

CALIFORNIA ENERGY COMMISSION

CEC-LMCV-ENV-21-H

## SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

#### CERTIFICATE OF VERIFICATION

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

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

#### A. Air Barrier Materials

	Dailler Materials					
01	unconditioned/outside spaces  1. Using individual mat (1.57 pcf) (0.02 L/s.n  2. Using assemblies of differential of 0.3 in. E1680, or ASTM E28.  3. Testing the complete	ir barrier is required in all thermal envelope assemblies to limit air movement between and conditioned/inside spaces, and must comply using one of the following methods: erials that have an air permeance not exceeding 0.004 cfm/ft² under a pressure differential of 0.3 in. w.g. m² at 75 pa) when tested in accordance with ASTM E2178; or materials and components that have an average air leakage not to exceed 0.04 cfm/ft² under a pressure w.g. (1.57 pcf) (0.2 L/s.m² at 75 pa) when tested in accordance with ASTM E2357, ASTM E1677, ASTM 3; or e building and demonstrating that the air leakage rate of the building envelope does not exceed 0.40 differential of 0.3 in. w.g. (1.57 pcf) (2.0 L/s.m² at 75 pa) in accordance with ASTM E779 or an equivalent				
02	Method of Compliance					
03	Verification Status    Dass - all applicable requirements are met; or					
04	Correction Notes					

#### Note:

SPF insulation is an acceptable air barrier and sealant when installed to a minimum thickness of 2 inches for closed cell and 5.5 inches for open cell, except where not allowed by manufacturer (e.g., flues, vents, can lights, etc.).

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met unless otherwise noted in the Verification Status and the Correction Notes.

## B. Raised Floor Adjacent to Unconditioned Space or Separate Dwelling Units

01	All gaps in the raised floor are sealed.				
02	All chases are sealed at floor !	level using a sealed hard cover.			
03	All holes (e.g., for plumbing a	nd electrical wires) that penetrate the floor or bottom plates of walls are sealed.			
04	Subfloor sheathing is glued or	r sealed at all panel edges to create a continuous airtight subfloor air barrier.			
1	Verification Status	☐ Pass - all applicable requirements are met; or			
05		☐ Fail - one or more applicable requirements are not met. Enter reason for failure in corrections			
03		notes field below; or			
70 /		☐ All N/A - This entire table is not applicable.			
06	Correction Notes				



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## C. Walls Adjacent to Unconditioned Space

01	All penetrations through the e	xterior wall air barrier are sealed to provide an airtight envelope to unconditioned spaces such as the				
01	outdoors, attic, garage, and crawlspace.					
02	Exterior wall air barrier is seale	ed to the top plate and bottom plate in each stud bay.				
03	All electrical boxes, including k	nockouts, that penetrate the air barrier to unconditioned space are sealed.				
04	All openings in the top and bo	tom plate, including all interior and exterior walls, to unconditioned space are sealed; such as holes drilled				
04	for electrical and plumbing.					
05	Exterior bottom plates (all sto	ries) are sealed to the floor.				
06	All gaps around windows and doors are sealed. The sealant used follows manufacturer specifications.					
07	Rim joist gaps and openings are fully sealed.					
08	Fan exhaust duct outlet/damp	er at the exterior wall are sealed.				
09	Knee walls have solid and seal	ed blocking at the bottom, top, left, and right sides to prevent air movement into insulation.				
		□ Pass - all applicable requirements are met; or				
10	Verification Status	☐ Fail - one or more applicable requirements are not met. Enter reason for failure in corrections				
10	verification status	notes field below; or				
		☐ All N/A - This entire table is not applicable.				
11	Correction Notes	(0, 0				

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met unless otherwise noted in the Verification Status and the Correction Notes.

# D. Ceiling Air Barrier Adjacent to Unconditioned Space

D. CC.	ing An Burrier Aujucen	t to oncommune space				
01	There is a continuous air barrier at the ceiling level. All openings into walls, drops, chases or double walls are sealed.					
02	All penetrations through the to	pp plate of interior and exterior walls are sealed.				
03	Fire sprinklers penetrating a co	eiling air barrier shall be sealed to prevent air movement according to the manufacturer's instructions.				
04	_	parrier (e.g., HVAC registers, electrical boxes, fire alarm boxes, exhaust fan housing, and recessed lighting ounding dry wall. If it is not possible to seal the fixture directly, a secondary air barrier shall be created				
05	All installed recessed lighting f (IC and AT) which allow direct	ixtures that penetrate the ceiling to unconditioned space are rated to be Insulation Contact and Airtight contact with insulation.				
06		overed with hard covers that are sealed to the framing, or else the bottom and sides of dropped ceiling led as ceilings and walls as required on the Certificate of Compliance.				
07	All vertical chases (e.g., HVAC ducts and plumbing) and soffits are sealed at the ceiling level.					
08	Chimneys and flues require sheet metal flashing at the ceiling level. The flashing shall be sealed to the chimney/flue with fire rated caulk.  The flashing shall be sealed to the surrounding framing.					
09	Framing locations where air may move down into the walls from the attic (e.g., double walls, pocket doors, architectural bump-outs, etc.) have a sealed hard cover to prevent air movement.					
10	Attic access forms an airtight seal between the conditioned space and unconditioned space. Vertical attic access requires mechanical compression using screws or latches.					
1		<ul> <li>Pass - all applicable requirements are met; or</li> </ul>				
11	Verification Status    Fail - one or more applicable requirements are not met. Enter reason for failure in correction notes field below; or   All N/A - This entire table is not applicable.					
12	Correction Notes	••				



