint Appendix JA4 Reference Cell</i>			
10	Required U-Factor from Table 150.1-A			
11	Comments			



**PRESCRIPTIVE RESIDENTIAL ADDITIONS THAT DO NOT REQUIRE HERS FIELD
VERIFICATION**

CEC- CF1R-ADD-02-E

D. Opaque Surface Details – Mass Walls (Section 150.1(c)1Bii)

Field	Field Name	Data Entry 1	Data Entry 2	Data Entry 3
01	Tag/ID			
02	Above Grade/Below Grade			
03	Mass Type			
04	Mass Thickness			
05	Proposed <i>Joint Appendix JA4 Reference Table</i>			
06	Proposed <i>Joint Appendix JA4 Reference Cell</i>			
07	Proposed <i>Interior Furring Strip Thickness</i>			
08	Proposed <i>Interior Insulation R-value</i>			
09	Proposed <i>Exterior Furring Strip Thickness</i>			
10	Proposed <i>Exterior Insulation R-value</i>			
11	Proposed <i>Joint Appendix JA4 Reference Table</i>			
12	Proposed <i>Joint Appendix JA4 Reference Cell</i>			
13	Proposed Total Assembly U-factor			
14	Required Interior R-value			
15	Required Exterior R-value			
16	Required Total Assembly U-factor			



**PRESCRIPTIVE RESIDENTIAL ADDITIONS THAT DO NOT REQUIRE HERS FIELD
VERIFICATION**

CEC- CF1R-ADD-02-E

E. Slab Insulation (Table 150.1-A or Table 150.1-B)

Note: Heated slab floors require mandatory slab insulation (see Table 110.8-A).

Field	Field Name	Data Entry 1	Data Entry 2	Data Entry 3
01	Floor Type			
02	Proposed Insulation R-value			
03	Proposed Insulation U-factor			
04	Required Insulation R-value			
05	Required Insulation U-factor			
06	Comments			

F. Radiant Barrier (Section 150.1(c)2)

A radiant barrier is required (for Climate Zones 2-15)

- Radiant barriers shall meet specific eligibility and installation criteria to receive credit for compliance with the Building Energy Efficiency Standards for low-rise residential buildings. Refer to Reference Appendices, Residential Appendix, RA4.2.1
- The emittance of the radiant barrier shall be less than or equal to 0.05 as tested in accordance with American Society for Testing and Materials (ASTM) C1371 or ASTM E408.

For Prescriptive Compliance the attic shall be ventilated to provide a minimum free ventilation area of not less than 1 square foot (ft²) of vent area for each 300 square feet (ft²) of attic floor area with a minimum of 40 percent to no more than 50 percent upper vents. Ridge vents or gable end vents are recommended to achieve the best performance. The material should be cut to allow for full airflow to the venting.

Field	Field Name	Data Entry 1	Data Entry 2	Data Entry 3
01	Radiant Barrier installed below the roof deck and on all gable end walls			
02	Comments			



G. Roofing Products (Cool Roof) (Section 150.1(c)11)

Notes:

- Exception 1: Any roof area covered by building integrated photovoltaic (PV) panels and solar thermal panels are exempt from the above Cool Roof requirements.
- Exception 2: Roof constructions with weight of 25 pounds per square foot (lb/ft²) are also exempt.
- Liquid field applied coatings must comply with installation criteria from Section 110.8(i)4.

Field	Field Name	Data Entry 1	Data Entry 2	Data Entry 3
01	Exception			
02	Roof Pitch			
03	Method of Compliance			
04	Product Type			
05	CRRC Product ID Number			
06	Proposed Initial Solar Reflectance			
07	Proposed Aged Solar Reflectance			
08	Proposed Thermal Emittance			
09	Proposed SRI (Optional)			
10	Required Aged Solar Reflectance			
11	Required Thermal Emittance			
12	Required SRI (Optional)			



H. Fenestration/Glazing Allowed Areas and Efficiencies (Section 150.2(a)1)

Table H-1

Field	Field Name	Data Entry 1
01	Addition Type ft ²	

Table H-2: Maximum Allowed Fenestration Area for All Orientations ft² – The Greater of:

Field	Field Name	Data Entry
02	Maximum Calculated based on Allowed %	
03	Maximum Calculated Allowed ft ²	

Table H-3: Maximum Allowed West-Facing Fenestration Area Only ft² – The Greater of:

Field	Field Name	Data Entry
04	Maximum Calculated based on Allowed %	
05	Maximum Calculated Allowed ft ²	

Table H-4

Field	Field Name	Data Entry 1
06	Maximum Allowed U-factor (Windows)	
07	Maximum Allowed U-factor (Skylights)	
08	Maximum Allowed SHGC (Windows)	
09	Maximum Allowed SHGC (Skylights)	
10	Comments	



I. Fenestration Proposed Areas and Efficiencies

Note: If meeting Exception 1 to 150.1(c)3A, installing less than or equal to 3 square feet (ft²) glass in door, or less than or equal to 3 square feet (ft²) tubular skylight, it is assumed to meet the minimum required U-factor (0.30) & SHGC (0.23).

If meeting Exception 2 to 150.1(c)3A, installing less than or equal to 16 square feet (ft²) of new skylights, it is assumed to meet the minimum required U-factor (0.55) & SHGC (0.30).

Doors with greater than or equal to 25 percent glazing area are considered glazed doors and are treated as fenestration products.

