Home Energy Rating Certificate

Final Report

Rating Date: 2022-12-19
Registry ID: 819202154
Ekotrope ID: yvP1B0Z2

BURGESS
INSPECTIONS | ENERGY TESTING | ENGINEERING

HERS® Index Score:

52 Your home's HERS score is a relative performance score. The lower the number, the more energy efficient the home. To learn more, visit www.hersindex.com

Annual Savings

$1,159

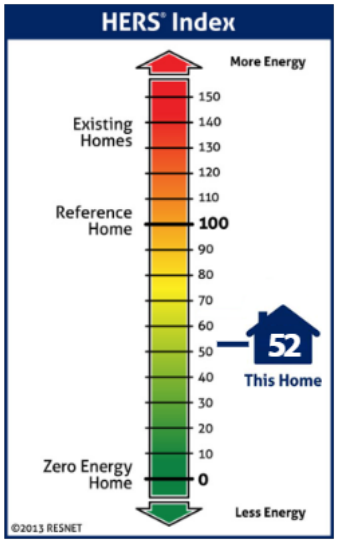
*Relative to an average U.S. home

Home:
12361 W 57th Avenue
Arvada, CO 80002

Builder:
Meritage Homes

Your Home's Estimated Energy Use:

	Use [MBtu]	Annual Cost
Heating	30.0	$280
Cooling	1.7	$60
Hot Water	11.5	$105
Lights/Appliances	19.0	$578
Service Charges		$120
Generation (e.g. Solar)	0.0	$0
Total:	**62.2**	**$1,143**



Home Feature Summary:

Home Type:	Townhouse, inside unit
Model:	SaBell 35U1 E
Community:	SaBell
Conditioned Floor Area:	1,840 ft²
Number of Bedrooms:	3
Primary Heating System:	Furnace • Natural Gas • 96.5 AFUE
Primary Cooling System:	Air Conditioner • Electric • 13 SEER
Primary Water Heating:	Residential Water Heater • Natural Gas • 0.93 Energy Factor
House Tightness:	1102 CFM50 (2.98 ACH50)
Ventilation:	52 CFM • 15 Watts
Duct Leakage to Outside:	Untested Forced Air
Above Grade Walls:	R-19
Ceiling:	Vaulted Roof, R-30
Window Type:	U-Value: 0.3, SHGC: 0.4
Foundation Walls:	R-19
Framed Floor:	R-30

This home meets or exceeds the criteria of the following:

ENERGY STAR v3
ENERGY STAR v3.1
2018 International Energy Conservation Code
2015 International Energy Conservation Code
2012 International Energy Conservation Code
2009 International Energy Conservation Code
2006 International Energy Conservation Code

Rating Completed by:

Energy Rater: Caleb Barczykowski
RESNET ID: 3244106

Rating Company: Burgess Construction Consultants, Inc
1255 W 15th St Ste 900
214-888-7248

Rating Provider: Burgess Construction Consultants, Inc
1255 W 15th St Ste 900
214-888-7248

Caleb Barczykowski, Certified Energy Rater
Digitally signed: 12/19/22 at 1:39 PM

ekotrope

Energy savings calculated without modifications to the energy model. (As Modeled)

Ekotrope RATER - Version:3.2.4.3055
The Energy Rating Disclosure for this home is available from the Approved Rating Provider.
This report does not constitute any warranty or guarantee.

12361 W 57th Avenue, Arvada, CO

HERS® Index Score:
52

Rating Date: Dec 19, 2022

HERS Registry ID: 819202154

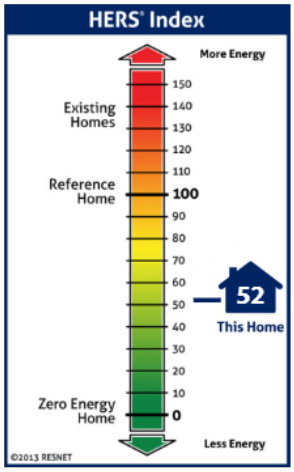
Annual Estimates:

Electric (kWh):	5,249.9
Natural Gas (Therms):	443.3
CO2 (Tons):	7.6
Approx. Energy Cost:	$1,143