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## SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

E. Roof Air Barrier – Unvented Attics Adjacent to Unconditioned Space
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01	There is a continuous air barrier at the roof deck and gable ends.				
02	Chimneys and flues require sh	eet metal	flashing at the roof deck. The flashing is sealed to the chimney/flue with fire rated caulk. The		
02	flashing is sealed to the surrounding framing.				
03	All penetrations in the roof de	ck and gal	ple ends for plumbing, electrical, etc. are sealed.		
	Verification Status		Pass - all applicable requirements are met; or		
04			Fail - one or more applicable requirements are not met. Enter reason for failure in corrections		
04			notes field below; or		
			All N/A - This entire table is not applicable.		
05	Correction Notes				

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met unless otherwise noted in the Verification Status and the Correction Notes.

## F. Conditioned Space Above or Adjacent to Garage Air Barrier

01	All penetrations in the subfloor above the garage into conditioned space must follow the raised floor air barrier requirements.					
02	<ul> <li>Seal all edges of the petween the garage the garage and adjace perimeter. Insulation</li> <li>Seal the band joist all</li> </ul>	above the garage and the subfloor is prevented by one of the following methods: garage ceiling (typically drywall) at the perimeter of the garage to create a continuous airtight surface and adjacent conditioned envelope. Seal all plumbing, electrical, and mechanical penetrations between ent conditioned space. For an open-web truss, airtight blocking is added on all four sides of the garage can be placed on the garage ceiling.  Soove the wall at the garage to conditioned space transition. Seal all subfloor seams and penetrations and adjacent conditioned space. Insulation must be placed in contact with the subfloor below the				
03	Verification Status	<ul> <li>Pass - all applicable requirements are met; or</li> <li>Fail - one or more applicable requirements are not met. Enter reason for failure in corrections notes field below; or</li> <li>All N/A - This entire table is not applicable.</li> </ul>				
04	Correction Notes					

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met unless otherwise noted in the Verification Status and the Correction Notes.

## G. Cantilevered Floor Air Barrier

01	Airtight blocking is installed between joists where the wall rim joist would have been located in the absence of a cantilever.					
02	Exterior sheathing is installed to the bottom of the cantilever so that there is a continuous air and weather barrier for the cantilever. The cantilevered joist must be insulated to the same R-value as would be required for the subfloor prior to closing.					
03	Any gaps, cracks or penetrations in the air barrier of the cantilever are sealed. Recessed can lights in the cantilever are rated to be Insulation Contact and Airtight (IC and AT) and properly sealed to the sheathing.					
04	Verification Status    Dass - all applicable requirements are met; or					
05	Correction Notes					



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## SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

ዘ. Walls for Attached	l Porch, Attic,	Double Wa	ll Air Barrier
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01			ntersection of the porch and exterior wall when there is conditioned space on the other where the attic attaches to the conditioned space.
			·
02	Truss framing blocking is used	t the top and	pottom of each wall/roof section.
	Verification Status	□ <u>Pas</u>	s - all applicable requirements are met; or
03		□ <u>Fail</u>	- one or more applicable requirements are not met. Enter reason for failure in corrections
05		<u>not</u>	es field below; or
		□ <u>All</u>	N/A - This entire table is not applicable.
04	Correction Notes		

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met unless otherwise noted in the Verification Status and the Correction Notes.