Table I-1

Field	Field Name	Data Entry 1	Data Entry 2	Data Entry 3
01	Tag/ID			
02	Fenestration Type			
03	Frame Type			
04	Dynamic Glazing			
05	Orientation N, S, W, E			
06	Number of Panes			
07	Proposed Fenestration Area (ft ²) (N, S, E)			
08	Proposed West Facing Fenestration Area (ft ²)			
09	Proposed U-factor			
10	Proposed U-factor Source			
11	Proposed SHGC			
12	Proposed SHGC Source			
13	Exterior Shading Device			
14	Combined SHGC from CF1R-ENV-03			



PRESCRIPTIVE RESIDENTIAL ADDITIONS THAT DO NOT REQUIRE HERS FIELD

CALIFORNIA ENERGY COMMISSION

VERIFICATION

NOT REGISTERED - CAN BE USED FOR SUBMISSION TO BUILDING DEPARTMENTS PRIOR TO MARCH 31, 2023
CEC- CF1R-ADD-02-E

Table I-2

Field	Field Name	Data Entry
15	Total Proposed Fenestration Area	
16	Maximum Allowed Fenestration Area	
17	Compliance Statement: Total Proposed Fenestration Area \leq Maximum Allowed Fenestration Area	<input type="radio"/> Yes <input type="radio"/> No
18	Total Proposed West-Facing Fenestration Area	
19	Maximum Allowed West-Facing Fenestration Area	
20	Compliance Statement: Total Proposed West-Facing Fenestration Area \leq Maximum Allowed West-Facing Fenestration Area	<input type="radio"/> Yes <input type="radio"/> No
21	Proposed Fenestration U-factor (Windows)	
22	Required Fenestration U-factor (Windows)	
23	Compliance Statement: Proposed Fenestration U-factor \leq Required Fenestration U-factor	<input type="radio"/> Yes <input type="radio"/> No
24	Proposed Fenestration SHGC (Windows)	
25	Required Fenestration SHGC (Windows)	
26	Compliance Statement: Proposed Fenestration SHGC \leq Required Fenestration SHGC	<input type="radio"/> Yes <input type="radio"/> No
27	Proposed Fenestration U-factor (Skylights)	
28	Required Fenestration U-factor (Skylights)	
29	Compliance Statement: Proposed Fenestration U-factor \leq Required Fenestration U-factor	<input type="radio"/> Yes <input type="radio"/> No
30	Proposed Fenestration SHGC (Skylights)	
31	Required Fenestration SHGC (Skylights)	
32	Compliance Statement: Proposed Fenestration SHGC \leq Required Fenestration SHGC	<input type="radio"/> Yes <input type="radio"/> No



J. Opaque Swinging Doors to Exterior (Section 150.1(c)5)

Notes:

- Any door with 25 percent or more glass is considered a glazed door and is counted as a fenestration product in Tables H and I.
- Do not include fire-rated doors between garage or unconditioned space, and conditioned space.
- If using weighted average to achieve required maximum U-factor, attach CF1R-ENV-02-E.

Field	Field Name	Data Entry 1	Data Entry 2	Data Entry 3
01	Tag/ID			
02	Area			
03	Proposed U-factor			
04	Proposed U-factor Source			
05	Required Maximum U-factor			
06	Weighted Average (Yes/No)	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
07	Comments			



**PRESCRIPTIVE RESIDENTIAL ADDITIONS THAT DO NOT REQUIRE HERS FIELD
VERIFICATION**

CEC- CF1R-ADD-02-E

K. Space Conditioning (SC) Systems – Heating/Cooling (Section 150.2(b))

Alterations to space conditioning systems shall be exempt from HERS verification requirements as prerequisite for use of the CF1R-ADD-02 and CF2R-ADD-02 compliance documents. If new space conditioning systems are installed or existing systems are altered and are not exempt from HERS verification, then a CF1R-ADD-01 and CF1R-ALT-02 shall be completed and registered with a HERS Provider Data Registry. In each row below for each dwelling unit in the building, check the box that indicates the exemption from HERS verification compliance:

- ☐ a: space conditioning system was not altered;
- ☐ b: less than 25 feet (ft) of ducts were added or replaced;
- ☐ c: (exempt from duct leakage testing) if: the existing duct system was insulated with asbestos;
- ☐ d: (exempt from duct leakage testing) if: the existing duct system was previously tested and passed by a HERS Rater.

01	02	03
SC System Identification or Name	SC System Location or Area Served	Exemption from HERS Verification
		<input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
		<input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
		<input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
		<input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
		<input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
		<input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
		<input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
		<input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
		<input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
		<input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
		<input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
		<input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
		<input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
		<input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d



L. Water Heating Systems (Section 150.2(a)1D)

List water heaters and boilers for both domestic hot water (DHW) heaters and hydronic space heating.