Rating Company:
Burgess Construction Consultants, Inc

Rating Provider:
Burgess Construction Consultants, Inc

Rating Provider Address:
1255 W 15th St Ste 900



Home Feature Summary:

Townhouse, inside unit, 3 bedrooms, 1,840 ft^2

Heating: 96.5 AFUE

Cooling: 13 SEER

Hot Water: 0.93 Energy Factor

Air Leakage:
1102 CFM50 (2.98 ACH50)

Ventilation: 52 CFM • 15 W

Duct LTO: Untested Forced Air

Above Grade Walls: R-19

Ceiling: Vaulted Roof, R-30

Window: U: 0.3 • SHGC: 0.4

Foundation Walls: R-19

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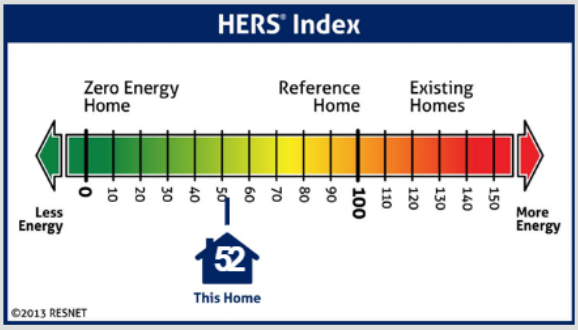
Ekotrope RATER - Version: 3.2.4.3055

This report does not constitute any warranty or guarantee.

ENERGY STAR® CERTIFIED
NEW CONSTRUCTION

Builder/Developer: Meritage Homes
Permit Date/Number: 2018 IECC ANSI 380
Home/Unit Address: 12361 W 57th Avenue, Arvada, CO 80002
Rating Company: Burgess Construction Consultants, Inc
Rater ID Number: 3244106
Rating Date: 2022-12-19
Oversight By: RESNET
Program/Version Number: 3.0



This value is not intended to be used for code compliance.

Standard Features of ENERGY STAR Certified New Homes and Apartments

Your ENERGY STAR certified new home or apartment has been designed, constructed, and independently verified to meet rigorous requirements for energy efficiency set by the U.S. Environmental Protection Agency (EPA), including:

Thermal Enclosure System

A complete thermal enclosure system that includes comprehensive air sealing, quality-installed insulation, and high-performing windows to deliver improved comfort and lower utility bills.

Air Infiltration Test: 1102 CFM50 (2.98 ACH50)

Primary Insulation Levels:
Ceiling: R-30 Floor: R-30
Wall: R-19 Slab: R-0

Primary Window Efficiency:
U-Value: 0.3 SHGC: 0.4

Water Management System

A comprehensive water management system to protect roofs, walls, and foundations.

Flashing, a drainage plane, and site grading to move water from the roof to the ground and then away from the home or building.

Water-resistant materials on below-grade walls and underneath slabs to reduce the potential for water entering the home or building.

Management of moisture levels in building materials during construction.

Heating, Cooling, and Ventilation System

A high-efficiency heating, cooling, and ventilation system that is designed and installed for optimal performance.

Total Duct Leakage: 58 CFM @ 25Pa (Rough-In with Air Handler)
Duct Leakage to Outdoors: Untested Forced Air

Primary Heating (System Type • Fuel Type • Efficiency):
Furnace • Natural Gas • 96.5 AFUE

Primary Cooling (System Type • Fuel Type • Efficiency):
Air Conditioner • Electric • 13 SEER

Whole-House Ventilation Type (System Type):
Exhaust Only

Energy Efficient Lighting and Appliances

Energy efficient products to help reduce utility bills, while providing high-quality performance.

