

**FENESTRATION CERTIFICATE LABEL**

CEC-NRCC-ENV-05-E (Revised 01/16)

CALIFORNIA ENERGY COMMISSION



|   |                |
|---|----------------|
| CERTIFICATE OF COMPLIANCE   | NRCC-ENV-05-E  |
| Fenestration Certificate Label <span style="float: right;">(Page 1 of 2)</span> |                |
| Project Name:   | Date Prepared: |

*This form is only used when an NFRC Label Certificate is not available. A separate NRCC-ENV-05-E (formally FC-1) Label Certificate Form is required for each different fenestration product or different types of Fenestration.*

*Method 1: For buildings with **less** than 1,000 ft<sup>2</sup> of site-built fenestration may optionally use either CEC Default Tables 110.6-A and 110.6-B, **Method 1**, or the Alternative Calculation Nonresidential Reference Appendix NA6, **Method 2**. Enter the total U-factor<sub>T</sub>, SHGC<sub>T</sub> and VT<sub>T</sub> (Optional) in the following boxes below.*

*Method 2: For buildings with **greater** 1,000 ft<sup>2</sup> of site-built fenestration without NFRC Label Certificate, only one option is available; use CEC Default Tables 110.6-A and 110.6-B. Use **Method 1** only below and enter the total U-factor<sub>T</sub>, SHGC<sub>T</sub> and VT<sub>T</sub> in the following boxes below.*

| A. GENERAL INFORMATION |   |
|------------------------|---|
| 01                     | Climate Zone:                               |
| 02                     | Total Number of Like Fenestration Products: |
| 03                     | Total Square Footage of Like Fenestration:  |

| B. METHOD 1   |   |
|---|---|
| U-FACTOR INFORMATION from default, See TABLE 110.6-A                    |   |
| 01  | Frame Type: <input type="checkbox"/> Metal <input type="checkbox"/> Metal With Thermal Break <input type="checkbox"/> Nonmetal  |
| 02  | Product Type: <input type="checkbox"/> Operable <input type="checkbox"/> Fixed <input type="checkbox"/> Greenhouse/Garden Window <input type="checkbox"/> Doors <input type="checkbox"/> Skylights  |
| 03  | Glazing Type: <input type="checkbox"/> Single Pane <input type="checkbox"/> Double Pane <input type="checkbox"/> Glass Block  |
| 04  | Enter the appropriate value from Table 110.6-A <b>U-factor<sub>T</sub> =</b>  |
| SOLAR HEAT GAIN COEFFICIENT INFORMATION from default, See TABLE 110.6-B |   |
| 05  | Product Type: <input type="checkbox"/> Operable <input type="checkbox"/> Fixed  |
| 06  | Glazing: <input type="checkbox"/> Clear <input type="checkbox"/> Tinted   |
| 07  | Enter the appropriate value from Table 110.6-B <b>SHGC<sub>T</sub> =</b>  |
| VISIBLE TRANSMITTANCE from Reference Nonresidential Appendix NA6        |   |
| 08  | Product Type: <input type="checkbox"/> Casement/Awning <input type="checkbox"/> Sliding <input type="checkbox"/> Fixed <input type="checkbox"/> Curtainwall/Storefront/Site-built or Manufactured Skylights (Non-curb mounted) <input type="checkbox"/> Skylights Manufactured (Curb Mounted) |
| 09  | Enter Center-of-Glass for VT <sub>C</sub> value: <b>VT<sub>C</sub> =</b>  |
| 10  | Calculate VT <sub>T</sub> = VT <sub>F</sub> x VT <sub>C</sub> (See Equation NA6-3) <b>VT<sub>T</sub> =</b>  |

| C. METHOD 2  |  |
|--|--|
| Alternative Calculation Nonresidential Reference Appendix NA6  |  |
| NA6 Default Calculation - Enter Center of Glass (COG) value from Manufacturer's Documentation below: |  |
| 01   | <b>STEP 1:</b> Enter Center-of-Glass for U-factor <sub>C</sub> or the U <sub>C</sub> value: <span style="float: right;">4 <b>STEP 4:</b> U-factor<sub>T</sub> = C<sub>1</sub> + (C<sub>2</sub> X U<sub>C</sub>) <b>U-factor<sub>T</sub> =</b></span> |
| 02   | <b>STEP 2:</b> Enter Center-of-Glass for SHGC <sub>C</sub> value: <span style="float: right;">5 <b>STEP 5:</b> SHGC<sub>T</sub> = 0.08 + (0.86 x SHGC<sub>C</sub>) (See Equation NA6-2) <b>SHGC<sub>T</sub> =</b></span>                             |
| 03   | <b>STEP 3:</b> Enter Center-of-Glass for VT <sub>C</sub> value: <span style="float: right;">6 <b>STEP 6:</b> VT<sub>T</sub> = VT<sub>F</sub> x VT<sub>C</sub> (See Equation NA6-3) <b>VT<sub>T</sub> =</b></span>                                    |

| D. ATTACHED MANUFACTURER'S LITERATURE |   |
|---------------------------------------|---|
| 01                                    | Manufacturer's literature must match the Product Type, Frame Type, Glazing, Center-of-Glass (COG) U-factor <sub>C</sub> , SHGC <sub>C</sub> and VT <sub>C</sub> information needed to calculate the Default U-factor <sub>T</sub> , SHGC <sub>T</sub> , and VT <sub>T</sub> . |