Options:

1. A single heat pump water heater. The storage tank shall not be located outdoors and shall be placed on an incompressible, rigid insulated surface with a minimum thermal resistance of R-10. The water heater shall be installed with a communication interface that meets either the requirements of Section 110.12(a) or has an ANSI/CTA-2045-B communication port; or
2. A single heat pump water heater that meets the requirements of NEEA Advanced Water Heater Specification Tier 3 or higher; or
3. A gas or propane instantaneous water heater with an input of 200,000 Btu per hour or less and no storage tank; or
4. For addition that are 500 square feet or less, an instantaneous electric water heater with point of use distribution as specified in the Reference Appendices, Residential Appendix, RA4.4.5

Field	Field Name	Data Entry 1	Data Entry 2	Data Entry 3
01	Water Heating System ID or Name			
02	Water Heating System Type			
03	System Option (from §150.2(a)1D)			
04	# of Water Heaters/ Compressors in System			
05	Water Heater Type			
06	Fuel Type			
07	Rated Input			
08	Tank Location			
09	Distribution Type			



Documentation Author's Declaration Statement

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Company:	Signature Date:
Address:	CEA/ HERS Certification Identification (if applicable):
City/State/Zip:	Phone:

Responsible Person's Declaration Statement

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I understand that a registered copy of this Certificate of Compliance shall be 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 registered copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Responsible Designer Signature:
Company:	Date Signed:
Address:	License:
City/State/Zip:	Phone:

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

CERTIFICATE OF COMPLIANCE – USER INSTRUCTIONS	CF1R-ADD-02-E
Prescriptive Residential Additions That Do Not Require HERS Field Verification	(Page 1 of 12)

CF1R-ADD-02-E User Instructions

NOTE: If more space is needed, print a duplicate page and fill in.

Minimum requirements for prescriptive addition compliance can be found in Building Energy Efficiency Standards Section 150.2(a), and Table 150.1-A or Table 150.1-B. Completing these forms will require that you have the Reference Appendices for the 2022 Building Energy Efficiency Standards, which contain the Joint Appendices used to determine climate zone and to complete the section for opaque surfaces. When the term CF1R is used it means the CF1R-ADD-02. Worksheets are identified by their entire name and subsequently by only the worksheet number, such as ENV-02.

Instructions for sections with column numbers and row numbers are given separately.

If any part of the addition does not comply, prescriptive compliance fails, in which case the performance (or computer) compliance approach may be used in an attempt to achieve compliance. Only the new construction is required to meet the requirements specified in this documentation. If any alterations to the existing building are occurring, those are documented on one or more of the CF1R-ALT forms.

A. General Information

1. Project Name: Identifying information, such as owner's name.
2. Date Prepared: Date of document preparation.
3. Project Location: Legal street address of property or other applicable identifying information.
4. Building Front Orientation: Building front orientation expressed in degrees, where North = 0, East = 90, South = 180, and West = 270. The Standards (section 100.1) include the following additional details for determining orientation:
 - North is oriented to within 45 degrees of true north, including 45 degrees east of north;
 - East is oriented to within 45 degrees of true east, including 45 degrees south of east;
 - South is oriented to within 45 degrees of true south, including 45 degrees west of south;
 - West is oriented to within 45 degrees of true west, including 45 degrees north of west.
5. CA City: Legal city/town of property.
6. Number of Dwelling Units with Additions: 1 for single-family
7. Zip Code: 5-digit zip code for the project location (used to determine climate zone).
8. Fuel Type: Natural Gas, Liquefied Propane Gas, or Electricity.

NOTE: Prescriptive compliance only allows electricity if natural gas is not connected to the building.

CERTIFICATE OF COMPLIANCE – USER INSTRUCTIONS	CF1R-ADD-02-E
Prescriptive Residential Additions That Do Not Require HERS Field Verification	(Page 2 of 12)

9. Climate Zone: From Reference Appendices, Joint Appendix, JA2.1.1.
10. Total Conditioned Floor Area: Enter the new conditioned floor area, in square feet (ft²), as measured from the outside of exterior walls of the addition.
11. Building Type: Single Family (includes duplex)
12. Slab Area: Area of the first floor slab of the addition (if any) in square feet (ft²).
13. Project Scope: 300 square feet (ft²) or less, greater than 300 ft² up to 400 ft², greater than 400 ft² up to 700 ft², or greater than 700 ft² up to 1000 ft².
14. Exceptions to Fenestration U-factor and SHGC: Installing less than or equal to 3 square feet (ft²) glass in door, Installing less than or equal to 3 ft² tubular skylight, Installing less than or equal to 16 ft² skylight, or NA.

B. Opaque Surface Details - Framed

Walls: Additions of any size must meet the requirements of Table 150.1-A when using prescriptive compliance. However, extensions of existing walls require only R-15 wall insulation in 2x4 constructions, or R-21 wall insulation in 2x6 or larger constructions.

1. Tag/ID: A label (if any) from the plans, such as A1.4 or wall.
2. Assembly Type: Roof, Ceiling, Wall, Floor, Attic.
3. Frame Type: Wood or Metal.
4. Frame Depth: Nominal dimensions (in inches) of framing material such as 2x4, 2x6, 2x8, 2x10.
5. Frame Spacing: 16 or 24 (inches on center).
6. Proposed Cavity R-value: Insulation installed between framing members.
Proposed Continuous Insulation: R-value of rigid or continuous insulation (not interrupted by framing). See applicable table of the Reference Appendices for construction type.
7. Proposed U-factor: The U-factor for the proposed assembly must be less than or equal to column 10 or have an attached Area Weighted Average Calculation Worksheet (CF1R-ENV-02-E) to show that a weighted U-factor for multiple assemblies will meet the maximum value in column 10.
8. Joint Appendix JA4 Reference Table: Table number used to determine the R-value or U-factor (e.g., an attic assembly is 4.2.1).
9. Joint Appendix JA4 Reference Cell: Cell number used to determine the R-value or U-factor (e.g., an R-38 ceiling with 24-inch on center framing and no continuous insulation is A21).
10. Required U-factor or R-value: From Table 150.1-A or B. Value required based on climate zone and assembly type.
11. Comments: Any notes regarding location, unique conditions, or attachments.

