

INSULATION STAGE CHECKLIST

CEC-CF-6R-ENV-22 (Revised 05/12)

CALIFORNIA ENERGY COMMISSION



INSTALLATION CERTIFICATE		CF-6R-ENV-22
Quality Insulation Installation (QII) - Insulation Stage Checklist		(Page 1 of 4)
Site Address:	Enforcement Agency:	Permit Number:

All structural framing areas shall be insulated in a manner that resists thermal bridging of the assembly separating conditioned from unconditioned space. Structural bracing, tie-downs, and framing of steel, or specialized framing used to meet structural requirements of the CBC are allowed and must be insulated. These areas shall be called out on the building plans with diagrams and/or specific design drawings indicating the R-value of insulation and fastening method to be used.

SPF insulation can be considered an air barrier when the bottom and top plates of vertical framing and both ends of horizontal framing, including band and rim joists, are sprayed to completely fill the cavity adjacent to and in contact with the framing to a distance of 5.5 inches away from the framing for open cell SPF (ocSPF) or 2.0 inches away from the framing for closed cell SPF (ccSPF). SPF can be considered as an air barrier with less than the above thickness when a product data or specification sheet is provided that shows the product meets an air permeance no greater than 0.02 L/s-m² at 75 Pa pressure differential when tested in accordance to ASTM E2178 or ASTM E283.

Closed cell and open cell manufacturers claim various R-values per inch. In California the maximum R-value that can be claimed for ccSPF is an R-value of 5.8 per inch and for ocSPF is an R-value of 3.6 per inch. Higher R-values per inch cannot be claimed even with manufacturer data

Insulation Stage Checklist

✓ FLOOR INSULATION			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All floor joist cavity insulation installed to uniformly fill the cavity side-to-side and end-to-end, NO gaps. (NA if slab on grade)
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Insulation in full contact with the subfloor, NO gaps. (NA if slab on grade)
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Batts: cut to fit around wiring and plumbing, or split (delaminated). (NA if loose fill, SPF, or slab on grade)
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Batts: shall be properly supported to avoid gaps, voids, and compression. (NA for other forms of insulation)
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Insulation R-value same or greater than listed on CF-1R. (NA for slab on grade)
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Gaps between studs larger than 1/8" the cavity must be filled with insulation or foam. (NA for slab on grade)
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SPF: list the required floor cavity R-value from CF-1R, R-____. Determine required thickness for ccSPF (required R-value / 5.8R) = ____ inches), or required thickness for ocSPF (required R-value / 3.6 = inches). (NA for other forms of insulation)
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SPF: measure thickness of floor insulation in 6 random areas. Minimum thickness for ccSPF shall be no more than 1/2 inch less than the required thickness listed above. Minimum thickness for ocSPF shall be no more than 1 inch less than the required thickness listed above. (NA for other forms of insulation)
Yes	No	NA	

✓ WALL INSULATION			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Batts, loose fill mineral fiber, mineral wool, and cellulose: fills cavity and is in contact with air barrier. ocSPF: shall completely fill cavities of 2x4 inch framing or less. Cavities greater than 2x4 inch framing dimensions must be filled to the thickness calculated above. ccSPF: insulation is not required to fill the cavities of framed assemblies provided the installed thickness of insulation conforms to the thickness calculated above
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Double walls and bump-outs - insulation fills the cavity or additional air barrier installed in the cavity so that the insulation fills the cavity and in contact with the air barrier. (NA if SPF meets conditions above and meets the required R-value)
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Insulation installed in exterior walls adjacent to tub/shower, walls under stairs, and fireplace. Insulation required to fill wall cavity. Cavity required to be air tight. (NA if none of the above)
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All gaps around windows and doors filled with insulation, or filled with low expanding foam.
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Batts: no voids/depressions greater than 3/4" in ANY stud bay. (NA for other forms of insulation)
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Batts: voids/depressions less than 3/4" allowed as long as the area is not greater than 10% of the surface area for each stud bay. (NA for other forms of insulation)
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Loose Fill: no gaps or voids. Insulation completely fills the cavity. (NA for other forms of insulation)
Yes	No	NA	

Registration Number: _____ Registration Date/Time: _____ HERS Provider: _____
 2008 Residential Compliance Forms May 2012

