



Envelope Compliance Certificate

2009 IECC

Section 1: Project Information

Project Type: **New Construction**

Project Title : Courtyard, Portland, ME

Construction Site:
311 Commercial St.
Portland, Maine

Owner/Agent:
Vincent Veroneau
J. B. Brown & Sons
36 Danforth St.
Portland, Maine 04101
207-200-2180
veroneau@jbbrown.com

Designer/Contractor:
Mark Woglom
Opechee Construction Corporation
11 Corporate Drive
Belmont, New Hampshire 03220
603-527-9090
markw@opechee.com

Section 2: General Information

Building Location (for weather data): **Portland, Maine**
Climate Zone: **6a**
Building Space Conditioning Type(s): **Nonresidential, Residential**
Vertical Glazing / Wall Area Pct.: **27%**

Activity Type(s)	Floor Area
Second through fifth floors (Hotel)	75056
First Floor-Partial (Dining: Bar Lounge/Leisure)	9571
Sixth Floor (Multifamily)	19681

Section 3: Requirements Checklist

Envelope PASSES: Design 0.1% better than code.

Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor ^(a)
Roof: Insulation Entirely Above Deck, Nonresidential	19501	---	28.0	0.035	0.048
Ext. Wall: Steel-Framed, 24in. o.c., Nonresidential	42755	19.0	5.0	0.064	0.064
Door: Insulated Metal, Swinging, Nonresidential	63	---	---	0.091	0.700
Window: , Perf. Type: Other testing/cert. Product ID: Kawneer Tri-Fab VG 451, SHGC 0.27, Nonresidential (b)	9040	---	---	0.520	0.450
Window: Wood Frame, Perf. Type: Other testing/cert. Product ID: AND-N-1-00614-00001, SHGC 0.32, Nonresidential (b)	2400	---	---	0.280	0.350
Floor: Unheated Slab-On-Grade, Vertical 4 ft., Nonresidential	341	---	10.0	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

(b) Fenestrations product performance must be certified in accordance with NFRC and requires supporting documentation.

Air Leakage, Component Certification, and Vapor Retarder Requirements:

- 1. All joints and penetrations are caulked, gasketed or covered with a moisture vapor-permeable wrapping material installed in accordance with the manufacturer's installation instructions.
- 2. Windows, doors, and skylights certified as meeting leakage requirements.
- 3. Component R-values & U-factors labeled as certified.
- 4. No roof insulation is installed on a suspended ceiling with removable ceiling panels.

- 5. 'Other' components have supporting documentation for proposed U-Factors.
- 6. Insulation installed according to manufacturer's instructions, in substantial contact with the surface being insulated, and in a manner that achieves the rated R-value without compressing the insulation.
- 7. Stair, elevator shaft vents, and other outdoor air intake and exhaust openings in the building envelope are equipped with motorized dampers.
- 8. Cargo doors and loading dock doors are weather sealed.
- 9. Recessed lighting fixtures installed in the building envelope are Type IC rated as meeting ASTM E283, are sealed with gasket or caulk.
- 10. Building entrance doors have a vestibule equipped with self-closing devices.

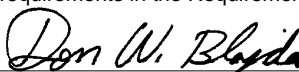
Exceptions:

- Building entrances with revolving doors.
- Doors not intended to be used as a building entrance.
- Doors that open directly from a space less than 3000 sq. ft. in area.
- Doors used primarily to facilitate vehicular movement or materials handling and adjacent personnel doors.
- Doors opening directly from a sleeping/dwelling unit.

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 2009 IECC requirements in COMcheck-Web and to comply with the mandatory requirements in the Requirements Checklist.

Don W. Blajda - Project Architect
Name - Title


Signature

05/02/14
Date



Generated by **COMcheck-Web Software**
Interior Lighting Compliance Certificate

2009 IECC

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Section 2: Interior Lighting and Power Calculation

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B x C)
Second through fifth floors (Hotel)	75056	1	75056
First Floor-Partial (Dining: Bar Lounge/Leisure)	9571	1.3	12442
Sixth Floor (Multifamily)	19681	0.7	13777
Total Allowed Watts =			101275