CERTIFICATE OF COMPLIANCE – USER INSTRUCTIONS	CF1R-ADD-02-E
Prescriptive Residential Additions That Do Not Require HERS Field Verification	(Page 3 of 12)

C. Opaque Surface Details – Non-Framed Walls

1. Tag/ID: A label (if any) from the plans, for example, A1.4 or wall.
2. Assembly Type: Roof, Wall.
3. Assembly Materials: SIP OSB, SIP I-Joist, SIP Single 2x, SIP Double 2x, ICF see JA4 for guidance.
4. Thickness: Thickness in inches.
5. Proposed Core Insulation R-value: Insulation installed within the materials or on the inside. See Reference Appendices, Joint Appendix, JA4 for guidance.
6. Proposed Continuous Insulation R-value: Insulation installed on the exterior. See Reference Appendices, Joint Appendix, JA4 for guidance.
7. Proposed U-factor: Proposed U-factor from Reference Appendices, Joint Appendix, JA4 or CF1R-ENV-02-E. Must be less than or equal to column 10.
8. Appendix JA4 Reference Table: Table number used to determine the R-value or U-factor (e.g., a SIP wall is 4.3.2).
9. Appendix JA4 Reference Cell: Cell number used to determine the R-value or U-factor (e.g., a 4.5-inch thick Oriented Strand Board (OSB) wall with R-18 core insulation and no continuous insulation is A5).
10. Required U-factor from Table 150.1-A: Based on assembly type and climate zone.
11. Comments: Any notes regarding location, unique conditions, or attachments.

D. Opaque Surface Details – Mass Walls

1. Tag/ID: A label (if any) from the plans, for example, A1.4 or wall.
2. Above Grade/Below Grade: Indicate whether the mass wall is installed above grade or below grade.
3. Mass Type: Masonry, Clay Brick, Clay Hollow Unit, Concrete Masonry Unit (CMU) Light Weight, CMU Medium Weight, CMU Normal Weight, Concrete. See Reference Appendices, Joint Appendix, JA4 for guidance.
4. Mass Thickness: Thickness (in inches) of mass.
5. Joint Appendix JA4 Reference Table: Table number used to determine the R-value or U-factor (e.g., an Insulation Concrete Form (ICF) wall is 4.3.13).
6. Joint Appendix JA4 Reference Cell: Cell number used to determine the R-value or U-factor (e.g., an 8-inch thick Insulating Concrete Form (ICF) wall with 2 inches of Expanded Polystyrene (EPS) (R-15.4) is C1).
7. Interior Furring Strip Thickness: If furring strips are required to meet the required wall R-value, indicate the thickness of the furring strip (in inches). See Table 4.3.14 of Reference Appendices, Joint Appendix, JA 4.
8. Proposed Interior Insulation R-value : Enter the R-value of proposed insulation on the inside surface of the mass wall. See Reference Appendices, Joint Appendix, JA4 for guidance.
9. Exterior Furring Strip Thickness: If furring strips are required to meet the required wall R-value, indicate the thickness of the furring strip (in inches). See Table 4.3.14 of Reference Appendices, Joint Appendix, JA 4.

CERTIFICATE OF COMPLIANCE – USER INSTRUCTIONS	CF1R-ADD-02-E
Prescriptive Residential Additions That Do Not Require HERS Field Verification	(Page 4 of 12)

10. Proposed Exterior Insulation R-value: Enter the R-value of proposed insulation on the outside surface of the mass wall. See Reference Appendices, Joint Appendix, JA4 for guidance.
11. Joint Appendix JA4 Reference Table: Table number used to determine the R-value or U-factor.
12. Joint Appendix JA4 Reference Cell: Cell number used to determine the R-value or U-factor.
13. Total Assembly U-factor
14. Required Interior Insulation R-value: The required R-value for interior insulation will be completed based on the Table 150.1-A requirements for the wall type.
15. Required Exterior Insulation R-value: The required R-value for exterior insulation will be completed based on the Table 150.1-A requirements for the wall type.
16. Total Assembly U-factor

E. Slab Insulation

Slab edge performance specifications and installation criteria are found in Sections 150.0(l) and 150.1(c)1D (Table 150.1-A or Table 150.1-B). Requirements vary by climate zone and slab conditions.

1. Floor Type: Types include slab-on-grade or raised slab.
 - Unheated slab-on-grade floors require slab edge insulation in climate zone 16 only.
 - Raised slab must be insulated to R-8 in climate zones 1, 2, 11, 13, 14 and 16, R-4 in climate zones 12 and 15, and no insulation is required in climate zones 3-10.
2. Proposed Insulation R-value: When required, insulation can be specified by either R-value or U-factor. When specifying an R-value complete column 2. Use the same descriptor (R-value or U-factor) throughout Table E.
3. Proposed Insulation U-Factor: When required, specify the U-factor of proposed insulation in column 3. Use the same descriptor (R-value or U-factor) throughout Table E.
4. Required Insulation R-value: Specify the value required, which will vary by climate zone and type of slab. Values are from Table 150.1-A.
5. Required Insulation U-factor: Specify the value required, which will vary by climate zone and type of slab. Values are from Table 150.1-A.
6. Comments: Any notes regarding location, unique conditions, or attachments.

