

Certificate of Compliance ENV-1-C and Envelope Component Method ENV-2-C

Forms



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CERTIFICATE OF COMPLIANCE (Part 1 of 2)

ENV 1 C

PROJECT NAME		DATE
PROJECT ADDRESS		Building Permit # _____
PRINCIPAL DESIGNER-ENVELOPE	TELEPHONE	
DOCUMENTATION AUTHOR	TELEPHONE	Checked by/Date Enforcement Agency Use _____

GENERAL INFORMATION			
DATE OF PLANS	BUILDING CONDITIONED FLOOR AREA	CLIMATE ZONE	
BUILDING TYPE	<input type="checkbox"/> NONRESIDENTIAL	<input type="checkbox"/> HIGH-RISE RESIDENTIAL	<input type="checkbox"/> HOTEL/MOTEL GUEST
	<input type="checkbox"/> RELOCATABLE – Indicate: <input type="checkbox"/> specific climate – list _____, or <input type="checkbox"/> all climates		
PHASE OF CONSTRUCTION	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> ADDITION	<input type="checkbox"/> ALTERATION
	<input type="checkbox"/> UNCONDITIONED (file		
METHOD OF ENVELOPE COMPLIANCE	<input type="checkbox"/> COMPONENT	<input type="checkbox"/> OVERALL ENVELOPE	
SUPPORTING FORMS SUBMITTED	<input type="checkbox"/> ENV-2-C (Component)	<input type="checkbox"/> ENV-3-C (Overall Envelope)	<input type="checkbox"/> ENV-4-C (Skylight Worksheet)

STATEMENT OF COMPLIANCE

This Certificate of Compliance lists the building features and performance specifications need to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to building envelope requirements.

The documentation preparer hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR	SIGNATURE	DATE
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The Principal Envelope Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The proposed building has been designed to meet the envelope requirements contained in sections 110, 116 through 118, and 140, 142, 143 or 149 of Title 24, Part 6. **Please check one:**

- I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer or mechanical engineer, or I am a licensed architect.
- I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.
- I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537, 5538 and 6737.1.

(These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

PRINCIPAL ENVELOPE DESIGNER-NAME	SIGNATURE	DATE	LIC. #
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ENVELOPE MANDATORY MEASURES

Indicate location on plans of Note Block for Mandatory Measures _____

INSTRUCTIONS TO APPLICANT ENVELOPE COMPLIANCE & WORKSHEETS (check box if worksheet is included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, please refer to the Nonresidential Manual published by the California Energy Commission.

<input type="checkbox"/> ENV-1-C	Certificate of Compliance. Required on plans for all submittals. Part 2 may be incorporated in schedules on plans.
<input type="checkbox"/> ENV-2-C	Use with the Envelope Component compliance method.
<input type="checkbox"/> ENV-3-C	Use with the Overall Envelope compliance method.
<input type="checkbox"/> ENV-4-C	Optional. Use for the minimum skylight requirements for large enclosed spaces.

CERTIFICATE OF COMPLIANCE

(Part 2 of 2)

ENV-1-C

PROJECT NAME

DATE

OPAQUE SURFACES

Surface Type	Area	U-factor	Insulation		Actual Azimuth	Tilt	Condition Status*	Joint App IV Reference	Location/Comments (e.g., Suspended Ceiling, Demising, etc.)	NOTES TO FIELD For Building Use Only
			Cavity	Continuou						

* N, E, A, (New, Existing, Altered)

FENESTRATION SURFACES

More than or equal to 10,000 ft² of site-built fenestration area must include a label certificate issued by NFRC or provide a CEC Default Label Certificate using the default U-factors from Standards Tables 116-A and B. Certificate shall be filed in the contractor's project office during construction and in the building manager's office after construction.

A	B	C	D	E	F	G	H	I	J	K
Fen. #	Fenestration Type	Area	Azimuth	U-factor	U-factor Type ¹	Fenestration SHGC	SHGC Type ²	Condition Status ³	Location / Comments	NOTES TO FIELD – For Bldg. Dept. Use Only

¹ U-factor Type: D, A or N (D for Default Table from Section 116, A for ACM Manual Appendix Default Table, or N for NFRC Labeled)

² SHGC Type: D, C or N (D for Default Table from Section 116, C for Center of Glass, or N for NFRC).

³ Condition Status: N, E, or A (New, Existing, or Altered)..

EXTERIOR SHADING

Fenestration No.	Exterior Shade Type	SHGC	Window		Overhang				
			Height	Width	Length	Height	LExt.	RExt.	

MINIMUM SKYLIGHT AREA FOR LARGE ENCLOSED SPACES

The proposed building contains an enclosed space with floor area greater than 25,000 ft², a ceiling height greater than 15 feet, and an LPD for general lighting of at least 0.5 W/ft². **If this box is checked, ENV-4-C must be filled out.**

NOTES TO FIELD - For Building Department Use Only

ENVELOPE COMPONENT METHOD

(Part 1 of 2)

ENV-2-C

PROJECT NAME

DATE

WINDOW AREA CALCULATION

A. DISPLAY PERIMETER

FT × 6 FT =

 SF

DISPLAY AREA

B. GROSS EXTERIOR WALL AREA

SF × 0.40 =

 SF

40% of GROSS EXTERIOR WALL AREA

C. ENTER LARGER OF A OR B

 SF

MAXIMUM STANDARD AREA

D. ENTER PROPOSED WINDOW AREA

 SF

PROPOSED WINDOW AREA

If the PROPOSED WINDOW AREA is greater than the MAXIMUM STANDARD AREA then the envelope component method may not be used.

