



Envelope Compliance Certificate

Section 1: Project Information

Energy Code: **2009 IECC**
Project Title: 191 Marginal Way Retail Center
Project Type: New Construction

Construction Site:
191 Marginal Way
Portland, ME 04101

Owner/Agent:
Attn: Paul Ureneck
Earl W. Noyes & Sons
4600 Mayflower Hill
Waterville, ME 04901

Designer/Contractor:
Ben Walter
CWS Architects
264 US Route One, Suite 100-2A
Scarborough, ME 04074
207-774-4441
bwalter@cwsarch.com

Building Location (for weather data): Portland, Maine
Climate Zone: 6a
Vertical Glazing / Wall Area Pct.: 20%

Building Use: Activity Type(s)	Floor Area
1-Retail A/B (High) (Retail) : Nonresidential	2050
2-Retail A/B (Low) (Retail) : Nonresidential	3045
8-Retail C (Retail) : Nonresidential	2238
11-Retail 1-5 (Retail) : Nonresidential	8850
3-Retail A/B (North Wall) (Retail) : Nonresidential	1938
6-Retail A/B (East Wall) (Retail) : Nonresidential	2656
4-Retail A/B (South Wall - High) (Retail) : Nonresidential	976
5-Retail A/B (South Wall - Low) (Retail) : Nonresidential	1153
7-Retail A/B (West Wall) (Retail) : Nonresidential	1245
9-Retail C (North Wall) (Retail) : Nonresidential	727
10-Retail C (South Wall) (Retail) : Nonresidential	727
12-Retail 1-5 (North Wall) (Retail) : Nonresidential	2542
13-Retail 1-5 (South Wall) (Retail) : Nonresidential	2542
14-Retail 1-5 (West Wall) (Retail) : Nonresidential	1545
15-Retail A/B & C Floor (Retail) : Nonresidential	7222
16-Retail 1-5 Floor (Retail) : Nonresidential	8860

Section 2: Envelope Assemblies and Requirements Checklist

Envelope PASSES: Design 7% better than code.

Envelope Assemblies:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor ^(a)
Roof 1: Insulation Entirely Above Deck, [Bldg. Use 1 - Retail A/B (High)]	2050	---	20.0	0.048	0.048
Roof 2: Insulation Entirely Above Deck, [Bldg. Use 2 - Retail A/B (Low)]	3045	---	20.0	0.048	0.048
Exterior Wall 1: Steel-Framed, 16" o.c., [Bldg. Use 3 - Retail A/B (North Wall)]	1938	21.0	12.0	0.047	0.064
Window G: Metal Frame with Thermal Break, Perf. Specs.: Product ID PPG SOLARBAN 60, SHGC 0.39, PF 0.88, [Bldg. Use 3 - Retail A/B (North Wall)] (b)	125	---	---	0.290	0.550
Window H: Metal Frame with Thermal Break, Perf. Specs.: Product ID PPG SOLARBAN 60, SHGC 0.39, PF 0.88, [Bldg. Use 3 - Retail A/B (North Wall)] (b)	95	---	---	0.290	0.550