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<input type="checkbox"/> Yes	<input type="checkbox"/> No		Gaps between studs larger than 1/8" the cavity must be filled with insulation or foam.
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<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	All Rim-joists to the outside insulated. . (NA if no Rim-joists)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Insulation installed at corner channels, wall intersections, and adjacent to tub/shower enclosures insulated to proper R-Value.
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	All skylight shafts and attic kneewalls insulated with minimum R-19. (NA if no skylights, kneewalls, or in conditioned attic)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Insulation in full contact with air barrier or wall finish for skylight shafts and attic kneewalls. (NA if no skylight or kneewalls)
<input type="checkbox"/> Yes	<input type="checkbox"/> No		Installed wall insulation R-value equal to or greater than what is listed on the CF-1R.
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	SPF: insulation installed without gaps and to provide an air seal when specified as an air barrier. (NA for other forms of insulation)
		<input type="checkbox"/> NA	SPF: list the required wall cavity R-value from CF-1R, R-____. Determine required thickness for ccSPF (required R-value / 5.8R) = ____ inches, or required thickness for ocSPF (required R-value / 3.6 = inches). (NA for other forms of insulation)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	SPF: measure thickness of wall insulation in 6 random areas. Minimum thickness for ccSPF shall be no more than ½ inch less than the required thickness listed above. Minimum thickness for ocSPF shall be no more than 1 inch less than the required thickness listed above. (NA for other forms of insulation)
✓ CEILING/ ROOF INSULATION			
<input type="checkbox"/> Yes	<input type="checkbox"/> No		Gaps between studs larger than 1/8" the cavity must be filled with insulation or foam.
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Batts: no gaps/voids/depressions greater than ¾". (NA for other forms of insulation)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Batts: voids/depressions less than 3/4" allowed as long as the area is not greater than 10% of the surface area for each stud bay. (NA for other forms of insulation)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Loose Fill: NO gaps or voids allowed. (NA for other forms of insulation)
<input type="checkbox"/> Yes	<input type="checkbox"/> No		All ceiling insulation installed to uniformly fit the cavity side-to-side and end-to-end.
<input type="checkbox"/> Yes	<input type="checkbox"/> No		Insulation in full contact with the ceiling, NO gaps.
<input type="checkbox"/> Yes	<input type="checkbox"/> No		Insulation in contact with air barrier
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Batts: cut to fit around wiring and plumbing, or split (delaminated). (NA for other forms of insulation)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Batts taller than bottom chord must expand over the bottom chord or additional insulation installed so bottom chord not visible. (NA for other forms of insulation)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	SPF: list the required ceiling R-value from CF-1R, R-____. Required depth of insulation for ccSPF (required R-value / 5.8R = ____ inches), or required depth of ocSPF (required R-value / 3.6 = inches). (NA for other forms of insulation)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	SPF: measure thickness of ceiling insulation in 6 random areas. Minimum thickness for ccSPF shall be no more than ½ inch less than the required thickness listed above. Minimum thickness for ocSPF shall be no more than 1 inch less than the required thickness listed above. (NA for other forms of insulation)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	HVAC Platform and Catwalks – insulated to R-value equal to ceiling R-value listed on CF-1R. If less insulation installed then called out on CF-1R. (NA if no platform or catwalks)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Attic access gasketed. (NA if no attic access)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Attic access - insulated with rigid foam or batt insulation using adhesive or mechanical fastener. Attic access door R-value equal to ceiling R-value listed on CF-1R. If less insulation installed then called out on CF-1R. (NA if no attic access)

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<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Recessed light fixtures covered full depth with insulation. If SPF used then other forms of insulation used to cover or enclose fixture in a box fabricated from ½-inch plywood, 18 ga. sheet metal, 1/4-inch hard board or drywall. SPF or other insulation then covers light fixture to full depth. (NA is no recessed light fixtures)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	All recessed light fixtures in non conditioned space are IC rated and air tight (AT). (NA if no recessed light fixtures)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	All recessed light fixtures are sealed with a gasket or caulk between the housing and the ceiling. (NA if no recessed light fixtures)
<input type="checkbox"/> Yes	<input type="checkbox"/> No		Ceiling insulation equal to or greater than what is listed on the CF-1R
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Loose Fill: Minimum thickness required to meet the stated R-value listed on CF-1R. Insulation rulers visible for verifying the installed R-value for blown in insulation. (NA for other forms of insulation)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Loose Fill: insulation uniformly covers the entire ceiling (or roof) area from outside of all exterior walls. (NA for other forms of insulation)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Loose Fill: meets or exceeds manufacturer's minimum weight and thickness requirements for the target Rvalue. List target R-value . List minimum required weight for target R-value (lbs/ft²). List minimum required thickness at time of installation . List minimum required settled thickness . (NA for other forms of insulation)
✓ GARAGE ROOF/CEILING INSULATION FOR TWO STORIES (no conditioned space over garage)			
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Insulation installed at rim joists against the air barrier in the garage to house transition (between floors). (NA if conditioned space over garage or single story).
✓ GARAGE ROOF/CEILING INSULATION FOR TWO STORIES(conditioned space over garage)			
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	If insulation is installed at subfloor above garage - then insulation must also be installed at joists against the air barrier in the garage to house transition (between floors) and to R-value as specified on CF-1R. (NA if no conditioned space over garage or single story)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	If insulation is installed on ceiling of garage - then the joists to the outside (front, and both sides) must be insulated to the R-value specified on CF-1R. (NA if no conditioned space over garage or single story)

DECLARATION STATEMENT

- I certify under penalty of perjury, under the laws of the State of California, the information provided on this form is true and correct.
- All rows in this document have been checked and all answers are yes or NA
- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for construction, or an authorized representative of the person responsible for construction (responsible person).
- I certify that the installed features, materials, components, or manufactured devices identified on this certificate (the installation) conforms to all applicable codes and regulations, and the installation is consistent with the plans and specifications approved by the enforcement agency.
- I understand that a HERS rater will check the installation to verify compliance, and that that if such checking identifies defects, I am required to take corrective action at my expense. I understand that Energy Commission and HERS provider representatives will also perform quality assurance checking of installations, including those approved as part of a sample group but not checked by a HERS rater, and if those installations fail to meet the requirements of such quality assurance checking, the required corrective action and additional checking/testing of other installations in that HERS sample group will be performed at my expense.
- I reviewed a copy of the Certificate of Compliance (CF-1R) form approved by the enforcement agency that identifies the specific requirements for the installation. I certify that the requirements detailed on the CF-1R that apply to the installation have been met.
- **I will ensure that a completed, signed copy of this Installation Certificate 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 signed copy of this Installation Certificate is required to be included with the documentation the builder provides to the building owner at occupancy.** I will ensure that all Installation Certificates will come from a HERS provider data registry for multiple orientation alternatives, and beginning October 1, 2010, for all low-rise residential buildings.

Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)

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Responsible Person's Name:		Responsible Person's Signature:
CSLB License	Date Signed:	Position With Company (Title):