



Shaping Tomorrow's  
Built Environment Today

## **Standard 90.2**

### **Energy Efficient Design of Low-rise Residential Buildings**

#### **Purpose**

To establish minimum whole-building energy performance requirements for energy efficient residential buildings

#### **Significance**

The 2018 version of the standard is a leadership standard that presents a new approach to delivered residential building energy performance and seeks to deliver residential building energy performance that is at least 50% more efficient than the energy efficiency defined by the 2006 IECC. Key to accomplishing this objective is delivery of an accurate, flexible, performance-based tool to enable user creativity in meeting performance objectives. The standard provides leadership by incorporating detailed verification requirements, thus insuring that the intended energy performance results are achieved.

#### **Scope**

Provides minimum design, construction, and verification requirements for both new residential buildings and new portions of existing residential buildings and for their systems that use renewable and nonrenewable forms of energy.

#### **Additional Benefits/Facts**

- The standard provides a mechanism to evaluate any residential building design against the standard's performance objectives.
- Designers and home builders can easily assess various designs, material options, orientations, and other variables to evaluate predicted energy performance.
- Utilities and beyond-code program developers have a reliable and repeatable tool for helping to establish program targets and ensure program compliance.



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- While this standard focuses on performance as the primary objective, it also include some system-level minimum prescriptive provisions. These prescriptive provisions are provided to enable compliance and protect against analytical gaming.
- The standard contains an informative appendix which describes how to produce prescriptive paths. This approach allows for any number of prescriptive paths to be produced and encourages innovation in energy efficient building technology.
- Cost effectiveness was a critical consideration during the standard's development.

Other ASHRAE standards related to residential include Standard 62.2, *Ventilation and Acceptable Indoor Air Quality in Residential Buildings* and Standard 55, *Thermal Environmental Conditions for Human Occupancy*. Also, see the ASHRAE book *Residential Indoor Air Quality Guide*.