I.	Air	<b>Barriers</b>	in M	ultif	amil	ly I	Dwel	llings
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01	Each dwelling unit must be sealed to stop air movement between dwelling units. Treat adjacent dwelling units as unconditioned space for air sealing.	
02	All penetrations through the floor and ceiling of each dwelling unit are sealed, including electric and gas utilities, water pipes, drain pipes, fire protection service pipes, and communication wiring.	
03	Elevator penthouse, mechanical penthouse, stairwell doors, roof access hatches, and plumbing stacks that separate conditioned and unconditioned space are all sealed.	
04	Vertical chases for garbage chutes, elevator shafts, HVAC ducting and plumbing shall be treated as unconditioned space for sealing.	
05	Common hallways shall be treated as unconditioned space for sealing.	
06	Verification Status	<ul> <li>Pass - all applicable requirements are met; or</li> <li>Fail - one or more applicable requirements are not met. Enter reason for failure in corrections notes field below; or</li> <li>All N/A - This entire table is not applicable.</li> </ul>
07	Correction Notes	V :// 76.

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## J. Special Requirements for SIPs

01	SIPs are considered an air barrier when properly sealed at top, bottom, sides, and all penetrations.		
02	Air barrier is continuous across all surfaces, including between SIPs and non-SIP sections.		
03	Verification Status		Pass - all applicable requirements are met; or Fail - one or more applicable requirements are not met. Enter reason for failure in corrections notes field below; or All N/A - This entire table is not applicable.
04	Correction Notes		

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met unless otherwise noted in the Verification Status and the Correction Notes.

### K. Special Requirements for ICF

01	ICF sections are considered an air barrier when properly sealed at top, bottom, sides and all penetrations.		
02	Air barrier is continuous across all surfaces, including between ICF and non-ICF sections.		
03	Verification Status	<ul> <li>Pass - all applicable requirements are met; or</li> <li>Fail - one or more applicable requirements are not met. Enter reason for failure in corrections notes field below; or</li> <li>All N/A - This entire table is not applicable.</li> </ul>	
04	Correction Notes		



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## SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

## L. Determination of HERS Verification Compliance

All applicable sections of this document shall indicate compliance with the specified verification protocol requirements in order for this Certificate of Verification as a whole to be determined to be in compliance. For information and data collection a provider only. Not valid until registered with a only.

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### SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

#### DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

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I certify that this Certificate of Verification documentation is accurate and complete.				
Documentation Author Name:	Documentation Author Signature:			
Company:	Date Signed:			
Address:	CEA/HERS Certification Information (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 Verification is true and correct.
  - 2. I am the certified HERS Rater who performed the verification identified and reported on this Certificate of Verification (responsible rater).
  - 3. The installed features, materials, components, manufactured devices, or system performance diagnostic results that require HERS verification identified on this Certificate of Verification comply with the applicable requirements in Reference Appendices RA2, RA3, and the requirements specified on the Certificate of Compliance for the building approved by the enforcement agency.
  - 4. The information reported on applicable sections of the Certificate(s) of Installation (LMCI) signed and submitted by the person(s) responsible for the construction or installation conforms to the requirements specified on the Certificate(s) of Compliance (LMCC) approved by the enforcement agency.
  - 5. I understand that a registered copy of this Certificate of Verification shall be posted, or 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 ensure this requirement is accomplished.
  - 6. I understand that a registered copy of this Certificate of Verification is required to be included with the documentation the builder provides to the building

### BUILDER OR INSTALLER INFORMATION AS SHOWN ON THE CERTIFICATE OF INSTALLATION

Company Name (Installing Subcontractor, General Contractor, or Builder/Owner):			
Responsible Builder or Installer Name:	CSLB License:		
HERS PROVIDER DATA REGISTRY INFORMATI	ON		
Sample Group Number (if applicable):	Dwelling Test Status in Sample Group (if applicable):		
HERS RATER INFORMATION	·		
HERS Rater Company Name:			
Responsible Rater Name:	Responsible Rater Signature:		
Responsible Rater Certification Number w/ this HERS Provider:	Date Signed:		

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

CERTIFICATE OF VERIFICATION – USER INSTRUCTIONS	LMCV-ENV-21-E
Quality Insulation Installation (QII) –Air Infiltration Sealing - Framing Stage	(Page 1 of 3)

#### **CF3R-ENV-21 User Instructions**

Quality Insulation Installation (QII) applies to the entire building (roof/ceiling, walls, and floor) for new construction and requires field verification by a third-party HERS Rater. For Alterations to existing buildings, compliance credit can only be taken when the "existing, plus addition, plus alteration" approach is used, but credit will only apply to the new surfaces in the new zone.

#### A. Air Barrier Materials

- 2. Method of Compliance: Using the drop down menu, indicate which method is being used to comply with the continuous air barrier requirements [e.g., Method 1 (Individual Materials), Method 2 (Assemblies of Materials), Method 3 (Complete Building)].
- 3. Verification Status: HERS Rater to select from list:
  - a. Pass all applicable requirements are met.
  - b. Fail one or more applicable requirements are not met. Rater must enter reason for failure in correction notes field below.
  - c. All N/A This entire table is not applicable.
- 4. Correction Notes: Rater must enter the reason for failure.

