



COMcheck Software Version 4.0.5.0

Envelope Compliance Certificate

Section 1: Project Information

Energy Code: **2009 IECC**
Project Title: Widgey Wharf
Project Type: New Construction

Construction Site:
Widgey Wharf
Portland, ME 04101

Owner/Agent:
Proprietors of Union Wharf
36 Union Wharf
Portland, ME 04101
207-772-8160

Designer/Contractor:
Kevin Gough
Archetype Architects
48 Union Wharf
Portland, ME 04101
207-772-6022
gough@archetypepa.com

Building Location (for weather data): Portland, Maine
Climate Zone: 6a
Vertical Glazing / Wall Area Pct.: 15%

<u>Building Use: Activity Type(s)</u>	<u>Floor Area</u>
1-First Floor Slab on Grade (Office) : Nonresidential	970
2-Second Floor Elevated Slab (Office) : Nonresidential	5155
3-Roof (Office) : Nonresidential	6125
4-West Elevation - Stud Wall (Office) : Nonresidential	4450
5-West Elevation - Mass Wall (Office) : Nonresidential	215
6-North Elevation - Stud Wall (Office) : Nonresidential	2764
7-North Elevation - Mass Wall (Office) : Nonresidential	188
8-East Elevation - Stud Wall (Office) : Nonresidential	4450
9-East Elevation - Mass Wall (Office) : Nonresidential	215
10-South Elevation - Stud Wall (Office) : Nonresidential	2764
11-South Elevation - Mass Wall (Office) : Nonresidential	188

Section 2: Envelope Assemblies and Requirements Checklist

Envelope PASSES: Design 2% better than code.

Envelope Assemblies:

<u>Component Name/Description</u>	<u>Gross Area or Perimeter</u>	<u>Cavity R-Value</u>	<u>Cont. R-Value</u>	<u>Proposed U-Factor</u>	<u>Budget U-Factor^(a)</u>
Floor 1: Slab-On-Grade:Unheated, Vertical 2 ft., [Bldg. Use 1 - First Floor Slab on Grade]	179	---	10.0	---	---
Floor 2: Concrete Floor (over unconditioned space), [Bldg. Use 2 - Second Floor Elevated Slab]	5155	---	12.5	0.064	0.064
Roof 1: Insulation Entirely Above Deck, [Bldg. Use 3 - Roof]	6125	---	20.0	0.048	0.048
Exterior Wall 1: Steel-Framed, 16" o.c., [Bldg. Use 4 - West Elevation - Stud Wall]	4450	13.0	10.0	0.055	0.064
Window 1: Vinyl/Fiberglass Frame, Perf. Specs.: Product ID NC8300-PIC, SHGC 0.41, [Bldg. Use 4 - West Elevation - Stud Wall] (b)	825	---	---	0.260	0.350
Door 1: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Type: Energy code default, Double Pane with Low-E, Clear , SHGC 0.70, [Bldg. Use 4 - West Elevation - Stud Wall]	21	---	---	0.800	0.800
Exterior Wall 2: Solid Concrete:5" Thickness,Normal Density , Furring: Metal, [Bldg. Use 5 - West Elevation - Mass Wall]	215	0.0	10.0	0.080	0.080
Exterior Wall 3: Steel-Framed, 16" o.c., [Bldg. Use 6 - North Elevation - Stud Wall]	2764	13.0	10.0	0.055	0.064

Window 2: Vinyl/Fiberglass Frame, Perf. Specs.: Product ID NC8300-PIC, SHGC 0.41, [Bldg. Use 6 - North Elevation - Stud Wall] (b)	388	---	---	0.260	0.350
Exterior Wall 4: Solid Concrete:5" Thickness,Normal Density , Furring: Metal, [Bldg. Use 7 - North Elevation - Mass Wall]	188	0.0	10.0	0.080	0.080
Exterior Wall 5: Steel-Framed, 16" o.c., [Bldg. Use 8 - East Elevation - Stud Wall]	4450	13.0	10.0	0.055	0.064
Window 3: Vinyl/Fiberglass Frame, Perf. Specs.: Product ID NC8300-PIC, SHGC 0.41, [Bldg. Use 8 - East Elevation - Stud Wall] (b)	600	---	---	0.260	0.350
Door 2: Insulated Metal, Swinging, [Bldg. Use 8 - East Elevation - Stud Wall]	42	---	---	0.498	0.700
Exterior Wall 6: Solid Concrete:5" Thickness,Normal Density , Furring: Metal, [Bldg. Use 9 - East Elevation - Mass Wall]	215	0.0	10.0	0.080	0.080
Exterior Wall 7: Steel-Framed, 16" o.c., [Bldg. Use 10 - South Elevation - Stud Wall]	2764	13.0	10.0	0.055	0.064
Window 4: Vinyl/Fiberglass Frame, Perf. Specs.: Product ID NC8300-PIC, SHGC 0.41, [Bldg. Use 10 - South Elevation - Stud Wall] (b)	425	---	---	0.260	0.350
Exterior Wall 8: Solid Concrete:5" Thickness,Normal Density , Furring: Metal, [Bldg. Use 11 - South Elevation - Mass Wall]	188	0.0	10.0	0.080	0.080

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

(b) Fenestration 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 3: 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 Version 4.0.5.0 and to comply with the mandatory requirements in the Requirements Checklist.

KEVIN GOUGH, ARCHITECT

Name - Title

Signature

Date

17 FEB 2017