

# Building Envelope Compliance Documentation

Project Name:		
Project Address:		Date:
Designer of Record:	Email:	Telephone:
Contact Person:	Email:	Telephone:
City:	Climate Zone:	Criteria Table:

## Mandatory Provisions Checklist

### Insulation (Section 5.4.1 and 5.8.1)

- Insulation materials are installed in accordance with manufacturer's recommendations and in such a manner as to achieve rated R-value of insulation.
  - Exception: for metal building roofs or metal building walls.
- Loose-fill insulation is not used in attic roof spaces when the slope of the ceiling is more than three in twelve.
- Attic eave vents have baffling to deflect the incoming air above the surface of the insulation.
- Insulation is installed in a permanent manner in substantial contact with the inside surface.
- Batt insulation installed in floor cavities is supported in a permanent manner by supports no greater than 24 in. (600 mm) on center.
- Lighting fixtures, HVAC, and other equipment are not recessed into the building envelope in such a manner to affect the insulation thickness.
  - Exceptions:
    - The recessed area is less than 1% of the total opaque area of the assembly.
    - The entire roof, wall, or floor is covered with insulation to the full depth required.
    - The effects of reduced insulation are included in calculations using an area-weighted average.
- Roof insulation is not installed over a suspended ceiling with removable ceiling panels.
- Exterior insulation is covered with a protective material to prevent damage. Insulation is protected in attics and mechanical rooms where access is needed.
- Foundation vents do not interfere with the insulation.
- Insulation materials in ground contact have a water absorption rate no greater than 0.3%.
- Where two or more layers of rigid insulation board are used in a construction assembly, the edge joints between each layer of boards is staggered.

### Fenestration and Doors (Section 5.4.2 and 5.8.2)

- U-factors are determined in accordance with NFRC 100. U-factors for skylights shall be determined for a slope of 20° above the horizontal.
  - Exceptions:
    - U-factors are taken from Section A.8.1 for skylights.
    - U-factors are taken from Section A.8.2 for vertical fenestration.
    - U-factors are taken from Section A.7 for opaque doors.
    - U-factors are derived from DASMA 105 for sectional garage doors and metal coiling doors.
- Solar heat gain coefficient (SHGC) is determined in accordance with NFRC 200.
  - Exceptions:
    - SHGC is determined by multiplying the shading coefficient (SC) of the center of the glass by 0.86. Shading coefficient is determined using a spectral data file determined in accordance with NFRC 300.
    - SHGC for the center of glass is used. SHGC is determined using a spectral data file determined in accordance with NFRC 300.
    - SHGC is taken from Section A8.1 for skylights.
    - SHGC is taken from Section A8.2 for vertical fenestration.
- Visible transmittance (VT) is determined in accordance with NFRC 200.
  - Exception:
    - For skylights whose transmittances are not within the scope of NFRC 200, their transmittance is the solar photometric transmittance of the skylight glazing materials determined in accordance with ASTM E972.

**Building Envelope Compliance Documentation****Air Leakage (Section 5.4.3)**

- The building envelope has a continuous air barrier meeting the requirements of Section 5.4.3.1.
- Air leakage through fenestration and doors meets the requirements of Section 5.4.3.2.

## Exceptions:

- Field-fabricated fenestration and doors.
  - Metal coiling doors in semiheated spaces in Climate Zones 0 through 6.
  - Products that comply with the maximum whole-building leakage rate per Exception 3 to Section 5.4.3.2.
- Cargo doors and loading dock doors are equipped with weatherseals in Climate Zone 0 and Climate Zones 4 through 8.
  - Building entrances have vestibules.
- Exceptions:
- Building entrances have revolving doors.
  - Doors not intended as building entrance.
  - Doors opening directly from a dwelling unit.
  - Building entrances in buildings located in Climate Zone 1 or 2.
  - Building entrances in buildings located in Climate Zone 3 that are both (1) less than four stories and (2) smaller than 10,000 ft<sup>2</sup> (1,000 m<sup>2</sup>) in gross conditioned floor area.
  - Building entrances in buildings located in Climate Zones 4, 5, 6, 7, and 8 less than 1,000 ft<sup>2</sup> (100 m<sup>2</sup>) in gross floor area.
  - Doors separate from the building entrance that open into spaces smaller than 3,000 ft<sup>2</sup> (300 m<sup>2</sup>) in gross conditioned floor area.
  - Semiheated spaces.
  - Enclosed elevator lobbies for building entrances directly from parking garages.

