

# Ultimate Construction

4827 Pierceville Road  
Cottage Grove, WI 53527



Partnering with Wisconsin utilities

## NEW HOMES PROGRAM

**WE BUILD BETTER, PERIOD!** Your Home will be comfortable to live in, safe for your family, durable to last through the years, and energy efficient to save you money.

Congratulations, this WISCONSIN FOCUS ON ENERGY HOME at 1033 Vilas Avenue, Madison, has **45.7%** reduced cost of Ownership over the New 2020 Wisconsin Building Code built home.

The **Third Party building and energy consultant** makes critical site visits during construction, and a final performance testing of the Home's components for **Quality Control and Assurances** that our building practices are in line with the highest Standards set for this climate by the Building Science Professionals.

**HERS Index: 43** This is the National Standard for comparing home performance, like 'miles per gallon' is for a car. The Index is based on a comparison of the annual energy requirements for heating, cooling and hot water in the home being rated (with some standard operating conditions), to the annual energy requirements for the same home reconfigured to RESNET HERS *Reference Home*. The typical existing home score nationwide is 130, and the typical New Home score is 100. See: <http://www.resnet.us/hers-index-large-scale>

**What about Air Tightness ?** The "blower door" air tightness test, shows our Homes to be among the tightest in Wisconsin. This not only provides reduced operating costs, but provides draft free comfort while protecting the structure. This added durability comes from a sealed thermal shell around your living space preventing mold, structural damage, and adding lifetime value to your home. Air tightness standards ask how much leakage is there on all 6 sides of the home, during a 20 mph wind. To compare homes we use this number: **0.08 cfm airflow** @ 50 pa pressure difference / square feet of all the surface areas (all six sides of the box). The Focus on Energy New Homes Program Standard is **0.20 cfm** @ 50 pa/sqft. The average remodeled home in this area is **0.35 cfm** @ 50 pa/sqft.

### Can a house be too tight?

You have more control of Indoor Air because of the tight Home with adequate exhaust. Being capable of exhausting unwanted moisture and odors from the home is important, so each of your exhaust and intake devices has been tested. The indoor air quality is under your control and not so susceptible to outdoor fluctuations in temperature and humidity. To balance the humidity levels in your Home and/or get fresh air into your home, use the **Energy Recovery Ventilator**. This is an air to air exchanger that saves some of your exhaust heat and moisture, and has a tested exhaust flow of **102 cfm**. This Model can be used in the humid months as well for fresh air intake. The Kitchen is vented to the exterior as well at **676 cfm**, which is great for removing odors, moisture and gases from cooking.

### Furnace / Air Conditioner / Water Heater

The furnace is one of the best available with an **ECM blower motor**, that saves you amazing amounts of electricity. This variable speed blower ramps up slowly to provide more even heat as needed. When it is running it uses very little power so if you need to run it continuously for allergy seasons or comfort, you can economically. The furnace is a **96% efficient, cost effective model**, that incorporates 'sealed combustion' technology to bring outside air in for combustion, preventing combustion by-products from contaminating indoor air providing you with greater safety, and energy efficiency. And the **59%** high efficient power vented water heater, along with the furnace, will prevent combustion by-products from contaminating indoor air providing you with greater safety, and energy efficiency. You have a **13 SEER** Air Conditioner, which meets the Standards of the Industry.

**Moisture and Radon reduction system.** The sump pit is a sealed unit to prevent unwanted Moisture and Radon from entering your home.

Mark Fredenberg, EMF Home Consultants Inc., 608-839-3440 Office, 608-235-7282 Cellular

## BUILDING LEAKAGE TEST

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Date of Test: 7/27/20  
Test File: 58-1757 Kavanaugh 1031

Technician: Mark Fredenberg

Customer: Ultimate / Kavanaugh

Building Address: 1031 Vilas Avenue  
Madison, WI 53715

Phone

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### Test Results

- Airflow at 50 Pascals:  
(50 Pa = 0.2 w.c.) 609 CFM ( +/- 0.3 %)  
0.90 ACH  
0.14 CFM per ft2 floor area
  - Leakage Areas: 61.0 in2 ( +/- 2.3 %) Canadian EqLA @ 10 Pa  
31.9 in2 ( +/- 3.7 %) LBL ELA @ 4 Pa
  - Minneapolis Leakage Ratio: 0.08 CFM50 per ft2 surface area
  - Building Leakage Curve: Flow Coefficient (C) = 44.5 ( +/- 5.7 %)  
Exponent (n) = 0.669 ( +/- 0.015 )  
Correlation Coefficient = 0.99905
  - Test Settings: Test Standard: = CGSB  
Test Mode: = Depressurization  
Equipment = Model 3 Minneapolis Blower Door
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### Infiltration Estimates

- Estimated Average Annual Infiltration Rate: 39.8 CFM  
0.06 ACH  
8.0 CFM per person  
(using bedrooms + 1)
  - Estimated Design Infiltration Rate: Winter: 50.8 CFM  
0.08 ACH  
Summer: 22.2 CFM  
0.03 ACH
  - Recommended Whole Building Mechanical Ventilation Rate: (based on ASHRAE 62.2-2003) 79.5 CFM
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### Cost Estimates

- Estimated Cost of Air Leakage for Heating: \$ 44 per year heating
- Estimated Cost of Air Leakage for Cooling: \$ 14 per year cooling