Energy Efficient Lighting: 100%

ENERGY STAR Certified Appliances and Fans:
Refrigerators: 0 Dishwashers: 1
Ceiling Fans: 0 Exhaust Fans: 1

Primary Water Heater (System Type • Fuel Type • Efficiency):
Residential Water Heater • Natural Gas • 0.93 Energy Factor

About this certificate

The certificate provides a summary of the major energy efficiency and other construction features that contribute to this home or apartment earning the ENERGY STAR, as determined through independent inspection and verification performed by a trained professional. The Energy Rating Index or HERS index for this home, if reported, is calculated in accordance with ANSI/RESNET/ICC Standard 301, with any exceptions approved by EPA. Because the version of Standard 301 used to calculate this index may not align with the version referenced by code, this value is not intended to be used to demonstrate compliance with code. Note that when a home or apartment contains multiple performance levels for a particular feature (e.g., window efficiency or insulation levels), the predominant value is shown. Also, homes and apartments may be certified to earn the ENERGY STAR using a sampling protocol, whereby one home or apartment is randomly selected from a set for representative inspections and testing. In such cases, the features found in each home or apartment within the set are intended to meet or exceed the values presented on this certificate. The actual values for your home or apartment may differ, but offer equivalent or better performance.

ENERGY STAR V3 Home Report

Property
12361 W 57th Avenue
Arvada, CO 80002
Model: SaBell 35U1 E
Community: SaBell

SaBell 35U1 E
12361 W 57th Avenue

Organization
Burgess Construction Con
Caleb Barczykowski
214-455-4100

Builder
Meritage Homes

Inspection Status
2022-12-19
Rater ID (RTIN): 3244106
RESNET Registered
(Confirmed)

Mandatory Requirements

- ✓ Duct leakage at post construction better than or equal to ENERGY STAR v3/3.1 requirements.
- ✓ Envelope insulation levels meet or exceed ENERGY STAR v3/3.1 requirements.
- ✓ Slab on Grade Insulation must be > R-5, and at IECC 2009 Depth for Climate Zones 4 and above.
- ✓ Envelope insulation achieves RESNET Grade I installation, or Grade II with insulated sheathing.
- ✓ Windows meet the 2009 IECC Requirements - Table 402.1.1.
- ✓ Duct insulation meets the EPA minimum requirements of R-6.
- ✓ Mechanical ventilation system is installed in the home.
- ✓ ENERGY STAR Checklists fully verified and complete.

HERS Index Target

Reference Home HERS	70
SAF (Size Adjustment Factor)	1.00
SAF Adjusted HERS Target	70
As Designed Home HERS	52
As Designed Home HERS w/o PV	52

Normalized, Modified End-Use Loads (MBtu / year)

	ENERGY STAR	As Designed
Heating	21.0	16.0
Cooling	3.9	3.1
Water Heating	10.5	3.6
Lights and Appliances	21.4	19.0
Total	56.7	41.7

This home MEETS or EXCEEDS the energy efficiency requirements for designation as an EPA ENERGY STAR Qualified Home under Version 3.0

Pollution Prevented

Type of Emissions	*Reduction*
Carbon Dioxide (CO_2) - tons/yr	1.2

Energy Cost Savings

	$/yr
Heating	35
Cooling	-13
Water Heating	62
Lights & Appliances	84
Generation Savings	0
Total	168

The energy savings and pollution prevented are calculated by comparing the Rated Home to the ENERGY STAR Version 3.0 Reference Home as defined in the ENERGY STAR Qualified Homes HERS Index Target Procedure for National Program Requirements, Version 3.0 promulgated by the Environmental Protection Agency (EPA). In accordance with the ANSI/RESNET/ICC 301 Standard, building inputs affecting setpoints infiltration rates, window shading and the existence of mechanical systems may have been changed prior to calculating loads

All results are based on data entered by Ekotrope users. Ekotrope disclaims all liability for the information shown on this report.

IECC 2018 Performance Compliance

Property
12361 W 57th Avenue
Arvada, CO 80002
Model: SaBell 35U1 E
Community: SaBell

SaBell 35U1 E
12361 W 57th Avenue

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Caleb Barczykowski
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RESNET Registered
(Confirmed)

Annual Energy Cost

Design	IECC 2018 Performance	As Designed
Heating	$304	$266
Cooling	$62	$71
Water Heating	$157	$157
Mechanical Ventilation	$32	$13
SubTotal - Used to determine compliance	**$555**	**$507**
Lights & Appliances w/out Ventilation	$513	$513
Onsite generation	$0	$0
Total	**$1,068**	**$1,019**