NOTE: There is a mandatory slab edge insulation requirement for heated slab floors. Since mandatory requirements are not listed on the Certificate of Compliance, this is provided for information purposes only. The specific requirements are in Sections 110.8(g) and Table 110.8-A.

CERTIFICATE OF COMPLIANCE – USER INSTRUCTIONS	CF1R-ADD-02-E
Prescriptive Residential Additions That Do Not Require HERS Field Verification	(Page 5 of 12)

F. Radiant Barrier

1. Radiant Barrier installed below the roof deck and on all gable end walls: Yes or No. Radiant barriers are required in climate zones 2-15.
2. Comments: Any notes regarding location, unique conditions, or attachments.

NOTE: Radiant barrier performance specifications and installation criteria are found in Sections 110.8(j) and 150.1(c)2, and in Reference Appendices, Residential Appendix RA4.2.1.

G. Roofing Products (Cool Roof)

Roofing requirements are found in Section 110.8(i) and 150.1(c)11. Depending on the climate zone and roof slope, a cool roof (defined as a minimum aged solar reflectance and thermal emittance, or a minimum SRI) may be required by Table 150.1-A.

NOTE: Exceptions include (1) additions of 300 square feet (ft²) or less, (2) low-slope roofs (pitch less than 2:12) in climate zones 1-12, 14 and 16; (3) steep slope roof (pitch greater than or equal to 2:12) in climate zones 1-9 and 16; (4) roof constructions that have thermal mass over the roof membrane with at least 25 pounds per square foot (lb/ft²); and (5) any roof area covered by building integrated photovoltaic (PV) panels and solar thermal panels (the area of roof not covered by PV panels would still need to meet any applicable cool roof requirements).

1. Exception: User indicates any exceptions. Mass roofs are not required to have a cool roof even if the climate zone specifies minimum performance requirements.
2. Roof Pitch: Expressed as 4:12, for example, which means the roof rises 4 foot within a span of 12 feet. When roofs have multiple pitches the requirements are based on the pitch of 50 percent or more of the roof.
3. Method of Compliance: Indicate if the method of compliance is going to be based on Aged Solar Reflectance and Thermal Emittance or if it is going to be based on the Solar Reflectance Index (SRI).
4. Product Type: See [Cool Roof Rating Council's directory](#). Generally, product types include single-ply roof, wood shingles, asphalt roof, metal roof, tile roof.
5. Cool Roof Rating Council (CRRC) Product ID Number: The CRRC Product ID Number is obtained from the [Cool Roof Rating Council's Rated Product Directory](#). Products are listed by manufacturer, brand, type of installation, roofing material, and color, as well as product performance.
6. Proposed Initial Solar Reflectance: Based on the product chosen from the [Cool Roof Rating Council's Rated Product Directory](#). If using default assumption indicate NA since the Aged solar reflectance is available.
7. Proposed Aged Solar Reflectance: Value is from the [Cool Roof Rating Council's Rated Product Directory](#). If the aged value is not available, calculate the Aged Solar Reflectance using the Solar Reflectance Index (SRI) Calculator located on the [California Energy Commission website](#) or the aging equation $\rho_{\text{aged}} = [0.2 + \beta(\rho_{\text{initial}} - 0.2)]$, where ρ_{initial} = the initial solar reflectance and soiling resistance β is listed by product type below.

VALUES OF SOILING RESISTANCE β BY PRODUCT TYPE

Product Type	CRRC Product Category	β
Field-Applied Coating	Field-Applied Coating	0.65
Other	Not A Field-Applied Coating	0.70

8. Proposed Thermal Emittance: From the product specification default value. If using a calculated SRI, enter the Thermal Emittance used to calculate SRI.
9. Proposed Solar Reflectance Index (SRI): It is optional to meet the SRI but if chosen to do so, use the Solar Reflectance Index (SRI) Calculator found on the [California Energy Commission website](#).
10. Required Aged Solar Reflectance: Based on climate zone and roof slope.
11. Required Thermal Emittance: Based on climate zone and roof slope.
12. Required SRI: Based on climate zone and roof slope.

If the cool roofing requirements will be met by a liquid field applied coating, Section 110.8(i)4 requires the coating be applied across the entire roof surface and meet the dry mil thickness or coverage recommended by the manufacturer.

H. Fenestration/Glazing Allowed Areas and Efficiencies

Fenestration areas are expressed in square feet, not square inches. The climate zone and size of the addition will affect the area of fenestration (also known as glazing) allowed. If limited to 20%, for example, this is calculated as Conditioned Floor Area (CFA) of the addition x 0.20 = total square footage (ft²) of fenestration allowed.

For additions that are 1000 square feet (ft²) or less, but greater than 700 ft², the limit of total fenestration is the greater of 175 ft² or 20 percent of the conditioned floor area (CFA) of the addition.

For additions that are 700 ft² or less, but greater than 400 ft², the limit of total fenestration is the greater of 120 ft² or 25 percent of the CFA of the addition.

For additions that are 400 ft² or less, the limit of total fenestration is the greater of 75 ft² or 30 percent of the CFA of the addition.

For additions that are 1,000 ft² or less, when west-facing fenestration is limited (in climate zones 2, 4, and 6-15), it is limited to either 70 ft² or 5 percent of the CFA (for additions greater than 700 ft²) or 60 ft² (for additions that are 700 ft² or less).

1. Addition Type ft²: Based on "Project Scope." The addition's area in square feet: less than or equal to 400 ft², greater than 400 ft² to less than or equal to 700 ft², or greater than 700 ft² to less than or equal to 1,000 ft².

