COMcheck Software Version COMcheckWeb

Envelope Compliance Certificate

Project Information

Energy Code:	2018 IECC
Project Title:	Lower Terminal Operator Cabin
Location:	Steamboat Springs, Colorado
Climate Zone:	7
Project Type:	New Construction
Vertical Glazing / Wall Area:	12%

Construction Site:
2305 Mt. Werner Circle
Steamboat Springs, Colorado 80487

Owner/Agent:
Steamboat Ski & Resort Corportation

Designer/Contractor:
ESA Architects/Saunders Construction

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed
Reduced Air Infiltration, 1.0 credit

Building Area	Floor Area
1-Operator Cabin (Office) : Nonresidential	366

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Roof: Attic Roof, Steel Joists, [Bldg. Use 1 - Operator Cabin]	374	21.0	20.0	0.026	0.021
NORTH					
Crawlspace (W-2-10): Solid Concrete, 10in. Thickness, Normal Density, Furring: None, Wall Ht 3.0, Depth B.G. 3.0, [Bldg. Use 1 - Operator Cabin]	97	---	15.0	0.061	0.092
Ext. Wall (W-9): Solid Concrete, 10in. Thickness, Normal Density, Furring: Metal, [Bldg. Use 1 - Operator Cabin]	113	0.0	7.5	0.097	0.071
Ext. Wall (W-6C): Steel-Framed, 16in. o.c., [Bldg. Use 1 - Operator Cabin]	145	36.0	10.0	0.040	0.064
EAST					
Crawlspace (W-2-10): Solid Concrete, 10in. Thickness, Normal Density, Furring: None, Wall Ht 3.0, Depth B.G. 2.0, [Bldg. Use 1 - Operator Cabin]	40	---	15.0	0.061	0.092
Ext. Wall (W-9): Solid Concrete, 10in. Thickness, Normal Density, Furring: Metal, [Bldg. Use 1 - Operator Cabin]	34	0.0	7.5	0.097	0.071
Ext. Wall (W-6B): Steel-Framed, 16in. o.c., [Bldg. Use 1 - Operator Cabin]	93	21.0	10.0	0.051	0.064
Window (W-2): Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID Kawneer Trifab Versaglaze 601T, SHGC 0.45, PF 0.17, [Bldg. Use 1 - Operator Cabin] (b)	14	---	---	0.390	0.290
Window (W-4): Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID Fixed Window W-4, SHGC 0.45, PF 0.15, [Bldg. Use 1 - Operator Cabin] (b)	15	---	---	0.390	0.290
SOUTH					
Crawlspace (W-2A-10): Solid Concrete, 10in. Thickness, Normal Density, Furring: None, Wall Ht 3.0, Depth B.G. 2.0, [Bldg. Use 1 - Operator Cabin]	97	---	15.0	0.061	0.092
Ext. Wall (W-6): Steel-Framed, 16in. o.c., [Bldg. Use 1 -	338	21.0	10.0	0.051	0.064

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Operator Cabin]					
Window (W-1): Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID Kawneer Trifab Versaglaze 601T, SHGC 0.45, PF 0.55, [Bldg. Use 1 - Operator Cabin] (b)	62	---	---	0.390	0.290
WEST					
Crawlspace (W-2A-10): Solid Concrete, 10in. Thickness, Normal Density, Furring: None, Wall Ht 3.0, Depth B.G. 3.0, [Bldg. Use 1 - Operator Cabin]	40	---	15.0	0.061	0.092
Ext. Wall (W-6B): Steel-Framed, 16in. o.c., [Bldg. Use 1 - Operator Cabin]	127	21.0	10.0	0.051	0.064
Window (W-3): Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID Kawneer Trifab Versaglaze 601T, SHGC 0.45, PF 0.17, [Bldg. Use 1 - Operator Cabin] (b)	14	---	---	0.390	0.290
Door: Insulated Metal, Swinging, [Bldg. Use 1 - Operator Cabin]	21	---	---	0.400	0.370

(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.

Project Notes

Envelope PASSES: Design 3% better than code

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 2018 IECC requirements in COM*check* Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title	Signature	Date
	Katherine Leggett Digitally signed by Katherine Leggett DN: C=US, E=kate@esapc.com, O=ESA, CN=Katherine Leggett Date: 2022.04.07 15:50:14-06'00'	

Architect will coordinate with General Contractor for window and door submittals.

Inspection Checklist

Energy Code: 2018 IECC

Requirements: 0.0% were addressed directly in the COM*check* 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
C103.2 [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.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

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

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C303.2 [FO2][2]	Below-grade wall insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2.1 [FO6][1]	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.1.4 [FO1][2]	Installed below-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*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	Complies?	Comments/Assumptions
C303.1.3 [FR12][2]	Fenestration products rated in accordance with NFRC.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.1.3 [FR13][1]	Fenestration products are certified as to performance labels or certificates provided.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.3 [FR10][1]	Vertical fenestration SHGC value.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.4.3, C402.4.3.4 [FR8][1]	Installed vertical fenestration U-factor and SHGC consistent with label specifications and as reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.5.1.2.1 [FR19][1]	The building envelope contains a continuous air barrier that is sealed in an approved manner and material permeability <= 0.004 dfm/ft2. Air barrier penetrations are sealed in an approved manner.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.2, C402.5.4 [FR18][3]	Factory-built fenestration and doors are labeled as meeting air leakage requirements.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.7 [FR17][3]	Vestibules are installed on all building entrances. Doors have self-closing devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

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

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.5.5, C403.2.4.3 [ME3][3]	Stair and elevator shaft vents have motorized dampers that automatically close. Refernece section C403.7.7 for operational details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.7.7 [ME58][3]	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed. Reference section language for operational details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

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

Section # & Req.ID	Insulation Inspection	Complies?	Comments/Assumptions
C303.1 [IN3][1]	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.2.1 [IN20][1]	Insulation installed on a suspended ceiling having ceiling tiles is not being specified for roor/ceiling assemblies. Continuous insulation board installed in 2 or more layers with edge joints offset between layers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.1 [IN10][2]	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2 [IN7][1]	Above-grade wall insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2.1 [IN14][2]	Exterior insulation is protected from damage with a protective material. Verification for exposed foundation insulation may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [IN6][1]	Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.6 [IN18][3]	Radiant panels and associated components, designed for heat transfer from the panel surfaces to the occupants or indoor space are insulated with a minimum of R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [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.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.5.1.1 [IN1][1]	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

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

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C402.5.6 [FI37][1]	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.8 [FI26][3]	Recessed luminaires in thermal envelope to limit infiltration and be IC rated and labeled. Seal between interior finish and luminaire housing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

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