

High Performance Project



Single Family Homes less than 3,000 sq.ft.

Participant information Enercept Charlie Ewalt, Roberta Bartel and Jon Golz 3100 9th Ave SE Watertown, SD 57201

Phone: 605-882-2222 Email Address: enercept@enercept.com Website: www.enercept.com

Category Single Family under 3,000 sq. ft.

High Performance: Yes

Project information Leu Spec Residence 0275 N 020W La Grange, IN 46761

Date Completed: November 2018

Total cost of project (exclusive of land): \$240,000

Dimensions of building (all floors of multi-story building): 31'6" x 44'10" main and basement levels

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

Total sq. ft. of conditioned space: 2,828 sq ft

Built By (if different than applicant) JLCS Property Management LLC Jeff Leu 7540 N 250 E Howe, IN 46746 Phone: 260-585-0156

Panels Manufactured By Company Name (members only): Enercept











Designed By (if different than applicant - SIPA will only recognize members) JLCS Property Management LLC Jeff Leu 7540 N 250 E Howe, IN 46746

Describe the end use of the building: This single family residence will be an energy-efficient home for some lucky family.

How did SIP construction help you get this job? Jeff Leu reached out to Enercept in the fall of 2017 while researching energy-efficient building options for an 80-acre subdivision in LaGrange. He was familiar with energy savings of SIP construction and wanted to introduce the community to a more energy-efficient and better way to build homes. Once he learned of all the other benefits of building with SIPs, he was sold.

SIP wall thickness and core material: 6" walls with EPS solid core insulation SIP roof thickness and core material: 10" roof with EPS solid core insulation

Describe the benefits of using SIPs on this project. Did SIPs help save time, labor, construction costs, or energy? According to Jeff, "The SIPs saved time and labor in the construction process. They are also more energy-efficient." He also noted that the overall material costs were a little higher, but the payback is worth it.

Describe any innovative design elements or structural engineering involved: This home was simply designed to serve as an ideal entrylevel or retirement home. It features two bedrooms and two baths, and is built over a full basement for future growth.

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: This home meets or exceeds the criteria of the International Energy Conservation Code

HERS Index (required only for High Performance Category and recommended for residential projects): The HERS Index Score for this home is 51

Blower door test results (ACH50) (required only for High Performance Category and recommended for residential projects): House Tightness: 545 CFM50 (1.03 ACH50)Energy Data attached.

Energy use intensity in kBtu/ft2 (required only for High Performance Category and recommended for commercial projects): 65.4 mBtu annually, 2,828 sq. ft. = 23.13 kBtu/ft2

Describe the HVAC system used on the project: Electric air source heat pump, high efficiency mini-split/Electric Htg.: A forced air, natural gas furnace - 96 AFUE Electric air conditioner - 13 SEER Ventilation system - 65.0 CFM - 9.8 Watts

Leu Spec 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): The windows have a U-value of 0.3, SHGC .21 The concrete foundation walls have an R-value of 22

Please list any energy-efficient products or design features, such as lighting, hot water heating, appliances, passive solar (judged only for High Performance Category): The home is 100% LED lighting. Energy-efficient electric water heater - 0.92 Energy Factor

Were any solar panels installed on the project? If so, indicate the size of the system (judged only for High Performance Category): Yes, photovoltaics estimated at an annual energy consumption of - No

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

Any additional comments on the project: Jeff was very happy with the construction process and thrilled by the HERS results. He plans to continue educating the community about the benefits of building more efficiently. Plans are underway to construct a Triplex with Enercept SIPs this summer.

Front view





Construction





Interior





Panel plan





HERS rating

Leu Spec Residence



Energy Diagnos,

Home Energy Rating Certificate Final Report

Rating Date: 2018-12-14 Registry ID: 886945337 Ekotrope ID: x25aq5M2

Annual Savings

*Relative to an average U.S. home

HERS® Index Score:



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

Your Home's Estimated Energy Use:

	Use [MBtu]	Annual Cost
Heating	35.8	\$475
Cooling	0.7	\$20
Hot Water	7.4	\$218
Lights/Appliances	21.5	\$558
Service Charges		\$148
Generation (e.g. Solar)	0.0	-\$0
Total:	65.4	\$1,418

Home: 0275 N 020 W , LAGRANGE , IN 46746

Builder: JLCJ PROPERTY MANAGEMENT, LLC

This home meets or exceeds the criteria of the following:

2009 International Energy Conservation Code

Rating Completed by:

Energy Rater: Travis Marker RESNET ID: 8783659

Rating Company:Energy Diagnostics Rater 405 Archer Way 219-464-4457

Rating Provider: Energy Efficient Homes Midwest

Travis Marker, Certified Energy Rater Digitally signed: 12/26/18 at 10:38 AM



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HERS' Index

Home Feature Summary:

Home Type: Conditioned Floor Area: Number of Bedrooms: Primary Heating System: Primary Cooling System: Primary Water Heating: House Tightness: Ventilation: Duct Leakage to Outside: Above Grade Walls: Ceiling: Window Type: Foundation Walls:

2,828 sq. ft 2 Furnace • Natural Gas • 96 AFUE Air Conditioner • Electric • 13 SEER Water Heater • Electric • 0.92 Energy Factor 545 CFM50 (1.03 ACH50) 65.0 CFM • 9.8 Watts 10 CFM25 R-24 Attic, R-40 U-Value: 0.3, SHGC: 0.21 R-22

Single family detached