Requirements

✓	R405.3	Performance-based compliance passes by 8.8%	The proposed house meets the IECC 2018 Performance reference energy bill requirement by $48.57.
✓	R402.4.1.2	Air Leakage Testing	Air sealing is 2.98 ACH at 50 Pa. It must not exceed 3.00 ACH at 50 Pa.
✓	R402.5	Area-weighted average fenestration SHGC	Area-weighted average fenestration SHGC is 0.4. The maximum allowed value is [No Limit].
✓	R402.5	Area-weighted average fenestration U-Factor	
✓	R404.1	Lighting Equipment	At least 90.0% of fixtures shall be high-efficacy lamps, currently 100.0% are high-efficacy.
✓	R403.6.1	Mechanical Ventilation Efficacy	
✓	Mandatory Checklist	Mandatory code requirements that are not checked by Ekotrope must be met.	2018 IECC Mandatory Checklist must be checked as complete.
✓	IRC M1505.4.3	Mechanical Ventilation Rate	
✓	R405.2	Duct Insulation	All ducts outside the thermal envelope must be insulated to at least R6.0.

Design exceeds requirements for IECC 2018 Performance compliance by 8.8%.

As a 3rd party extension of the code jurisdiction utilizing these reports, I certify that this energy code compliance document has been created in accordance with the requirements of Chapter 4 of the adopted International Energy Conservation Code based on JEFFERSON County. If rating is Projected, I certify that the building design described herein is consistent with the building plans, specifications, and other calculations submitted with the permit application. If rating is Confirmed, I certify that the address referenced above has been inspected/tested and that the mandatory provisions of the IECC have been installed to meet or exceed the intent of the IECC or will be verified as such by another party.

Name: Caleb Barczykowski

Signature:

Organization: Burgess Construction Consultants, Inc

Digitally signed: 12/19/22 at 1:39 PM

12361 W 57th Avenue

Arvada, CO 80002

Builder: Meritage Homes

Model: SaBell 35U1 E Community: SaBell

THIS HOME IS CERTIFIED TO MEET THE 2018 INTERNATIONAL ENERGY CONSERVATION CODE

Building Features

Ceiling	Vaulted Roof, R-30
Above Grade Walls	R-19
Foundation Walls	R-19
Framed Floor	R-30
Slab	R-0.0 Perimeter, R-0.0 Under
Infiltration	1102 CFM50 (2.98 ACH50)
Window	U-Value: 0.3, SHGC: 0.4
Duct	Supply R-8.0, Return R-8.0
Duct Leakage to Outside	Untested Forced Air
Total Duct Leakage	58 CFM @ 25Pa (Rough-In, with Air Handler)
Heating	Furnace • Natural Gas • 96.5 AFUE
Cooling	Air Conditioner • Electric • 13 SEER
Water Heating	Residential Water Heater • Natural Gas • 0.93 Energy Factor

As a 3rd party extension of the code jurisdiction utilizing these reports, I certify that this energy code compliance document has been created in accordance with the requirements of Chapter 4 of the adopted International Energy Conservation Code based on JEFFERSON County. If rating is Projected, I certify that the building design described herein is consistent with the building plans, specifications, and other calculations submitted with the permit application. If rating is Confirmed, I certify that the address referenced above has been inspected/tested and that the mandatory provisions of the IECC have been installed to meet or exceed the intent of the IECC or will be verified as such by another party.

Name:	Caleb Barczykowski	Signature:	
Organization:	Burgess Construction Consultants, Inc	Digitally signed:	12/19/22 at 1:39 PM

Ekotrope RATER - Version 3.2.4.3055

2018 IECC compliance results calculated using Ekotrope RATER's energy and code compliance algorithm.
Ekotrope RATER is a RESNET Accredited HERS Rating Tool. All results are based on data entered by Ekotrope users.
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IECC 2018 Label

12361 W 57th Avenue

Model: SaBell 35U1 E

Ekotrope RATER - Version: 3.2.4.3055

HERS® Index Score: 52

Building Envelope Specs

Ceiling: R-30
Above Grade Walls: R-19
Foundation Walls: R-19
Exposed Floor: R-30
Slab: R-0
Infiltration: 1102 CFM50 (2.98 ACH50)
Duct Insulation: Supply: R8, Return: R8
Duct Lkg to Outdoors: Untested Forced Air

