



Freiburger Residence

Freiburger Residence



Participant information

PorterSIPs

Jerry Brunink

4240 N. 136th Avenue

Holland, MI 49424

Phone: 616-836-0718

Email Address: jerryb@portersips.com

Website: www.portersips.com

Category

Single Family Homes (over 3,000 sq. ft.)

High Performance: N0

Project information

Freiburger Residence

4895 S. 80 E.

Wolcottville, IN 46795

Date Completed: June 2018

Total cost of project (exclusive of land): \$870,000

Dimensions of building (all floors of multi-story building): 48' X 81'

Asking price/purchase price (Affordable Housing only): n/a

Total sq. ft. of conditioned space: 3,723 sq.ft.

Built By (if different than applicant)

Pete's Construction

Pete Hochstetler

102 E. Dutch St.

Wolcottville, IN 46795

Panels Manufactured By

Company Name (members only): PorterSIPs



Freiburger Residence



Designed By (if different than applicant - SIPA will only recognize members)

PorterSIPs

4240 N. 136th Avenue

Holland, MI 49424

Total sq. ft. of conditioned space: 3,723 sq.ft.

Describe the end use of the building: Lake front home built for future retirement and visiting extended family.

How did SIP construction help you get this job? Homeowner researched energy efficient products along with speed of construction and overall cost. Their search led to PorterSIPs as it fit all of their needs and requirements.

SIP wall thickness and core material: Panel thickness 6 1/2" EPS core

SIP roof thickness and core material: Panel thickness 10 1/4" EPS core

Describe the benefits of using SIPs on this project. Did SIPs help save time, labor, construction costs, or energy? SIPs saved time, labor, construction, and energy costs over conventional stick built construction. These were all driving factors in the buyers decision to use SIPs. The house assembled quickly with little waste and required less labor, therefore reducing expenses. The homeowner will continue to see financial savings now that they have a home that is energy efficient with significantly lower bills.

Describe any innovative design elements or structural engineering involved: The PorterSIPs construction allowed for large span panels to be used, requiring less framework.

Please list any certifications the project received, such as ENERGY STAR, LEED, National Green Building Standard, WELL, Passive House, Green Globes or local green building programs. Only list certifications that are completed: Certified to meet the 2009 International Energy Conservation Code. Exceeds requirements by 3.1%.

HERS Index (required only for High Performance Category and recommended for residential projects): No HERS completed

Blower door test results (ACH50) (required only for High Performance Category and recommended for residential projects): 2.26 ACH50

Energy use intensity in kBtu/ft2 (required only for High Performance Category and recommended for commercial projects): n/a

Describe the HVAC system used on the project: Forced air - natural gas 96 AFUE

Air conditioner - electric 14 SEER

Freiburger Residence



Describe any other energy-saving materials used in the building envelope other than SIPs. List U-values of windows used and the U or R-value of any insulation materials. (judged only for High Performance Category) Water heater - natural gas 0.72 energy factor

Please list any energy-efficient products or design features, such as lighting, hot water heating, appliances, passive solar (judged only for High Performance Category): n/a

Were any solar panels installed on the project? If so, indicate the size of the system (judged only for High Performance Category): n/a

Please list any sustainable materials or design features not listed above, such as recycled materials, low-VOC finishes, landscaping, etc. (judged only for High Performance Category): n/a

Finished project front view

Freiburger Residence



Completed project front view

Freiburger Residence



Construction view

Freiburger Residence





Construction view

Freiburger Residence



Construction view

Freiburger Residence



Timber detail - interior

Freiburger Residence





4895 S 80 E
WOLCOTTVILLE, IN 46795
PETE'S CONSTRUCTION

THIS HOME IS CERTIFIED TO MEET THE
2009 INTERNATIONAL ENERGY CONSERVATION CODE

Building Features

Ceiling Attic, R-40	Duct Supply R-0.0, Return R-0.0
Above Grade Walls R-28	Duct Leakage to Outside 20.0 CFM @ 25 Pa
Foundation Walls R-14	Total Duct Leakage N/A
Framed Floor R-38	Heating Furnace • Natural Gas • 96 AFUE
Slab R-0.0 Perimeter, R-0.0 Under	Cooling Air Conditioner • Electric • 14 SEER
Infiltration 1638 CFM50 (2.26 ACH50)	Water Heating Water Heater • Natural Gas • 0.72 Energy Factor
Window U-Value: 0.33, SHGC: 0.17	

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 Climate Zone 5. 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:	Travis Marker	Signature:	
Organization:	Energy Diagnostics Rater	Digitally signed:	10/8/18 at 3:13 PM

Ekotrope RATER - Version 2.2.5.2022
No version of this software has been reviewed or approved by ICC or its affiliates.
The 2009 International Energy Conservation Code is a registered trademark of the International Code Council, Inc. (ICC).
This software is a RESNET Accredited HERS Rating Tool.

Blower door and IECC Compliance

Freiburger Residence



IECC 2009 Performance Compliance



Property
4895 S 80 E
WOLCOTTVILLE, IN 46795

Organization
Energy Diagnostics Rater
Travis Marker

Inspection Status
Confirmed by field test

4895 S 80 E
105634 18

Builder
PETE'S CONSTRUCTION

Design	Annual Energy Cost	IECC 2009 Performance	As Designed
Heating		\$1,713	\$1,686
Cooling		\$136	\$100
Water Heating		\$181	\$181
SubTotal - Used to determine compliance		\$2,030	\$1,967
Lights & Appliances		\$733	\$733
Onsite generation		\$0	\$0
Total		\$2,763	\$2,700

406.3
Performance-based compliance
passes by 3.1%



402.4.2.1
Air Leakage Testing



402.5
Area-weighted average fenestration
SHGC



402.5
Area-weighted average fenestration
U-Factor



403.2.2
Duct Testing



Mandatory Checklist



Design exceeds requirements for IECC 2009 Performance compliance by 3.1%.

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Name: Travis Marker

Signature:

Organization: Energy Diagnostics Rater

Digitally signed: 10/8/18 at 3:13 PM

Air Leakage Report



Property
4895 S 80 E
WOLCOTTVILLE, IN 46795

Organization
Energy Diagnostics Rater
Travis Marker

Inspection Status
Confirmed by field test

4895 S 80 E
105634 18

Builder
PETE'S CONSTRUCTION

General Information

Conditioned Floor Area [sq. ft.]	3,723
Infiltration Volume [cu. ft.]	43,487
Number of Bedrooms	4

Air Leakage

Measured Infiltration	1638 CFM50 (2.26 ACH50)
ACH50 (Calculated)	2.26
ELA [sq. in.] (Calculated)	90.1
ELA per 100 s.f. Shell Area (Calculated)	0.825
CFM50 (Calculated)	1638

Duct Leakage

	System 1
Leakage to Outdoors [CFM @ 25 Pa]	20.0
Leakage to Outdoors [CFM25 / 100 s.f.]	0.5
Leakage to Outdoors [CFM25 / CFA]	0.005
Total Leakage Test Type	No Test
Total Leakage [CFM @ 25 Pa]	N/A
Total Leakage [CFM25 / 100 s.f.]	N/A
Total Leakage [CFM25 / CFA]	N/A

Mechanical Ventilation

Rate [CFM]	
Hours per day	
Fan Watts	
Recovery Efficiency %	
Runs at least once every 3 hrs?	
Average Rate [CFM]	
2010 ASHRAE 62.2 Req. Cont. Ventilation	74.7
2013 ASHRAE 62.2 Req. Cont. Ventilation	84.8