



CERTIFICATE OF INSTALLATION		CF2R-ENV-02-E
Envelope Air Sealing - ENV-02		(Page 1 of 4)
Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City:	Zip Code:

Note: The Energy Efficiency Standards Section 110.7 requires that "all joints, penetrations and other openings in the building envelope that are potential sources of air leakage shall be caulked, gasketed, weather stripped, or otherwise sealed to limit infiltration and exfiltration." The requirements below are for newly constructed spaces, additions and alterations to existing assemblies. In areas where Spray Foam (SPF) insulation is used, the SPF can be considered the air barrier. Rigid board insulation is also an air barrier as long as infiltration cannot bypass the product. All other forms of insulation are not considered an air barrier and cannot be used as such.

A. ENVELOPE AIR SEALING	
01	The requirements below cover the required air sealing and installation of insulation that must occur in the framing stage.
02	Spray Foam Insulation (SPF) can be considered an air barrier when SPF covers the possible leakage area to a thickness of 5.5 inches for open cell SPF (ocSPF) and 2.0 inches for closed cell SPF (ccSPF).
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

B. RAISED FLOOR AIR BARRIER	
01	All gaps in the raised floor are sealed.
02	All chases sealed at floor level using a hard cover and the hard cover is sealed.
03	All plumbing and electrical wires that penetrate the floor are sealed.
04	Subfloor sheathing is glued or sealed at all exterior panel edges to create a continuous airtight subfloor.
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C. WALL/KNEE WALL AIR BARRIER	
01	All penetrations through the exterior wall are sealed to provide an airtight envelope to unconditioned spaces such as the outdoors, attic, garage, and crawl space.
02	Exterior wall air barrier is sealed at the top plate and bottom plate in each stud bay.
03	All electrical boxes including knockouts that penetrate the exterior sheathing to unconditioned space are sealed.
04	All openings in the top and bottom plate, including all interior and exterior walls, to unconditioned space are sealed.
05	Exterior bottom plates (all stories) are sealed to the floor, using the appropriate method under the entire exterior bottom plate of the home.
06	All gaps around windows and doors are sealed. The sealant used follows window manufacturer specifications.
07	Rim joist gaps/openings are fully sealed.
08	Fan exhaust ducts that run between conditioned floors to exterior walls include a damper at the exterior wall.
09	Metal tie downs are insulated between the exterior framing and tie down.
10	Hard to access wall stud cavities, such as corner channels or wall intersections, are insulated to the proper R-value prior to the installation of exterior sheathing or exterior stucco lath.
11	Insulation is installed behind tub, shower, or fireplace enclosures, and exterior stairwells to the R-value listed on the CF1R when located against exterior walls. Insulation is installed <u>before</u> the tub, shower, or fireplace is installed.
12	A solid air barrier is installed, from floor to ceiling, on interior walls before tub, shower, or fireplace enclosures are installed against exterior walls. Insulation will contact all six sides of the air barrier on exterior walls.
13	All window and door headers shall be insulated to a minimum of R-2 between the exterior face of the header and inside surface of the finish wall material.
14	Knee walls have solid and sealed blocking at the bottom, top, left and right sides.
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D. CEILING/ATTIC AIR BARRIER	
01	For vented attics much of the ceiling air barrier is verified <u>after</u> the ceiling drywall is installed using the ENV-22.
02	For non-vented attics ensure all penetrations through the roof deck and gable ends are sealed and airtight.



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03	All eave vents are covered with a rigid ventilation baffle that maintains the net free ventilation area.
04	All dropped ceilings/soffits are covered with hard covers and sealed to framing.
05	All chases are covered with hard covers and sealed to framing.
06	Where HVAC ducts travel down a chase, the chase is sealed at the ceiling level.
07	Chimneys and flues require sheet metal flashing. The flashing shall be sealed to the chimney/flue with fire rated caulk. The flashing shall be sealed to the surrounding framing.
08	All eave/soffit baffles are installed to stop air movement around the baffle and into insulation. Net free ventilation of the eave/soffit shall be maintained.
09	Double walls that open to an attic are enclosed with an air barrier and cover that has an airtight seal to the framing.

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E. 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 above.
02	Infiltration between the space above the garage and subfloor is prevented by one of the following methods: <ul style="list-style-type: none"> • Seal all edges of the garage ceiling (typically drywall) at the perimeter of the garage to create a continuous airtight surface between the garage and adjacent conditioned envelope. Seal all plumbing, electrical, and mechanical penetrations between the garage and adjacent conditioned space. For an open-web truss, airtight blocking is added on four sides of the garage perimeter. Insulation can be placed on the garage ceiling. • Seal the band joist above the wall at the garage to conditioned space transition. Seal all subfloor seams and penetrations between the garage and adjacent conditioned space. Insulation must be placed in contact with the subfloor below the conditioned space.

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F. WALLS FOR ATTACHED PORCH, ATTIC, DOUBLE WALL

01	All walls that separate conditioned and unconditioned space include a continuous air barrier on the interior and exterior wall.
02	An exterior wall air barrier is required at the intersection of the porch and exterior wall when there is conditioned space on the other side. The exterior wall includes an air barrier where the attic attaches to the conditioned space.
03	Truss framing blocking is used at the top and bottom of each wall/roof section.

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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. Can lights in the cantilever must be IC and AT rated and properly sealed to sheathing.

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H. MULTIFAMILY AIR BARRIER

01	Multifamily buildings must meet all air sealing requirements listed above.
02	Each dwelling unit must be air sealed to stop air movement from one unit to another.
03	Floor and ceiling of each dwelling unit — all penetrations through the floor and ceiling of each unit are sealed, including electric and gas utilities, water pipes, drain pipes, fire protection service pipes, and communication wiring.
04	Elevator penthouse, mechanical penthouse, stairwell doors, roof access hatch, and plumbing stacks are all sealed to reduce air transfer from attached spaces.
05	Common Walls — the bottom plate between units is sealed to the subfloor. All penetrations in the common walls are sealed, including electrical boxes, wiring, and plumbing penetrations. Perpendicular interior walls that open into the common walls are sealed.
06	Vertical chases for garbage chutes, elevator shafts, and HVAC ducting plumbing must be sealed to the floor and ceiling of each unit to stop air movement up and around the chase due to stack effect.
07	Vertical chases for garbage chutes, elevator shafts, HVAC ducting plumbing, wiring, etc. must be sealed to stop air movement through the chase to the surrounding spaces.
08	Common hallways – penetrations between dwelling units and common hallways are sealed, including doors to dwelling units which shall be gasketed, or made substantially airtight.
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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Installation documentation is accurate and complete.	
Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
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:		
<ol style="list-style-type: none"> 1. The information provided on this Certificate of Installation is true and correct. 2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation, and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer. 3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency. 4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met. 5. I will ensure that a registered copy of this Certificate of Installation 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. I understand that a registered copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy. 		
Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

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