



# Oregon Energy Efficiency Specialty Code

## Envelope Compliance Certificate

### Commercial Buildings (Nonresidential uses)



Developed with  
COMcheck Software  
Version 3.8.0

#### Department of Consumer and Business Services Building Codes Division

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Section 1: Project information	
Project type:	New construction <input type="checkbox"/> Addition <input type="checkbox"/> Alteration <input type="checkbox"/> (check only one)
Envelope compliance method:	<b>Prescriptive</b>

Construction site							
Address:		City:		State:		ZIP:	
Permit number:		Permit date:					

Owner/agent							
First and last name:							
Company:							
Address:		City:		State:		ZIP:	
Phone number:		E-mail:					

Designer/contractor							
First and last name:							
Company:							
Address:		City:		State:		ZIP:	
Phone number:		E-mail:					

Section 2: General information	
Total above grade wall area (sq. ft.):	Building type: _____
Vertical glazing/wall area percent:	_____
Total roof area (sq.ft.):	_____
Skylight glazing/roof area percent:	Floor area: _____ sq. ft.



### Section 3: Requirements checklist

<i>List</i> GROSS AREA (sq. ft.)		Min. R-value or max. U-value	Proposed R-value or U-value
<b>ROOFS</b>			
	Insulation entirely above deck	R-20ci	
	Metal buildings (with R-5 thermal blocks)	R-13 + R-13	
	Attic and other	R-38	
<b>WALLS, ABOVE GRADE</b> (Masonry and concrete values effective until Jan. 1, 2012)			
	Masonry (min. 8") with integral vermiculite or equivalent insulation (max glazing 15%)	-	
	Masonry (min. 8") with integral rigid insulation inserts (max glazing 30%)	-	
	Masonry (min. 8") with interior insulation (max glazing 30%)	R-11	
	Concrete (min. 6") with interior insulation (max glazing 30%)	R-11	
	Masonry (min. 8") with continuous exterior insulation (max glazing 15%)	R-1.4ci	
	Masonry (min. 8") with continuous exterior insulation (max glazing 30%)	R-2.8ci	
	Concrete (min. 6") with continuous exterior insulation (max glazing 15%)	R-1.4ci	
	Concrete (min. 6") with continuous exterior insulation (max glazing 30%)	R-2.8ci	
	Metal building (max glazing 30%)	R-13 + R-5.6ci	
	Metal framed (max glazing 30%)	R-13 + R-7.5ci	
	Wood framed and other (max glazing 30%)	R-13 + R-3.8ci	
<b>WALLS, BELOW GRADE</b>			
	Below grade wall	R-7.5ci	
<b>FLOORS</b>			
	Mass	R-10ci	
	Joist/Framing (steel/wood)	R-30	
<b>SLAB-ON-GRADE FLOORS</b>			
	Unheated slabs	NR	
	Heated slabs	R-15 for 24 in. below	
<b>OPAQUE DOORS</b>			
	Swinging	U-0.70	
	Roll-up or sliding	U-0.50	
<b>VERTICAL FENESTRATION</b>			
	Framing materials other than metal with or without metal reinforcement or cladding	U-0.35	
<b>Metal framing with or without thermal break</b>			
	Curtain wall/storefront	U-0.45	
	Entrance door	U-0.80	
	All other	U-0.46	
	<b>SKYLIGHTS</b> (max glazing 3%)	U-0.60	
	<b>SHGC</b> (Applicable to all vertical fenestration and skylights)	0.40	

**Fenestration product rating:**

- ❑ **[303.1.3]** U-factors of fenestration products (windows, doors, and skylights) are determined in accordance with NFRC 100 by an accredited, independent laboratory, and labeled and certified by the manufacturer or are determined using the commercial size category values listed in Chapter 15 of the 2009 ASHRAE Handbook of Fundamentals, Table No. 4 and shall include the effects of the window frame. The temporary label affixed to the fenestration products must not be removed prior to inspection.

*Exceptions:*

- *Site-built fenestration products shall have a single certificate specifying glazing type, special coatings, spacers, gas fills, center-of-glass and overall U-factor, and center-of-glass solar heat gain coefficient (SHGC) for every type of site built glass used. These certificates shall be maintained on the jobsite and made available to the inspector.*

Location in plans/specs where compliance can be identified (enter NA if not applicable): \_\_\_\_\_

\_\_\_\_\_

- ❑ **[303.1.3]** Solar heat gain coefficient (SHGC) of glazed fenestration products (windows, glazed doors, and skylights) shall be determined in accordance with NFRC 200 by an accredited, independent laboratory, and labeled and certified by the manufacturer or be determined using the SHGC in Chapter 15 of the 2009 ASHRAE Handbook of Fundamentals, Table No. 10. The overall values must consider type of frame material and operator for the SHGC at normal incidence.

