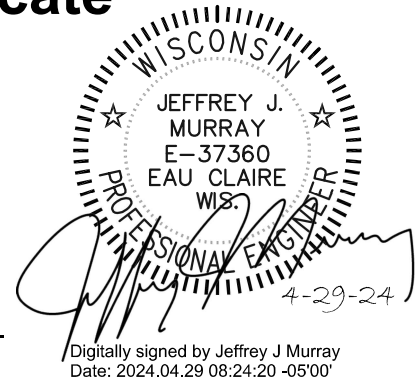




Envelope Compliance Certificate

Project Information

Energy Code: 90.1 (2013) Standard
Project Title: American Rentals
Location: Watertown, Wisconsin
Climate Zone: 6a
Project Type: New Construction
Performance Sim. Specs: EnergyPlus 8.1.0.009 (EPW: USA_WI_Madison-Dane.County.Rgnl.AP.726410_TMY3.epw)



Construction Site:
1741 River Drive
Watertown, Wisconsin 53094

Owner/Agent:
David Hoefgen
American Rentals

Designer/Contractor:
Choua Kha
Midwest Manufacturing.com
5311 Kane Road
Eau Claire, Wisconsin 54703

Building Area

Floor Area

1-Warehouse : Semiheated

3000

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U- Factor ^(a)
Roof: Attic Roof, Wood Joists, [Bldg. Use 1 - Warehouse]	3000	38.0	0.0	0.027	0.034
Floor: Heated Slab-On-Grade Fully insulated (uniform R-value across perimeter + under entire slab), [Bldg. Use 1 - Warehouse] (b)	220	---	10.0	0.550	0.860
<u>NORTH</u>					
Ext. Wall: Wood-Framed, 24in. o.c., [Bldg. Use 1 - Warehouse]	840	19.0	0.0	0.065	0.089
<u>EAST</u>					
Ext. Wall: Wood-Framed, 24in. o.c., [Bldg. Use 1 - Warehouse]	700	19.0	0.0	0.065	0.089
<u>SOUTH</u>					
Ext. Wall: Wood-Framed, 24in. o.c., [Bldg. Use 1 - Warehouse]	840	19.0	0.0	0.065	0.089
<u>WEST</u>					
Ext. Wall: Wood-Framed, 24in. o.c., [Bldg. Use 1 - Warehouse]	700	19.0	0.0	0.065	0.089
Hangar Door: Insulated Metal, Non-Swinging, [Bldg. Use 1 - Warehouse]	560	---	---	0.500	0.500

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

(b) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.

Envelope 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 systems have been designed to meet the 90.1 (2013) Standard requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Jeffrey J Murray
Name - Title

Signature

4-29-24
Date



Inspection Checklist

Energy Code: 90.1 (2013) Standard

Requirements: 100.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
4.2.2, 5.4.3.1.1, 5.7 [PR1] ¹	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.2, 8.4.1.1, 8.4.1.2, 8.7 [PR6] ²	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Feeder connectors sized in accordance with approved plans and branch circuits sized for maximum drop of 3%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Footings / Foundation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
4.2.4 [FO1] ²	Installed below-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-_____	R-_____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
4.2.4 [FO3] ²	Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-_____ <input type="checkbox"/> Unheated <input type="checkbox"/> Heated	R-_____ <input type="checkbox"/> Unheated <input type="checkbox"/> Heated	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.2 [FO4] ²	Slab edge insulation installed per manufacturer's instructions.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.5.3.5 [FO5] ²	Slab edge insulation depth/length.	_____ ft	_____ ft	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.7 [FO6] ¹	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.7.3 [FO7] ¹	Insulation in contact with the ground has <=0.3% water absorption rate per ASTM C272.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.1.5 [FO11] ³	Bottom surface of floor structures incorporating radiant heating insulated to >=R-3.5.	R-_____	R-_____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply. See the Envelope Assemblies table for values.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.4.3.2 [FR1] ³	Factory-built and site-assembled fenestration and doors are labeled or certified as meeting air leakage requirements.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.4.3.4 [FR4] ³	Vestibules are installed where building entrances separate conditioned space from the exterior, and meet exterior envelope requirements. Doors have self-closing devices, and are ≥ 7 ft apart (≥ 16 ft apart for adjoining floor area ≥ 40000 sq.ft.). Vestibule floor area ≤ 750 sq.ft. or 2 percent of the adjoining conditioned floor area.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
5.5.4.3a [FR8] ¹	Vertical fenestration U-Factor.	U-_____	U-_____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.5.4.3b [FR9] ¹	Skylight fenestration U-Factor.	U-_____	U-_____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.5.4.4.1 [FR10] ¹	Vertical fenestration SHGC value.	SHGC:_____	SHGC:_____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.5.4.4.2 [FR11] ¹	Skylight SHGC value.	SHGC:_____	SHGC:_____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.2.1, 5.8.2.3, 5.8.2.4, 5.8.2.5 [FR12] ²	Fenestration products rated (U-factor, SHGC, and VT) in accordance with NFRC or energy code defaults are used.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.2.2 [FR13] ¹	Fenestration and door products are labeled, or a signed and dated certificate listing the U-factor, SHGC, VT, and air leakage rate has been provided by the manufacturer.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.5.3.6 [FR14] ²	U-factor of opaque doors associated with the building thermal envelope meets requirements.	U-_____ <input type="checkbox"/> Swinging <input type="checkbox"/> Nonswinging	U-_____ <input type="checkbox"/> Swinging <input type="checkbox"/> Nonswinging	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.4.3.1 [FR15] ¹	Continuous air barrier is wrapped, sealed, caulked, gasketed, and/or taped in an approved manner, except in semiheated spaces in climate zones 1-6.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
8.4.2 [EL10] ²	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
4.2.4 [IN2] ¹	Installed roof insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. For some ceiling systems, verification may need to occur during Framing Inspection.	R-____ <input type="checkbox"/> Above deck <input type="checkbox"/> Metal <input type="checkbox"/> Attic	R-____ <input type="checkbox"/> Above deck <input type="checkbox"/> Metal <input type="checkbox"/> Attic	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.2, 5.8.1.3 [IN3] ¹	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the ceiling slope is <= 3:12.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.4 [IN6] ¹	Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Metal <input type="checkbox"/> Steel <input type="checkbox"/> Wood	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Metal <input type="checkbox"/> Steel <input type="checkbox"/> Wood	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.2 [IN7] ¹	Above-grade wall insulation installed per manufacturer's instructions.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.4 [IN8] ²	Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Steel <input type="checkbox"/> Wood	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Steel <input type="checkbox"/> Wood	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.1 [IN10] ²	Building envelope insulation is labeled with R-value or insulation certificate has been provided listing R-value and other relevant data.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.9 [IN18] ²	Building envelope insulation extends over the full area of the component at the proposed rated R or U value.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.4 [IN11] ²	Eaves are baffled to deflect air to above the insulation.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.5 [IN12] ²	Insulation is installed in substantial contact with the inside surface separating conditioned space from unconditional space.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.6 [IN13] ²	Recessed equipment installed in building envelope assemblies does not compress the adjacent insulation.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.7.1 [IN15] ²	Attics and mechanical rooms have insulation protected where adjacent to attic or equipment access.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.8.1.7.2 [IN16] ²	Foundation vents do not interfere with insulation.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.8 [IN17] ³	Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended ceiling. Mark this requirement compliant if insulation is installed accordingly.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
5.4.3.3 [FI1] ¹	Weatherseals installed on all loading dock cargo doors in Climate Zones 4-8.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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