# INTERIOR AND EXTERIOR INSULATION LAYERS WORKSHEET

CALIFORNIA ENERGY COMMISSION

CEC-CF1R-ENV-06-E

# SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

## **CERTIFICATE OF COMPLIANCE**

**Note:** This table completed by HERS Registry.

| Project Name:      | Enforcement Agency:      |
|--------------------|--------------------------|
| Dwelling Address:  | Permit Number:           |
| City and Zip Code: | Permit Application Date: |

#### A. Mass Wall Information

| 01     | 02        | 03                       | 04            | 05                         | 06                              | 07   | 08                    |
|--------|-----------|--------------------------|---------------|----------------------------|---------------------------------|------|-----------------------|
|        |           | Above er                 | A.r.o.        | Mass Thickness             | Joint Appendix JA4<br>Reference |      | U-factor from         |
| Tag/ID | Mass Type | Above or<br>Below Grade? | Area<br>(ft²) | Mass Thickness<br>(inches) | Table                           | Cell | Joint Appendix<br>JA4 |
|        |           |                          |               |                            |                                 | U.   |                       |
|        |           |                          |               |                            | 116                             | 1    | 18.                   |

#### **B. Interior and Exterior Insulation Layers**

|        |                |           |            |             |           |           | 0. 0.0   |          |
|--------|----------------|-----------|------------|-------------|-----------|-----------|----------|----------|
| 01     | 02             | 03        | 04         | 05          | 06        | 07        | 08       | 09       |
|        |                | Furring   | Installed  | Exterior or | Joint App | endix JA4 | Adjusted | Adjusted |
|        | Exterior/Frame | Thickness | R-value of | Interior    | Refe      | rence     | Exterior | Interior |
| Tag/ID | Туре           | (inches)  | Insulation | Insulation? | Table     | Cell      | R-value  | R-value  |
|        |                |           |            | . 0         |           | KO'       |          |          |
|        |                |           |            | 7 0         | . 0       | 6         |          |          |
|        |                |           |            | 0           | 1         | 2         |          |          |

## **C. U-factor Calculation**

Equation 4-4 of the Reference Appendices, Joint Appendix JA4:  $U_{Total} = 1/(R_{Outside} + (1/U_{Mass}) + R_{Inside})$ 

| 01       | 02                   | 03                      | 04                     | 05                    |
|----------|----------------------|-------------------------|------------------------|-----------------------|
|          | .0                   | Adjusted Exterior       | Adjusted Interior      | Total Performance     |
|          | Mass Wall U-factor   | R-value                 | R-value                | U-factor              |
| Tag/ID   | (U <sub>Mass</sub> ) | (R <sub>Outside</sub> ) | (R <sub>Inside</sub> ) | (U <sub>Total</sub> ) |
|          | in mr                | 10, 6                   |                        |                       |
| <u>c</u> | 01. 31,              | ,02'                    |                        |                       |
| 10:      | × 10                 | 164                     |                        |                       |
| 1 2      | .10                  | C                       |                        |                       |
| <0'      | 6.                   |                         |                        |                       |
| Y        |                      |                         |                        |                       |
| 14.      |                      |                         |                        |                       |
| SU.      |                      |                         |                        |                       |
| ( ) ·    |                      |                         |                        |                       |

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# DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

|--|

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

## **RESPONSIBLE PERSON'S DECLARATION STATEMENT**

- 2. 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, and I will take the necessary steps to accomplish this requirement.
  - 6. 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, and I will take the necessary steps to accomplish these requirements.

| 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-ENV-06-E |
|---|---------------|
| Interior and Exterior Insulation Layers Worksheet | (Page 1 of 1) |

## CF1R-ENV-06-E User Instructions

This worksheet is used to calculate the total performance U-factor for mass walls with either interior, or exterior insulation layers based on Equation 4-4 in the Reference Appendices, Joint Appendix JA4.

## A. Mass Wall Information

- 1. Tag/Id: This information is auto-filled from the CF1R.
- 2. Mass Type: This information is auto-filled from the CF1R.
- 3. Above or Below Grade?: This information is auto-filled from the CF1R.
- 4. Area (ft<sup>2</sup>): Enter the area of the mass wall in square feet.
- 5. Thickness (inches): This information is auto-filled from the CF1R.
- 6. Appendix JA4 Reference Table: This information is auto-filled from the CF1R.
- 7. Appendix JA4 Reference Cell: This information is auto-filled from the CF1R.
- 8. U-factor from JA4: Enter the U-factor of the mass wall from Reference Appendices, Joint Appendix JA4.

# **B.** Interior and Exterior Insulation Layers

- 1. Tag/Id: This information is auto-filled from the CF1R.
- 2. Exterior/Frame Type: Using the drop down menu, indicate the exterior or frame type (e.g., EIFS, Wood, or Metal).
- 3. Furring Thickness (inches): Enter the furring thickness in inches.
- 4. Installed R-value of Insulation: Enter the R-value of the insulation installed in the furring space.
- 5. Appendix JA4 Reference Table: This information is auto-filled from the CF1R.
- 6. Appendix JA4 Reference Cell: This information is auto-filled from the CF1R.
- 7. Adjusted Exterior R-value: This information is auto-filled from the CF1R.
- 8. Adjusted Interior R-value: This information is auto-filled from the CF1R.

# C. U-factor Calculation

- 1. Tag/Id: This information is auto-filled from Section A.
- 2. Mass Wall U-factor: This information is auto-filled from Section A.
- 3. Adjusted Exterior R-value: This information is auto-filled from Section B.
- 4. Adjusted Interior R-value: This information is auto-filled from Section B.
- 5. Total Performance U-factor: This value is auto-filled based on Equation 4-4 of the Reference Appendices, Joint Appendix JA4  $[U_{Total} = 1/(R_{Outside} + (1/U_{Mass}) + R_{Inside})]$ .

# **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.