2. - 9. These fields will be completed based on conditioned floor area of the addition and/or climate zone.

Maximum allowed fenestration area for all orientations is the greater of the values in columns 2 or 3:

2. Maximum Calculated based on Allowed %: The addition's conditioned floor area (CFA) multiplied by the allowed percentage. The maximum total fenestration area is 30 percent for additions up to 400 square feet (ft²), 25 percent for additions greater than 400 ft² but no greater than 700 ft², and 20 percent for additions greater than 700 ft².
3. Maximum Calculated Allowed ft²: The maximum total fenestration area is 75 square feet (ft²) for additions up to 400 ft², 120 ft² for additions greater than 400 ft² but no greater than 700 ft², and 175 ft² for additions greater than 700 ft².

Maximum allowed west-facing area is the greater of the values in columns 4 or 5:

4. Maximum Calculated based on Allowed %: The maximum west-facing fenestration area (in climate zones 2, 4, and 6-15) is 5 percent for additions greater than 700 ft².
5. Maximum Calculated Allowed ft²: The maximum west-facing fenestration area (in climate zones 2, 4, and 6-15) is 60 square feet (ft²) for additions no greater than 700 ft², and 70 ft² for additions greater than 700 ft².

Addition CFA:	≤ 400 ft ²		> 400 ft ² to ≤ 700 ft ²		> 700 ft ² to ≤ 1,000 ft ²	
	The Greater Of:		The Greater Of:		The Greater Of:	
Orientation	Percentage	Area (ft ²)	Percentage	Area (ft ²)	Percentage	Area (ft ²)
West-facing (CZs 2, 4, 6-15)	-	60	-	60	5%	70
All Orientations	30%	75	25%	120	20%	175

NOTE: West includes any vertical fenestration oriented to within 45 degrees of true west (in either direction), including 45 degrees north of west, any skylights oriented west, and skylights facing any direction with a pitch of less than 1:12.

6. Maximum Allowed U-factor (Windows): Maximum area-weighted average of 0.30 for all climate zones.
7. Maximum Allowed U-factor (Skylights): Maximum area-weighted average of 0.30 for all climate zones, unless meeting one of the Exceptions to 150.1(c)3A. If meeting one of Exceptions, enter 0.55.
8. Maximum Allowed SHGC (Windows): Maximum area-weighted average of 0.23 for climate zones 2, 4, and 6-15; otherwise N/A.
9. Maximum Allowed SHGC (Skylights): Maximum area-weighted average of 0.23 for all climate zones, unless meeting one of the Exceptions to 150.1(c)3A. If meeting one of the Exceptions, enter 0.30.
10. Comments: Any notes regarding location, unique conditions, or attachments.

I. Fenestration Proposed Areas and Efficiencies

1. Tag/ID: Provide a name or designator for each unique type of fenestration surface. This designator should be used consistently throughout the plan set (elevations, finish schedules, etc.) such as Window-1, Skylight-1, etc. to identify each surface. It should also be consistently used on the other compliance documents.
2. Fenestration Type: Indicate the type of fenestration construction e.g., Fixed Window, Operable Window, Skylight, Tubular Skylight, or Glass in Door.

NOTE: Doors with glazing are counted in one of two ways. The entire area of a door with 25 percent or more glazing is considered a glazed door and is treated as fenestration. A door with less than 25 percent glazing can be considered an opaque swinging door, or can be calculated as the actual glass area with a 2-inch (0.17 ft) frame all around.

3. Frame Type: Metal, Metal Thermal Break, Nonmetal.
4. Dynamic Glazing: Indicate whether the fenestration has an integrated shading device, chromogenic glazing, or none for no dynamic glazing.

NOTE: Chromogenic glazing shall be considered separately from other fenestration types.

5. Orientation: Orientation can be North, East, South, West, or degrees. If documentation is for a building that may be built in any direction, in a climate zone that limits west-facing fenestration, complete this section assuming the side of the building with the most fenestration faces west.

NOTE: West includes any vertical fenestration oriented to within 45 degrees of true west, excluding 45 degrees south of west; any skylights oriented west; and skylights facing any direction with a pitch of less than 1:12.

6. Number of Panes: Indicate the number of panes for each Tag/ID; is it a single, double, or triple pane window? Enter either: 1, 2, or 3 to represent the panes.
7. Proposed Fenestration Area ft²: The size of any windows, doors with glass, or skylights within the floor area of the addition (combine windows with the same characteristics). Indicate the area in square feet (ft²) of each exterior fenestration type, including west-facing fenestration.
8. Proposed West Facing Fenestration Area ft²: In climate zones 2, 4, and 6-15, enter the size of any west-facing windows, doors with glass, or skylights within the floor area of the addition. Indicate the area in square feet (ft²) of each exterior west-facing fenestration type separately.
9. Proposed U-factor: Enter
 - (a) the National Fenestration Rating Council (NFRC) U-factor based on the proposed brand and type of fenestration using [NFRC certified values](#); or
 - (b) the default value from Table 110.6-A; or
 - (c) the NA6.2 alternate default U-factor (for non-rated site-built fenestration only); or
 - (d) the area-weighted average from CF1R-ENV-02-E.

If any products (other than the exceptions noted below) have a higher U-factor than 0.30, first complete a CF1R-ENV-02-E to calculate the area-weighted average U-factor, which must be 0.30 or less, and attach it to the CF1R-ADD-02-E.