E. WINDOW WALL RATIO = Proposed Window Area Divided by Gross Exterior Wall Area =

F. WEST DISPLAY PERIMETER

FT × 6 FT =

 SF

WEST DISPLAY AREA

G. WEST EXTERIOR WALL AREA

SF × 0.40 =

 SF

40% of WEST EXTERIOR WALL AREA

H. ENTER THE LARGER OF F AND G

 SF

MAXIMUM STANDARD WEST AREA

I. ENTER PROPOSED WEST WINDOW AREA

 SF

PROPOSED WEST WINDOW AREA

If the PROPOSED WEST WINDOW AREA is greater than the MAXIMUM STANDARD WEST AREA then the envelope component method may not be used.

J. WEST WINDOW WALL RATIO = Proposed West Window Area Divided by West Exterior Wall Area =

SKYLIGHT AREA CALCULATION

A. ATRIUM or SKYLIGHT HEIGHT

FT

GROSS ROOF AREA

STANDARD ALLOWED SKYLIGHT AREA

B. IF Atrium/Skylight Height in A ≤ 55 FT

SF × 0.05 =

 SF

C. IF Height in A > 55 FT

SF × 0.10 =

 SF

D. PROPOSED SKYLIGHT AREA

SF

If the PROPOSED SKYLIGHT AREA is greater than the STANDARD ALLOWED SKYLIGHT AREA then the envelope component method may not be used.

SKYLIGHTS

SKYLIGHT NAME (e.g., Sky-1, Sky-2)	SKYLIGHT GLAZING			# OF PANES	U-FACTOR		SOLAR HEAT GAIN COEFFICIENT	
	✓ With Curb	✓ With No Curb	✓ Plastic		PROPOSED	ALLOWED	PROPOSED	ALLOWED
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

RELOCATABLE PUBLIC SCHOOL BUILDINGS - See §143(a)8 in the Energy Standards

For Specific Climate Zone, use Table 143-A - Prescriptive Envelope Criteria.

Specific Climate Zone Metal Identification Label – Place two labels on each relocatable building and indicate on the building plans.

For Any (All) Climate Zone, use Table 143-C - Prescriptive Envelope Criteria.

Any (All) Climate Zone Metal Identification Label - Place two labels on each relocatable building and indicate on the building plans.

ENVELOPE COMPONENT METHOD

(Part 2 of 2)

ENV-2-C

PROJECT NAME

DATE

COOL ROOFS - LOW-SLOPED - See Section 3.4 in the NRM and §118(i)3 and §143(a)1 in the Energy Standards for further description about exterior roofs and mandatory requirements for Cool Roofs.

CHECK APPLICABLE BOXES

Option 1- Tested - Initial Thermal Emittance ≥ 0.75 and Initial Solar Reflectance ≥ 0.70

Proposed emittance and reflectance must be \geq the standard when tested with CRRC-1.

	Proposed	Standard	
1. Enter proposed initial thermal emittance, $\epsilon_{initial}$	0.88	≥ 0.75	If proposed \geq to the Standard then it complies.
2. Enter the proposed initial solar reflectance, $\rho_{initial}$	0.86	≥ 0.70	If proposed \geq to the Standard then it complies.

3. When applying **Liquid Field Applied Coatings**, the coating must be applied with a minimum dry mil thickness of 20 mils across the entire roof surface and meet minimum performance requirements listed in §118(i)3 and Table 118-C. Select the applicable coating:

Aluminum-Pigmented Asphalt Roof Coating
 Cement-Based Roof Coating
 Other _____

Option 2 - CRRC-1 Tested - Initial Thermal Emittance < 0.75

Proposed initial thermal emittance < 0.75 when tested with CRRC-1.

	Proposed	Standard	
1. Enter proposed initial thermal emittance, $\epsilon_{initial}$		< 0.75	Go to line 2. Insert $\epsilon_{initial}$ value in calculation.
2. Enter the initial solar reflectance, $\rho_{initial}$		$0.70 + [0.34 \times (0.75 - \epsilon_{initial})]$	Standard $\rho_{initial} =$

3. To apply **Liquid Field Applied Coatings**, the coating must be applied with a minimum dry mil thickness of 20 mils across the entire roof surface and meet minimum performance requirements listed in §118(i)3 and Table 118-C. Select the applicable coating:

Aluminum-Pigmented Asphalt Roof Coating
 Cement-Based Roof Coating
 Other _____

CRRC-1 Label Attached to Submittal
 (Note if no CRRC-1 label is available, this compliance method can not be used).

OPAQUE SURFACES

ASSEMBLY NAME (e.g. Roof-1, Wall-1, Floor-, Soffits, etc...)	TYPE (e.g. Roof, Wall, Floor, demising, etc...)	HEAT CAPACITY	INSULATION R-VALUE*		ASSEMBLY U-FACTOR*		
			PROPOSED	MINIMUM ALLOWED	PROPOSED	Joint Appendix IV REF	MAXIMUM ALLOWED

* For each assembly type, meet the minimum insulation R-value or the maximum assembly U-factor.

WINDOWS

WINDOW NAME (e.g., Window-1, Window-2)	ORIENTATION				Fenestration		# OF PANES	Fen. SHGC*	PROPOSED RSHG				PROP. RSHG	ALLOWED RSHG
	✓	✓	✓	✓	U-FACTOR				H	V	H/V	OHF		
	N	E	S	W	PROP.	ALLOW.								
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										

* From Fenestration Surfaces ENV-1-C, Part 2, Column G, or when Column H has a "C" identifier, calculate using the center of glass value SHGC_c in SHGC_{FEN} = .08 + (.86 x SHGC_c) and enter value.