Window & Door Specs

U-Value: 0.3, SHGC: 0.4
Door: R-3

Mechanical Equipment Specs

Heating: Furnace • Natural Gas • 96.5 AFUE
Cooling: Air Conditioner • Electric • 13 SEER
Hot Water: Residential Water Heater • Natural Gas • 0.93 Energy Factor
Average Mechanical Ventilation: 48.5 CFM

Builder or Design Professional

Signature: _____

Air Leakage Report

Property
12361 W 57th Avenue
Arvada, CO 80002
Model: SaBell 35U1 E
Community: SaBell

SaBell 35U1 E
12361 W 57th Avenue

Organization
Burgess Construction Con
Caleb Barczykowski
214-455-4100

Builder
Meritage Homes

Inspection Status
2022-12-19
Rater ID (RTIN): 3244106
RESNET Registered
(Confirmed)

General Information

Conditioned Floor Area [ft²]	1,840
Infiltration Volume [ft³]	22,193
Number of Bedrooms	3

Air Leakage

Measured Infiltration	1102 CFM50 (2.98 ACH50)
ACH50 (Calculated)	2.98
ELA [sq. in.] (Calculated)	60.61
ELA per 100 s.f. Shell Area (Calculated)	1.089
CFM50 (Calculated)	1,102
CFM50 / s.f. Shell Area (Calculated)	0.198

Duct Leakage

	System 1
Leakage to Outdoors	Untested Forced Air
Estimated Leakage to Outside	29 CFM25
Total Leakage Test Type	Rough-In, with Air Handler
Total Leakage [CFM @ 25 Pa]	58.0
Total Leakage [CFM25 / 100 s.f.]	3.2
Total Leakage [CFM25 / CFA]	0.032

Mechanical Ventilation

Rate [CFM]	52 CFM
Hours per day	22.4
Fan Power	15 Watts
Recovery Efficiency %	0.0
Runs at least once every 3 hrs?	true
Average Rate [CFM]	48.5 CFM
2010 ASHRAE 62.2 Req. Cont. Ventilation	48.4
2013 ASHRAE 62.2 Req. Cont. Ventilation	85.2

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Indoor airPLUS Qualified Home

This home built at
12361 W 57th Avenue
Arvada, CO 80002
was verified by

Burgess Construction Consultants, Inc

to meet Indoor airPLUS construction specifications as established by the U.S. Environmental Protection Agency.

EPA Indoor airPLUS QUALIFIED HOMES

Indoor airPLUS qualified homes are designed to contribute to improved indoor air quality.

2022-12-19

Indoor airPLUS Features

- Moisture and Mold Control
- Radon Resistant Construction
- Pest Barriers
- Effective Heating, Ventilating, and Air-Conditioning Systems
- Safe Combustion
- Healthier Building Materials

Not all features are required in all cases. To learn more about indoor air quality features in your home, ask your builder to review the Indoor airPLUS verification checklist with you, or visit www.epa.gov/indoorairplus.

Component Loads

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Model: SaBell 35U1 E
Community: SaBell