Window J: Metal Frame with Thermal Break, Perf. Specs.: Product ID PPG SOLARBAN 60, SHGC 0.39, PF 0.88, [Bldg. Use 3 - Retail A/B (North Wall)] (b)	125	---	---	0.290	0.550
Exterior Wall 3: Steel-Framed, 16" o.c., [Bldg. Use 4 - Retail A/B (South Wall - High)]	976	21.0	12.0	0.047	0.064
Exterior Wall 4: Steel-Framed, 16" o.c., [Bldg. Use 5 - Retail A/B (South Wall - Low)]	1153	21.0	12.0	0.047	0.064
Window A (x2): Metal Frame with Thermal Break, Perf. Specs.: Product ID PPG SOLARBAN 60, SHGC 0.39, PF 0.31, [Bldg. Use 5 - Retail A/B (South Wall - Low)] (b)	47	---	---	0.290	0.550
Door 101C: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Specs.: Product ID PPG SOLARBAN 60, SHGC 0.39, PF 0.22, [Bldg. Use 5 - Retail A/B (South Wall - Low)] (b)	34	---	---	0.290	0.800
Exterior Wall 2: Steel-Framed, 16" o.c., [Bldg. Use 6 - Retail A/B (East Wall)]	2656	21.0	12.0	0.047	0.064
Window A (x6): Metal Frame with Thermal Break, Perf. Specs.: Product ID PPG SOLARBAN 60, SHGC 0.39, PF 0.31, [Bldg. Use 6 - Retail A/B (East Wall)] (b)	141	---	---	0.290	0.550
Window K: Metal Frame with Thermal Break, Perf. Specs.: Product ID PPG SOLARBAN 60, SHGC 0.39, PF 0.88, [Bldg. Use 6 - Retail A/B (East Wall)] (b)	248	---	---	0.290	0.550
Exterior Wall 5: Steel-Framed, 16" o.c., [Bldg. Use 7 - Retail A/B (West Wall)]	1245	21.0	12.0	0.047	0.064
Window L (x2): Metal Frame with Thermal Break, Perf. Specs.: Product ID PPG SOLARBAN 60, SHGC 0.39, PF 0.31, [Bldg. Use 7 - Retail A/B (West Wall)] (b)	58	---	---	0.290	0.550
Roof 3: Insulation Entirely Above Deck, [Bldg. Use 8 - Retail C]	2238	---	36.0	0.027	0.048
Exterior Wall 6: Steel-Framed, 16" o.c., [Bldg. Use 9 - Retail C (North Wall)]	727	21.0	12.0	0.047	0.064
Window D: Metal Frame with Thermal Break, Perf. Specs.: Product ID PPG SOLARBAN 60, SHGC 0.39, PF 0.28, [Bldg. Use 9 - Retail C (North Wall)] (b)	392	---	---	0.290	0.550
Exterior Wall 7: Steel-Framed, 16" o.c., [Bldg. Use 10 - Retail C (South Wall)]	727	21.0	12.0	0.047	0.064
Window E: Metal Frame with Thermal Break, Perf. Specs.: Product ID PPG SOLARBAN 60, SHGC 0.39, PF 0.38, [Bldg. Use 10 - Retail C (South Wall)] (b)	300	---	---	0.290	0.550
Roof 4: Insulation Entirely Above Deck, [Bldg. Use 11 - Retail 1-5]	8850	---	20.0	0.048	0.048
Exterior Wall 8: Concrete Block:8", Partially Grouted, Cells Empty,Normal Density , Furring: None, [Bldg. Use 12 - Retail 1-5 (North Wall)]	1544	---	13.0	0.065	0.080
Window F4 (x3): Metal Frame with Thermal Break, Perf. Specs.: Product ID PPG SOLARBAN 60, SHGC 0.39, PF 0.23, [Bldg. Use 12 - Retail 1-5 (North Wall)] (b)	501	---	---	0.290	0.550
Exterior Wall 9: Concrete Block:8", Partially Grouted, Cells Empty,Normal Density , Furring: Metal, [Bldg. Use 12 - Retail 1-5 (North Wall)]	998	0.0	32.0	0.028	0.080
Window F2 & F6: Metal Frame with Thermal Break, Perf. Specs.: Product ID PPG SOLARBAN 60, SHGC 0.39, PF 0.53, [Bldg. Use 12 - Retail 1-5 (North Wall)] (b)	277	---	---	0.290	0.550
Exterior Wall 10: Concrete Block:8", Partially Grouted, Cells Empty,Normal Density , Furring: None, [Bldg. Use 13 - Retail 1-5 (South Wall)]	1544	---	20.0	0.045	0.080
Window F4 (x3): Metal Frame with Thermal Break, Perf. Specs.: Product ID PPG SOLARBAN 60, SHGC 0.39, PF 0.06, [Bldg. Use 13 - Retail 1-5 (South Wall)] (b)	501	---	---	0.290	0.550
Exterior Wall 11: Concrete Block:8", Partially Grouted, Cells Empty,Normal Density , Furring: Metal, [Bldg. Use 13 - Retail 1-5 (South Wall)]	998	0.0	32.0	0.028	0.080
Window F1 & F2: Metal Frame with Thermal Break, Perf. Specs.: Product ID PPG SOLARBAN 60, SHGC 0.39, PF 0.35, [Bldg. Use 13 - Retail 1-5 (South Wall)] (b)	303	---	---	0.290	0.550
Exterior Wall 12: Concrete Block:8", Partially Grouted, Cells Empty,Normal Density , Furring: Metal, [Bldg. Use 14 - Retail 1-5 (West Wall)]	1545	0.0	32.0	0.028	0.080
Window C: Metal Frame with Thermal Break, Perf. Specs.: Product ID PPG SOLARBAN 60, SHGC 0.39, PF 0.25, [Bldg. Use 14 - Retail 1-5 (West Wall)] (b)	58	---	---	0.290	0.550
	21	---	---	0.150	0.700

Door 2: Insulated Metal, Swinging, [Bldg. Use 14 - Retail 1-5 (West Wall)]					
Floor Retail A/B & C: Slab-On-Grade:Heated, Horizontal with vertical >= 4 ft., [Bldg. Use 15 - Retail A/B & C Floor]	384	---	12.0	---	---
Floor 2: Slab-On-Grade:Heated, Horizontal with vertical >= 4 ft., [Bldg. Use 16 - Retail 1-5 Floor]	410	---	12.0	---	---

- (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.
- N/A 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.
- N/A 7. Stair, elevator shaft vents, and other outdoor air intake and exhaust openings in the building envelope are equipped with motorized dampers. (SEE MELH)
- N/A 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:
 - N/A 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.
 - N/A Doors used primarily to facilitate vehicular movement or materials handling and adjacent personnel doors.
 - N/A 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 4.0.6.0 and to comply with the mandatory requirements in the Requirements Checklist.

Name - Title POVENEDETIC WALTER, PRESIDENT
 Signature 
 Date 5/15/2017
CWS ARCHITECTS