

Energy Efficiency Rating – HERS



TECHNICAL BULLETIN . ENERGY EFFICIENCY & THERMAL RESISTANCE

1.13.06

OVERVIEW

The design and construction of residential homes is rapidly changing to meet today's concerns for energy efficiency locally and globally. Building codes are being updated, specifying materials and installation techniques to provide more efficient and air tight building envelopes. Trained and certified Energy Raters are now inspecting and testing new homes to verify all the criteria has been met.

Similar to a-miles per gallon rating for automobiles, which consumers view as a cost saving and efficiency advantage, homes are now being tested and applied an efficiency rating called the HERS Index.

The Home Energy Rating System (HERS) Index is the industry standard by which a home's energy efficiency is measured. It's also the nationally recognized system for inspecting and calculating a home's energy performance. A HERS Index is no just about the R-value of the insulating materials.

RESNET and the DOE have established national standards for performance of new homes with a focus towards these homes being high-performance and capable to be certified as Zero Energy Ready Homes.

RESNET – HERS Rated Homes 2017 by Climate Zone

IECC CLIMATE REGION	NUMBER OF HOMES RATED	AVERAGE HERS INDEX SCORE
1A	656	56
2A	45,970	62
2B	20,178	62
3A	43,194	64
3B	6,186	61
3C	97	63
4A	40,671	63
4B	1,377	58
4C	1,074	58
5A	43,459	60
5B	14,544	58
6A	9,784	54
6B	313	60
7	87	60
8	250	60



www.resnet.us/hers-index

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A standard home built to minimum building code standards should be evaluated to reach a HERS Index of 65. Homes to be high-performance should be lower on the index scale in the 50 to 60 range. Homes to be certified as ZERH homes will be 50 or lower on the scale and with the future addition of a renewable energy system, such as photo-voltaic (PV) panels will reach a Net Zero energy level or a HERS Index of 0 or less.

In 2017 there were 227,840 homes in the United States that were HERS rated and issued a HERS Index score. The average HERS Index Score was 62.

Builders, realtors, mortgage institutions and home buyers are looking for energy efficiency and the certification of a HERS Index on new homes. In a review of the RESNET, there are numerous examples of how a home with a lower HERS Index can reduce operating costs and improve comfort and resiliency.

FOX BLOCKS AND HERS INDEX

Fox Blocks insulated concrete forms have always been considered a high-performance building product. In association with high efficient windows, doors and roof system a typical Fox Blocks wall assembly will enable a HERS Index rating between 40 and 50.

Building to ZERH standards, a Fox Blocks home, prior to any renewable energy system being installed will enable a HERS Index rating below 40.

Fox Blocks homes have been winning DOE Innovation Awards for several years and have been certified to Net Zero or even a negative HERS Index with a renewable energy system in place.

To be tested and certified for a low HERS Index rating, a wood framed wall assembly has evolved into a complex installation of various materials, membranes and sealants to achieve the air tightness requirements plus the effective thermal performance requirements for the whole wall.

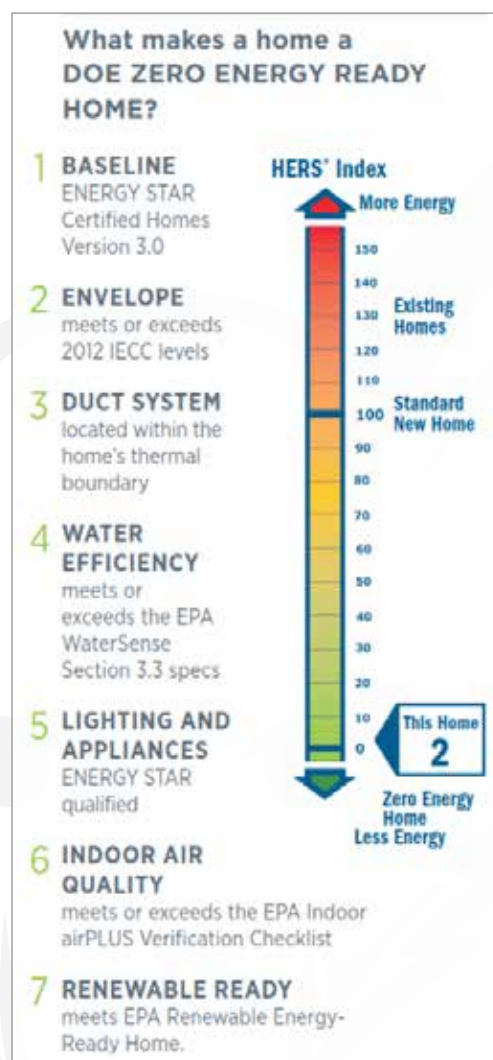
Fox Blocks delivers a high-performance wall assembly that meets and exceeds all the code requirements for thermal performance and air tightness for all climates. The simplicity of installation and completion of a Fox Blocks wall, above and below grade, provides the ultimate comfort and resiliency for every home.

Review other Fox Blocks technical bulletins – 1.13.02 Path to ZERH and 1.13.05 Comparative Analysis - Wood Framed Walls vs Fox Blocks ICF.



DOE ZERH Innovation Award 2017
Greenhill Contracting

energy.gov/eere/buildings/housing-innovation-awards



Greenhill Contracting
Hickory Ridge Home with PV Panels