*Exceptions:*

- *Site-built fenestration products shall have a single certificate specifying glazing type, special coatings, spacers, gas fills, center-of-glass and overall U-factor, and center-of-glass SHGC for every type of site-built glass used. These certificates shall be maintained on the jobsite and made available to the inspector.*

Location in plans/specs where compliance can be identified (enter NA if not applicable): \_\_\_\_\_

\_\_\_\_\_

**Air leakage, insulation, and component certification:**

- ❑ **[502.4.3] Sealing of the building envelope.** Openings and penetrations in the building envelope are sealed with caulking materials or closed with gasketing systems compatible with the construction materials and location. Joints and seams are sealed in the same manner of taped or covered with a moisture vapor-permeable wrapping material. Sealing materials spanning joints between construction materials allow for expansion and contraction of the construction materials.

Location in plans/specs where compliance can be identified (enter NA if not applicable): \_\_\_\_\_

\_\_\_\_\_

- ❑ **[502.4.1] Window and door assemblies.** The air leakage of window and sliding or swinging door assemblies that are part of the building envelope are determined in accordance with AAMA/WDMA/CSA 101/I.S.2/A440, NFRC 400 by an accredited, independent laboratory, and labeled and certified by the manufacturer.

*Exceptions:*

- *Site-constructed windows and doors that are weather stripped or sealed in accordance with Section 502.4.3.*

Location in plans/specs where compliance can be identified (enter NA if not applicable): \_\_\_\_\_

\_\_\_\_\_

- ❑ **[502.4.2] Curtain wall, storefront glazing and commercial entrance doors.** Curtain wall, storefront glazing and commercial-glazed swinging entrance doors, and revolving doors are tested for air leakage in accordance with ASTM E 283. For curtain walls and storefront grazing, the maximum air leakage rate is 0.3 cubic foot per minute per square foot of fenestration area. For commercial glazed swinging entrance doors and revolving doors, the maximum air leakage rate is 1.00 cfm/ft<sup>2</sup> of door area.

Location in plans/specs where compliance can be identified (enter NA if not applicable): \_\_\_\_\_

\_\_\_\_\_

- ❑ **[303.1.1] Building thermal envelope insulation.** An R-value identification mark is applied (by manufacturer) to each piece insulation 12 inches or greater in width. Alternately, the insulation installers have provided a signed, dated, and posted certification listing the type, manufacturer, and R-value of insulation installed. Refer to code section for blown or sprayed insulation installation/setting depths and marker requirements.

- [303.1.2] Insulation mark installation.** Insulating materials are installed such that the manufacturer's R-value mark is readily observable upon inspection.
- [303.1.4] Insulation product rating.** The thermal resistance (R-value) of insulation has been determined in accordance with the U.S. FTC R-value rule.
- [303.2] Installation.** All material, systems, and equipment are installed in accordance with the manufacturer's installation instructions and the International Building Code.
- [502.4.4] Outdoor air intakes and exhaust openings.** Stair and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope shall be equipped with not less than a Class I motorized, leakage-rated damper with a maximum leakage rate of 4 cfm per square foot at 1.0 inch water gauge when tested in accordance with AMCA 500D. Stair and shaft vent dampers shall be capable of being automatically closed during normal building operation and interlocked to open as required by fire and smoke detection systems.

Location in plans/specs where compliance can be identified (enter NA if not applicable): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- [502.4.5] Loading dock weather seals.** Cargo doors and loading dock doors are equipped with weather seals to restrict infiltration when vehicles are parked in the doorway.

Location in plans/specs where compliance can be identified (enter NA if not applicable): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- [502.4.7] Recessed lighting.** Recessed luminaires installed in the building thermal envelope are sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires are IC-rated and labeled as meeting ASTM E 283. All recessed luminaires are sealed with a gasket or caulk between the housing and interior wall or ceiling covering.

Location in plans/specs where compliance can be identified (enter NA if not applicable): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- [502.1.2] Masonry block walls with integral insulation have all cores filled.** At least 50 percent of cores are filled with vermiculite or equivalent fill insulation.

Location in plans/specs where compliance can be identified (enter NA if not applicable): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- [502.4.6] Vestibules.** Doors that separate conditioned space from the exterior are protected with an enclosed vestibule, with all doors of the vestibule equipped with self-closing devices. Vestibules are designed so interior and exterior doors to not operate simultaneously.

*Exceptions:*

- Doors not intended to be used as a building entrance door, such as doors to mechanical or electrical equipment rooms.*
- Doors opening directly from a sleeping unit or dwelling unit.*
- Doors that open directly from a space less than 3000 sq. ft. in area.*
- Revolving doors.*
- Doors used primarily to facilitate vehicular movement or material handling and adjacent personnel doors.*

Location in plans/specs where compliance can be identified (enter NA if not applicable): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- [103.2] 'Other' components have supporting documentation for proposed U-factors.**

Location in plans/specs where compliance can be identified (enter NA if not applicable): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### Section 4: Compliance statement

**Compliance statement:** The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed envelope system has been designed to meet the Oregon Energy Efficiency Specialty code requirements and to comply with the mandatory requirements in the requirements checklist.

\_\_\_\_\_  
Name – Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

#### Project Notes:

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