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|                                |                |               |
|--------------------------------|----------------|---------------|
| CERTIFICATE OF COMPLIANCE      |                | NRCC-ENV-05-E |
| Fenestration Certificate Label |                | (Page 2 of 2) |
| Project Name:                  | Date Prepared: |               |

|  |   |
|--|---|
| <b>DOCUMENTATION AUTHOR'S DECLARATION STATEMENT</b>  |   |
| 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:  |
| <b>RESPONSIBLE PERSON'S DECLARATION STATEMENT</b>  |   |
| I certify the following under penalty of perjury, under the laws of the State of California:   |   |
| <ol style="list-style-type: none"> <li>The information provided on this Certificate of Compliance is true and correct.</li> <li>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).</li> <li>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.</li> <li>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.</li> <li>I will ensure that a completed signed 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 completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.</li> </ol> |   |
| Responsible Designer Name:   | Responsible Designer Signature:                         |
| Company :  | Date Signed:  |
| Address:   | License:  |
| City/State/Zip:  | Phone:  |

### California Energy Commission Default U-Factor and SHGC Label Certificate

This compliance document is used when no NFRC Label Certificate is available for the specified fenestration product to be installed. Two options are allowed when no NFRC certificate is available. Method 1: For sit-built fenestration of 1,000 ft<sup>2</sup> and greater use the Energy Commission's Default Table 110.6-A and Table 110.6-B in §110.6 of the Standards or Method 2: Use the Alternative Calculation found in the Reference Nonresidential Appendix NA6 for buildings with less than 1,000 ft<sup>2</sup> of glass, this includes skylights. Use the appropriate Method to determine the Total U-factor, SHGC and VT.

Note: NRCC-ENV-05-E (formally FC-1) is now simplified and combined together as one compliance document.

#### NRCC-ENV-05-E User Instructions

##### A. GENERAL INFORMATION

1. Enter the Climate Zone in which the fenestration is being installed
2. Enter the total number of like fenestration products. Note that all unlike fenestration products will require a separate NRCC-ENV-05-E.
3. Enter total square footage of like Fenestration. Note this should match the surface area indicated in NRCC-ENV-01-E for each different Tag/ID.

##### B. METHOD 1

For buildings with **less** than 1,000 ft<sup>2</sup> of site-built fenestration may use either CEC Default Tables 110.6-A and 110.6-B, use Method 1; Or the Alternative Calculation Nonresidential Reference Appendix NA6, Method 2.

Alternatively when buildings with **greater** 1,000 ft<sup>2</sup> of site-built fenestration without NFRC Label Certificate, only one option is available; use CEC Default Tables 110.6-A and 110.6-B, use Method 1 only.

##### U-FACTOR INFORMATION

1. **Frame Type:** Select the appropriate frame type of the product being installed; Metal, Metal with Thermal Break and Nonmetal. Documentation from the manufacture must indicate the use of Metal with Thermal Break for each Tag/ID identified and should be attached to this NRCC-ENV-05-E compliance document.
2. **Product Type:** Select the appropriate product type of the product being installed; Operable, Fixed, Greenhouse/Garden Window, Doors, and Skylight.
3. **Glazing Type:** Select the appropriate glazing type of the product being installed; Single Pane, Double Pane, or Glass Block.
4. Enter the appropriate value from Table 110.6-A. This value must match on what has been selected in item B.1, B.2, and B.3.

##### SOLAR HEAT GAIN COEFFICIENT INFORMATION

5. **Product Type:** Select either Operable or Fixed. The selection should match the liked fenestration and Tag/ID
6. **Glazing:** Select either Clear or Tinted. The selection should match the liked fenestration and Tag/ID
7. Enter the appropriate value from Table 110.6-B. This value must match on what has been selected in item B.5, and B.6.

##### VISIBLE TRANSMITTANCE

8. **Product Type:** Select the appropriate product type of the product being installed; Casement/Awning, Sliding, Fixed, Curtainwall/Storefront/Site-built or Manufactured Skylights without Curb Mounting or Skylights with Curb Mounting.
9. From the manufactures literature or specifications enter the center-of-glass, VT<sub>c</sub>.
10. Use equation NA6-3, select the appropriate VT<sub>F</sub> and calculate VT<sub>Total</sub>.

##### C. METHOD 2

For buildings with **less** than 1,000 ft<sup>2</sup> of site-built fenestration may optionally use **Method 1**.

1. Follow Step 1 and Enter Center-of-Glass for U-factor<sub>c</sub> or the U<sub>c</sub> value.
2. Follow Step 2 and Enter Center-of-Glass for SHGC<sub>c</sub>.
3. Follow Step 3 and Enter Center-of-Glass for VT<sub>c</sub>.
4. Calculate the Total U-factor by using Equation NA6-1 and use Table NA6-5 for C1 and C2 values. In addition use Step 1 (U<sub>c</sub>) value in the equation and calculate U-factor<sub>Total</sub>.
5. Calculate the Total SHGC by using equation NA6-2 and use Step 2 (SHGC<sub>c</sub>) value in the equation and then calculate the value for SHGC<sub>Total</sub>.
6. Calculate the Total VT by using equation NA6-3 and use Step 3 (VT<sub>c</sub>) value in the equation and then calculate the value for VT<sub>Total</sub>.

##### D. ATTACHED MANUFACTURER'S LITERATURE

1. Manufacturer's literature must be match the Product Type, Frame Type, Glazing, Center-of- Glass (COG) U-factor<sub>c</sub>, SHGC<sub>c</sub> and VT<sub>c</sub> information needed to calculate Method 1 or Method 2.