SaBell 35U1 E
12361 W 57th Avenue

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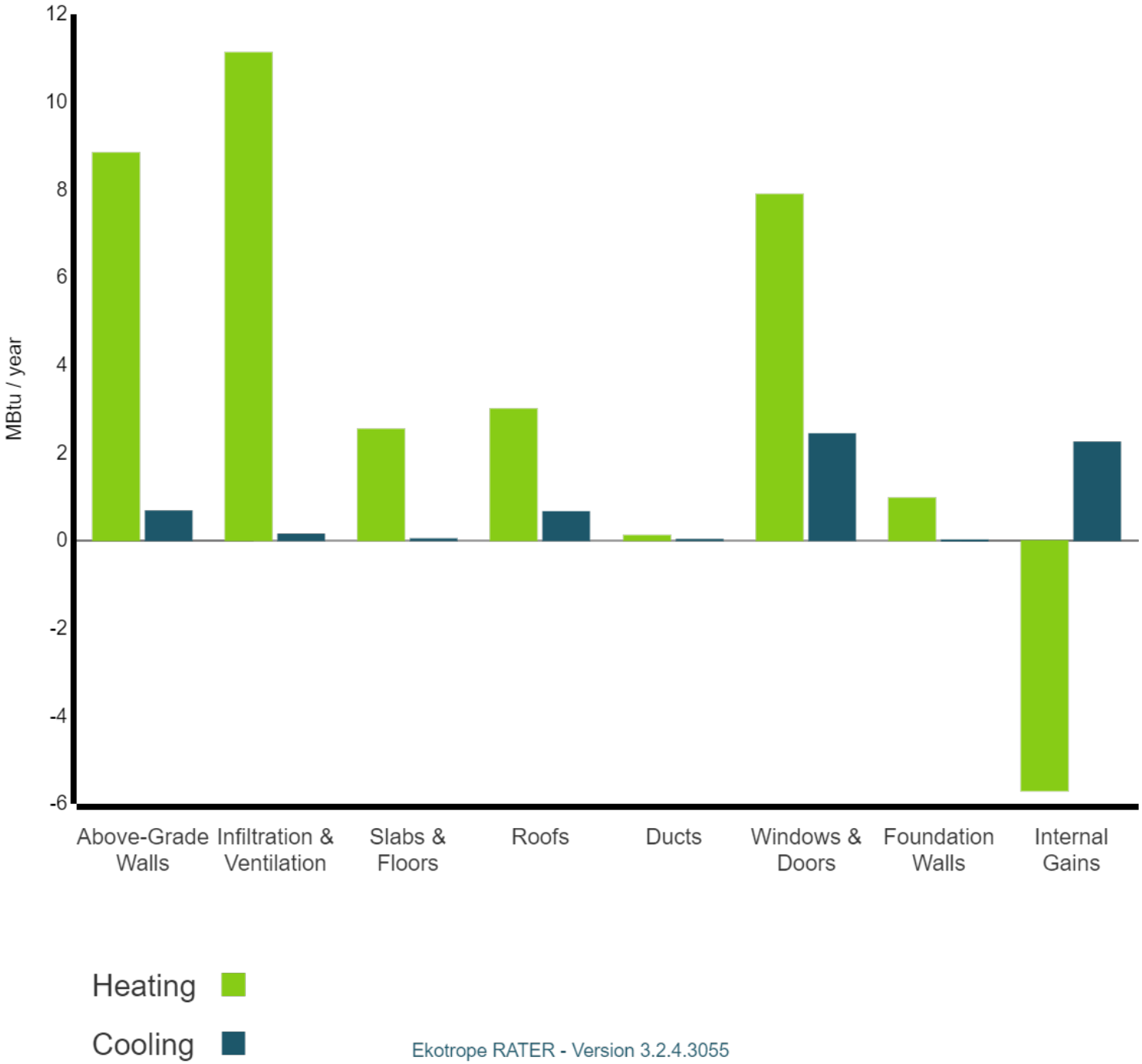
Heating & Cooling Loads



Ekotrope RATER - Version 3.2.4.3055

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45L Tax Credit (Pre-2023)

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Model: SaBell 35U1 E
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SaBell 35U1 E
12361 W 57th Avenue

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Meritage Homes

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2022-12-19
Rater ID (RTIN): 3244106
RESNET Registered
(Confirmed)

RESNET Confirmed Rating

This report is valid for new homes sold prior to 1/1/2023.

Normalized Modified End-Use Loads (MBtu / year)

Category	2006 IECC 50% Target	As Designed
Heating	15.2	14.5
Cooling	2.2	3.4
Total	17.4	17.9

Envelope Loads (MBtu / year)

Category	2006 IECC 90% Target	As Designed
Heating	27.3	20.7
Cooling	3.9	5.0
Total	31.2	25.7

Building Features

Ceiling U:	0.033
Wall U:	0.055
Framed Floor U:	0.038
Slab R:	R-0
Glazing Properties:	U-Value: 0.3, SHGC: 0.4
Heating System:	Furnace • Natural Gas • 96.5 AFUE
Cooling System:	Air Conditioner • Electric • 13 SEER
Duct Leakage to Outside:	Untested Forced Air

This home DOES NOT MEET the requirements for the residential energy efficiency tax credit under section 1332, Credit for Construction of New Energy Efficient Homes, of the Energy Policy Act of 2005.

Name: Caleb Barczykowski

Signature:

Organization: Burgess Construction Consultants, Inc

Digitally signed: 12/19/22 at 1:39 PM

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