# Building Envelope Compliance Documentation

Project Name:						
Contact Person:		Email:				
Telephone:						
Space Category	Section 5.5.4.4.1 Exceptions	Allowable Vertical Fenestration Area		Allowable Skylight Area		
<input type="checkbox"/> Nonresidential Conditioned Space <input type="checkbox"/> Residential Conditioned Space <input type="checkbox"/> Semiheated Space (complete separate Part II form for each space conditioning category)	<input type="checkbox"/> Opaque Permanent Projections	<input type="text"/>	Gross Wall Area (ft <sup>2</sup> or m <sup>2</sup> )	<input type="text"/>	Gross Roof Area (ft <sup>2</sup> or m <sup>2</sup> )	
	<input type="checkbox"/> Partially Opaque Permanent Projections	<input type="text"/>	Vertical Fenestration Area (ft <sup>2</sup> or m <sup>2</sup> )	<input type="text"/>	Skylight Area (ft <sup>2</sup> or m <sup>2</sup> )	
	<input type="checkbox"/> Street-Side Street-Level Vertical Fenestration	<input type="text"/>	North-Oriented Vertical Fenestration Area (ft <sup>2</sup> or m <sup>2</sup> )	Section 5.5.4.5 Orientation <input type="radio"/> Option a: Area Only (fill in % area for east and west fenestration area) <input type="radio"/> Option b: Area and SHGC	<input type="text"/>	Skylight Area/ Roof Area Ratio
	<input type="checkbox"/> Dynamic Glazing	<input type="text"/>	South-Oriented Vertical Fenestration Area (ft <sup>2</sup> or m <sup>2</sup> )		<input type="text"/>	Section 5.5.4.2.3: Space requires minimum skylight area?
	<input type="checkbox"/> North-Oriented Fenestration	<input type="text"/>	East-Oriented Vertical Fenestration Area (ft <sup>2</sup> or m <sup>2</sup> )	<input type="text"/>	% of Total Vertical Fenestration Area (must be ≥25%)	
			West-Oriented Vertical Fenestration Area (ft <sup>2</sup> or m <sup>2</sup> )	<input type="text"/>	% of Total Vertical Fenestration Area (must be ≥25%)	

## Opaque Surfaces

Description/Name	Class (Pick one)						Pick one R-value Option	Pick one U-factor Option	Appendix A Defaults Calculations	High Reflectance/Emissance Roof	Proposed U-Factor, Insulation R-Value, C-Factor, or F-Factor	Criteria U-Factor, Insulation R-Value, C-Factor, or F-Factor	Surface Area (ft <sup>2</sup> or m <sup>2</sup> ) (Optional)
	Roof	Wall	Floor	Slab	Door								
	Insulation Above Deck Metal Building Attic and Other	Mass Metal Building Steel-Framed Wood-Framed / Other	Below-Grade Wall	Mass Steel Joist Wood-Framed / Other	Unheated Heated	Swinging Nonswinging							
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Project Name:		
Contact Person:	Email:	Telephone:

**Fenestration**

Description/Name	Frame Class (Pick one)				NFRC Rating	Appendix A Defaults	Proposed Fenestration						Criteria	
	Nonmetal framing, all	Metal framing , fixed	Metal framing, operable	Metal framing, entrance door			Area	U-Factor	Solar Heat Gain Coefficient (SHGC)	Overhang	Projection Factor	Overhang Multiplier	Adjusted Solar Heat Gain Coefficient (SHGC)	U-Factor
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