## B. Raised Floor Adjacent to Unconditioned Space or Separate Dwelling Unit

- 5. Verification Status: HERS Rater to select from list:
  - a. Pass all applicable requirements are met.
  - b. Fail one or more applicable requirements are not met. Rater must enter reason for failure in correction notes field below.
  - c. All N/A This entire table is not applicable.
- 6. Correction Notes: Rater must enter the reason for failure.

## C. Walls Adjacent to Unconditioned Space

- 10. Verification Status: HERS Rater to select from list:
  - a. Pass all applicable requirements are met.
  - b. Fail one or more applicable requirements are not met. Rater must enter reason for failure in correction notes field below.
  - c. All N/A This entire table is not applicable.
- 11. Correction Notes: Rater must enter the reason for failure.

#### D. Ceiling Air Barrier Adjacent to Unconditioned Space

- 11. Verification Status: HERS Rater to select from list:
  - a. Pass all applicable requirements are met.
  - b. Fail one or more applicable requirements are not met. Rater must enter reason for failure in correction notes field below.
  - c. All N/A This entire table is not applicable.
- 12. Correction Notes: Rater must enter the reason for failure.

## E. Roof Air Barrier – Unvented Attics Adjacent to Unconditioned Space

- 4. Verification Status: HERS Rater to select from list:
  - a. Pass all applicable requirements are met.

CERTIFICATE OF VERIFICATION – USER INSTRUCTIONS	LMCV-ENV-21-E
Quality Insulation Installation (QII) –Air Infiltration Sealing - Framing Stage	(Page 2 of 3)

- Fail one or more applicable requirements are not met. Rater must enter reason for failure in correction notes field below.
- c. All N/A This entire table is not applicable.
- 5. Correction Notes: Rater must enter the reason for failure.

## F. Conditioned Space Above or Adjacent to Garage Air Barrier

- 3. Verification Status: HERS Rater to select from list:
  - a. Pass all applicable requirements are met.
  - b. Fail one or more applicable requirements are not met. Rater must enter reason for failure in correction notes field below.
  - c. All N/A This entire table is not applicable.
- 4. Correction Notes: Rater must enter the reason for failure.

#### G. Cantilevered Floor Air Barrier

- 4. Verification Status: HERS Rater to select from list:
  - a. Pass all applicable requirements are met.
  - b. Fail one or more applicable requirements are not met. Rater must enter reason for failure in correction notes field below.
  - c. All N/A This entire table is not applicable.
- 5. Correction Notes: Rater must enter the reason for failure.

### H. Walls for Attached Porch, Attic, Double Wall Air Barrier

- 3. Verification Status: HERS Rater to select from list:
  - a. Pass all applicable requirements are met.
  - b. Fail one or more applicable requirements are not met. Rater must enter reason for failure in correction notes field below.
  - c. All N/A This entire table is not applicable.
- 4. Correction Notes: Rater must enter the reason for failure

### I. Air Barrier in Multifamily Dwellings

- 6. Verification Status: HERS Rater to select from list:
  - a. Pass all applicable requirements are met.
  - b. Fail one or more applicable requirements are not met. Rater must enter reason for failure in correction notes field below.
    - c. All N/A This entire table is not applicable.
- 7. Correction Notes: Rater must enter the reason for failure.

## J. Special Requirements for SIPs

- 3. Verification Status: HERS Rater to select from list:
  - a. Pass all applicable requirements are met.
  - b. Fail one or more applicable requirements are not met. Rater must enter reason for failure in correction notes field below.
  - c. All N/A This entire table is not applicable.
- 4. Correction Notes: Rater must enter the reason for failure.

## K. Special Requirements for ICF

3. Verification Status: HERS Rater to select from list:

CERTIFICATE OF VERIFICATION – USER INSTRUCTIONS	LMCV-ENV-21-E
Quality Insulation Installation (QII) –Air Infiltration Sealing - Framing Stage	(Page 3 of 3)

- a. Pass all applicable requirements are met.
- b. Fail one or more applicable requirements are not met. Rater must enter reason for failure in correction notes field below.
- c. All N/A This entire table is not applicable.
- 4. Correction Notes: Rater must enter the reason for failure.

### L. Determination of HERS Verification Compliance

1. This field is filled out automatically based on all verification protocol requirements in this document showing compliance.

#### **Documentation Declaration Statements**

- 1. The person who prepared the LMCV 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 (if applicable) for their company, responsible builder or installer name, CSLB "grou, "ucation nur license number, sample group number, dwelling test status in sample group, HERS Rater company name, HERS Rater name, HERS Rater signature, HERS Rater certification number and date signed.