NOTES: (1) An exception allows up to 3 square feet (ft²) of tubular skylights and up to 3 square feet (ft²) of glazing in a door without having to meet the maximum U-factor; this field can be N/A. For up to 16 square feet (ft²) of skylight area this value can be 0.55 or less.

(2) Dynamic glazing is a glazing system that changes its performance U-factor and SHGC based on the physical environment. Dynamic glazing includes chromogenic glazing or integrated shading systems (this does not include internally or externally mounted shading devices). If using dynamic glazing, use the lowest tested U-factor and solar heat gain coefficient (SHGC) in Columns 9 and 10.

10. Proposed U-factor Source: The source of the U-factor data for the fenestration product – indicate whether NFRC, Tables 110.6-A, Equations NA6-1, or Area-weighted Average Worksheet (ENV-02).

11. Proposed SHGC: In climate zones 2, 4, and 6-16, enter

- (a) the National Fenestration Rating Council (NFRC) solar heat gain coefficient (SHGC) based on the proposed brand and type of fenestration using [NFRC certified values](#); or
- (b) the default value from Table 110.6-B; or
- (c) the NA6.3 alternate default SHGC) (for non-rated site-built fenestration only); or
- (d) the area-weighted average from CF1R-ENV-02-E.

If any products (other than the exceptions noted below) have a higher solar heat gain coefficient (SHGC) than 0.23 in a climate zone with a maximum SHGC value, first complete a CF1R-ENV-02-E to calculate the area-weighted average SHGC, which must be 0.23 or less, and attach it to the CF1R-ADD-02-E.

NOTES: An exception allows up to 3 square feet (ft²) of tubular skylights and up to 3 square feet (ft²) of glazing in a door without having to meet the maximum SHGC; this field can be N/A. For up to 16 square feet (ft²) of skylight area this value can be 0.30 or less.

12. Source: The source of the U-factor and solar heat gain coefficient (SHGC) data for the fenestration product—indicate whether National Fenestration Rating Council (NFRC), Tables 110.6-B, Equations NA6-2, or the Area-weighted Average Worksheet (CF1R-ENV-02).

13. Exterior Shading Device: If exterior shading devices are used to meet the solar heat gain coefficient (SHGC) requirement, indicate the type of device (from Table S-1 of CF1R-ENV-03-E Solar Heat Gain Coefficient Worksheet) and attach the CF1R-ENV-03-E.

NOTES: An exterior shading device is not used for products with a National Fenestration Rating Council (NFRC) rated U-factor and solar heat gain coefficient (SHGC); based on a factory integrated shading device.

14. Combined SHGC from CF1R-ENV-03: If exterior shading devices are combined with the solar heat gain coefficient (SHGC) value of the fenestration to meet the prescriptive SHGC requirements (as indicated in column I. 11), indicate the SHGC calculated on form CF1R-ENV-03 and attach the form for each window with an exterior shading device.

To determine compliance with allowable fenestration areas and efficiencies, complete rows 15-32.

CERTIFICATE OF COMPLIANCE – USER INSTRUCTIONS	CF1R-ADD-02-E
Prescriptive Residential Additions That Do Not Require HERS Field Verification	(Page 10 of 12)

15. Total Proposed Fenestration Area: The sum of column I. 07 plus I. 08.
16. Maximum Allowed Fenestration Area: From Section H., report the greater value of column 02 or 03.
17. Compliance Statement: Verify whether I. 15 is less than or equal to I. 16. Indicate Yes or No. If No, the project fails prescriptive compliance—specified fenestration areas must be reduced, or compliance may be attempted using the performance approach.
18. Total Proposed West-Facing Fenestration Area: The sum of column I. 08.
19. Maximum Allowed West-Facing Fenestration Area: From Section H., report the greater value of column 04 or 05.
20. Compliance Statement: Verify whether I. 18 is less than or equal to I. 19. Indicate Yes or No. If No, the project fails prescriptive compliance—specified west-facing fenestration areas must be reduced, or compliance may be attempted using the performance approach.
21. Proposed Fenestration U-factor (Windows): If necessary, report the area-weighted average U-factor from the completed CF1R-ENV-02-E. Otherwise, report the largest value from column I. 09.
22. Required Fenestration U-factor (Windows): From Section H., report the value of column 6.
23. Compliance Statement: Verify whether I. 21 is less than or equal to I. 22. Indicate Yes or No. If No, the project fails prescriptive compliance—specified fenestration U-factors must be reduced, or compliance may be attempted using the performance approach.
24. Proposed Fenestration SHGC (Windows): If necessary, report the area-weighted average SHGC from the completed CF1R-ENV-02-E. Otherwise, report the largest value from column I. 11 or I. 14.
25. Required Fenestration SHGC (Windows): From Section H., report the value of column 08.
26. Compliance Statement: Verify whether I. 24 is less than or equal to I. 25. Indicate Yes or No. If No, the project fails prescriptive compliance—specified fenestration SHGC must be reduced, or compliance may be attempted using the performance approach.
27. Proposed Fenestration U-factor (Skylights): If necessary, report the area-weighted average U-factor from the completed CF1R-ENV-02-E. Otherwise, report the single largest associated value from column I. 09.
28. Required Fenestration U-factor (Skylights): From Section H., report the value of column 07.
29. Compliance Statement: Verify whether I. 27 is less than or equal to I. 28. Indicate Yes or No. If No, the project fails prescriptive compliance—specified fenestration U-factor must be reduced, or compliance may be attempted using the performance approach.
30. Proposed Fenestration SHGC (Skylights): If necessary, report the area-weighted average SHGC from the completed CF1R-ENV-02-E. Otherwise report the single largest associated value from column I. 11 or I. 14.
31. Required Fenestration SHGC (Skylights): From Section H., report the value from column 09.
32. Compliance Statement: Verify whether I. 30 is less than or equal to I. 31. Indicate Yes or No. If No, the project fails prescriptive compliance—specified fenestration SHGC must be reduced, or compliance may be attempted using the performance approach.