Section 3: Interior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Second through fifth floors (Hotel, 75056 sq.ft.)				
LED: R02: LED Recessed Can: LED PAR 20W:	1	152	20	3040
LED: R03: LED Recessed Can: LED PAR 20W:	1	88	20	1760
Linear Fluorescent: F07: Linear Fluorescent: 48" T8 32W: Electronic:	2	28	64	1792
LED: R47: LED Recessed Can: LED PAR 16W:	1	132	16	2112
LED: R20: LED Recessed Can: LED PAR 16W:	1	412	16	6592
LED: D202: Surface: LED A Lamp 7W:	2	132	14	1848
Linear Fluorescent: D198: Linear Fluorescent: 34" T5 HO 39W: Electronic:	2	132	70	9240
Compact Fluorescent: Nightstand Sconce: Wall: Quad 4-Pin 18W: Electronic:	2	116	36	4176
Compact Fluorescent: Nightstand Sconce: Wall: Quad 4-Pin 18W: Electronic:	4	74	72	5328
Compact Fluorescent: Pendant: At coffee bar: Triple 4-Pin 26W: Electronic:	1	58	23	1334
First Floor-Partial (Dining: Bar Lounge/Leisure, 9571 sq.ft.)				
LED: LED01: Linear LED: LED Linear Lamp 8W:	1	5	7.5	37.5
LED: LED02: Linear LED: LED Linear Lamp 11W:	1	19	12	228
Linear Fluorescent: F06: Linear Fluorescent: 48" T8 32W: Electronic:	3	15	96	1440
LED: DW-02: Corridor Sconces: LED Linear Lamp 17W:	1	135	17	2295
Linear Fluorescent: F07: Linear Fluorescent: 48" T8 32W: Electronic:	2	8	64	512
LED: R01: LED Recessed Can: LED Other Fixture Unit 36W:	1	35	39	1365
LED: R02: LED Recessed Can: LED PAR 20W:	1	13	20	260
LED: R03: LED Recessed Can: LED PAR 20W:	1	39	19.5	760.5
LED: R04: LED Recessed Can: LED PAR 20W:	1	10	20	200
LED: R05: LED Recessed can: LED PAR 11W:	1	4	11	44
LED: R06: LED Recessed Can: LED PAR 11W:	1	6	11	66

LED: TR01: Track Lights: LED Other Fixture Unit 16W:	4	2	60	120
LED: DC-01: LED Decorative: LED A Lamp 25W:	8	2	200	400
Compact Fluorescent: DC-03: Bar Pendants: Twin Tube 18W: Electronic:	1	8	18	144
Incandescent: DC-02: Lobby Decorative: Incandescent 60W:	8	3	480	1440
Incandescent: DC-04: Bar Pendant: Incandescent 100W:	3	1	300	300
Halogen: DC-05: Public Toilets: Other:	8	2	320	640
LED: DW-01: Pool Sconces: LED Linear Lamp 8W:	1	5	8	40
Sixth Floor (Multifamily, 19681 sq.ft.)				
Incandescent: AA: Recessed Incandescent: Incandescent 60W:	1	209	60	12540
LED: FF: Surface LED: LED Linear Lamp 22W:	1	14	22	308
LED: GG: LED Recessed Can: LED PAR 20W:	1	12	20	240

Total Proposed Watts = 60602

Section 4: Requirements Checklist

Interior Lighting PASSES: Design 40% better than code.

Lighting Wattage:

1. Total proposed watts must be less than or equal to total allowed watts.

Allowed Watts	Proposed Watts	Complies
101275	60602	YES

Controls, Switching, and Wiring:

2. Daylight zones under skylights more than 15 feet from the perimeter have lighting controls separate from daylight zones adjacent to vertical fenestration.
3. Daylight zones have individual lighting controls independent from that of the general area lighting.

Exceptions:

- Contiguous daylight zones spanning no more than two orientations are allowed to be controlled by a single controlling device.
- Daylight spaces enclosed by walls or ceiling height partitions and containing two or fewer light fixtures are not required to have a separate switch for general area lighting.

4. Independent controls for each space (switch/occupancy sensor).

Exceptions:

- Areas designated as security or emergency areas that must be continuously illuminated.
- Lighting in stairways or corridors that are elements of the means of egress.

5. Master switch at entry to hotel/motel guest room.
6. Individual dwelling units separately metered.
7. Medical task lighting or art/history display lighting claimed to be exempt from compliance has a control device independent of the control of the nonexempt lighting.
8. Each space required to have a manual control also allows for reducing the connected lighting load by at least 50 percent by either controlling all luminaires, dual switching of alternate rows of luminaires, alternate luminaires, or alternate lamps, switching the middle lamp luminaires independently of other lamps, or switching each luminaire or each lamp.

Exceptions:

- Only one luminaire in space.
- An occupant-sensing device controls the area.
- The area is a corridor, storeroom, restroom, public lobby or sleeping unit.
- Areas that use less than 0.6 Watts/sq.ft.

9. Automatic lighting shutoff control in buildings larger than 5,000 sq.ft.

Exceptions:

- Sleeping units, patient care areas; and spaces where automatic shutoff would endanger safety or security.

10. Photocell/astronomical time switch on exterior lights.

Exceptions:

- Lighting intended for 24 hour use.

11. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).

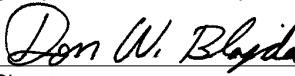
Exceptions:

Electronic high-frequency ballasts; Luminaires on emergency circuits or with no available pair.

Section 5: Compliance Statement

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2009 IECC requirements in COMcheck-Web and to comply with the mandatory requirements in the Requirements Checklist.

Don W. Blajda - Project Architect
Name - Title


Signature

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Date