J. Opaque Swinging Doors to Exterior

1. Tag/ID: Provide a name or designator for each unique door. This designator should be used consistently throughout the plan set (elevations, door schedules, etc.)
2. Area: Calculated area in square feet (ft²) for each unique door.

CERTIFICATE OF COMPLIANCE – USER INSTRUCTIONS	CF1R-ADD-02-E
Prescriptive Residential Additions That Do Not Require HERS Field Verification	(Page 11 of 12)

2. Proposed U-factor: Enter the proposed U-factor. If value is greater than 0.20, column 06 will autocomplete as Yes.
3. Source: National Fenestration Rating Council (NFRC) or Reference Appendices, Joint Appendix, Table 4.5.1, 110.6-A and 110.6-B, Equations NA6-1 and NA6-2, or Area-Weighted Average Worksheet (CF1R-ENV-02).
4. Required Maximum U-factor. This field will always be 0.20.
5. Weighted Average: If column 03 is greater than 0.20 U-factor, attach form CF1R-ENV-02-E:
6. Comments: Any notes regarding location, unique conditions, or attachments.

K. Space Conditioning (SC) Systems – Heating/Cooling

If an existing space conditioning system will condition an addition, the prescriptive requirements do not apply to that system (Exception 4 to Section 150.2(a)). The enforcement agencies may require verification that the capacity of the existing heating system is adequate to meet the added load of the additional conditioned floor area. Since there is no health and safety code requirement to provide cooling, the enforcement agency will not ask for verification that the capacity of the existing cooling system is adequate to meet the added load of the additional conditioned floor area.

If a new system is installed complete a Certificate of Compliance for Alterations to Space Conditioning Systems (CF1R-ALT-02).

1. Space Conditioning (SC) System Identification or Name: Name of the Space Condition (SC) System or any other identifying name.
2. Space Conditioning (SC) System Location or Area Served: Zone, or area, served by the Space Conditioning (SC) System.
3. Exemption from HERS Verification: Section 150.2(b)1E
 - a. Space Conditioning (SC) System was not altered.
 - b. Duct systems with less than 25 linear feet in unconditioned spaces as determined by visual inspection.
 - c. Existing duct systems constructed, insulated or sealed with asbestos.
 - d. Duct systems that have been documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Appendices, Residential Appendix, RA3.1

L. Water Heating Systems

Water heating compliance for an addition is described in Section 150.2(a)1D. When a water heater is added as part of an addition in a single dwelling the Prescriptive Standards allow five options under Section 150.2(a)1D.

1. A single heat pump water heater. The storage tank shall not be located outdoors and shall be placed on an incompressible, rigid insulated surface with a minimum thermal resistance of R-10. The water heater shall be installed with a communication interface that meets either the requirements of Section 110.12(a) or has an ANSI/CTA-2045-B communication port; or
2. A single heat pump water heater that meets the requirements of NEEA Advanced Water Heater Specification Tier 3 or higher; or

CERTIFICATE OF COMPLIANCE – USER INSTRUCTIONS	CF1R-ADD-02-E
Prescriptive Residential Additions That Do Not Require HERS Field Verification	(Page 12 of 12)

3. A gas or propane instantaneous water heater with an input of 200,000 Btu per hour or less and no storage tank; or
4. For addition that are 500 square feet or less, an instantaneous electric water heater with point of use distribution as specified in the Reference Appendices, Residential Appendix, RA4.4.5

1. Water Heating System Identification or Name: Name of the Water Heating System or any other identifying name.
2. Water Heating System Type: Domestic Hot Water (DHW), Hydronic, or Combined Hydronic. DHW is for domestic hot water, hydronic is a water heating system used for space heating only; combined hydronic is when the water heater will provide both space conditioning and domestic hot water.
3. System Option (from §150.2(a)1D): Indicate the prescriptive system option: 1, 2, 3, or 4.
4. Water Heater Type: Consumer Instantaneous, Heat pump water heater, or NEEA Tier 3 heat pump water heater
5. Number of Water Heaters/Compressors in System: Enter the total number of water heaters or compressors for each system.
6. Fuel Type: Natural Gas, Propane, Heat Pump, or Electricity.
7. Rated Input: Enter the numeric value of rated input.
8. Tank Location: For heat pump water heaters, indicated whether the storage tank is located in the garage or conditioned space. Otherwise, enter 'n/a'.
9. Distribution Type: If pursuing Option 4, then this will be point of use distribution. Otherwise, enter 'Standard'.

Documentation Declaration Statements

1. The person who prepared the CF1R will sign and complete the fields for their name, company (if applicable), address, phone number, certification information (if applicable), date and signature.
2. The person who is assuming responsibility for the project being built to comply with Title 24, Part 6, will complete the fields for their name, company (if applicable), address, phone number, license number (if applicable), date and signature.