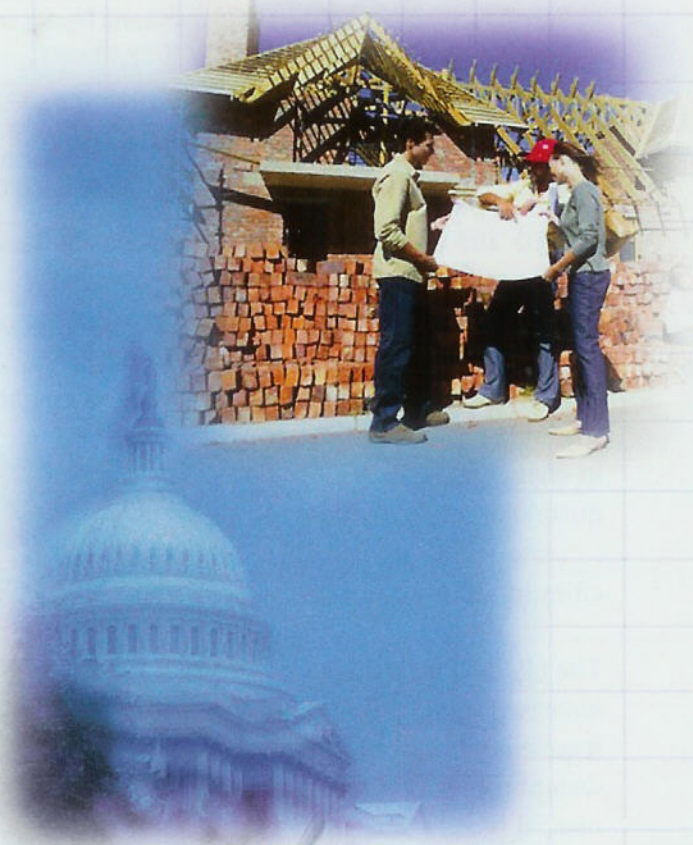




*Understanding the New 2006  
Federal Minimum Energy  
Efficiency Standard for  
Air Conditioners and Heat Pumps*

**Homebuilder Guide**



*relax*

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## What is the New Federal Minimum Efficiency Law and When Does It Go Into Effect?

New US Department of Energy and Natural Resources Canada federal regulations require that all single-phase\* air conditioning and heat pump products less than 65,000 btuh manufactured after January 22, 2006 for use in the United States and Canada be rated 13 SEER (Season Energy Efficiency Ratio\*\*) or higher. The current 10 SEER minimum efficiency standard was enacted in 1992.



\* This is the electrical voltage supply that is standard in most residential and small commercial buildings.

\*\* Seasonal Energy Efficiency Ratio is the standard used to measure the efficiency of central air conditioners and heat pumps. Products with higher SEER ratings are more energy efficient.

## Why Did the US and Canada Raise Minimum Energy Efficiency Standards?

The US and Canadian federal regulations are designed to dramatically reduce national energy consumption. The new standard approximates a 30% increase in the minimum air conditioning and heat pump efficiency over the current standard. The US DOE estimates that the new regulation will save more than \$19 billion in energy by 2030 and 25 quadrillion btu's of energy . . . enough to light all US cities for 20 years.

The US DOE has also increased minimum energy requirements for residential water heaters, some commercial heating and cooling products, residential clothes washers, refrigerators, room air conditioners, and fluorescent lamp ballasts.



## Are AC and Heat Pump Products Manufactured Outside the US and Canada Required to Comply with the New Federal Regulation?

Yes. All manufacturers of air conditioners and heat pumps imported into the US or Canada after January 22, 2006 must meet the new US and Canadian federal minimum efficiency standards.

## Will Homebuilders See HVAC System Prices Increase?

A new 13-SEER product will cost more than the products being phased out. Manufacturers will use about 30% more material in their products to meet the new federal regulation making the new products larger, heavier, and more costly to manufacture and distribute. Homebuilders should immediately discuss 13-SEER pricing with a Rheem contractor to ensure that builders are using accurate new construction costing for future projects.

## How Does The New Law Affect Homebuilders?

### Continued Use of Pre-13-SEER Regulation Products

The new federal standard only applies to central air conditioners and heat pumps *manufactured or imported after January 22, 2006*. The federal regulation DOES NOT REQUIRE homebuilders to use HVAC products that are compliant with the new regulation in new homes built on or after January 23, 2006. Homebuilders may continue to specify in new home, add-on, or retrofit construction currently available HVAC systems until supplies of pre-regulatory products are unavailable.

### Phase-in of NEW 13-SEER Minimum Efficiency Products

Rheem Contractors and Rheem Distributors are currently managing inventories to supply current product to homebuilders to complete projects whose costs and specifications were based on products below 13-SEER. Builders should coordinate custom and tract project start and completion schedules with their Rheem HVAC contractor to decide when best to transition to the new 13-SEER products.

## Important: Factors for Homebuilders to Consider

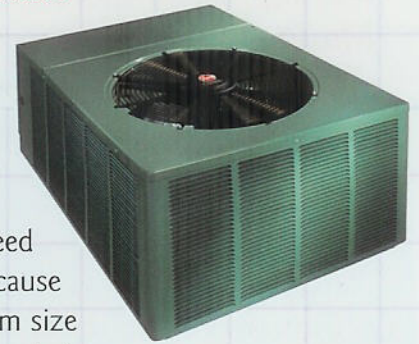
Builders should weigh the following factors in considering when to begin using 13-SEER products:

- Project start and finish schedules
- HVAC product inventory availability to meet project hvac specifications
- Impact on home design and floor plans to accommodate 13-SEER system indoor and outdoor space requirements
- Product cost
- New home pricing
- Finished home value and saleability
- Competitive issues and marketing opportunities
- Building code considerations
- Market image and reputation



## How Much Larger Are the New 13-SEER AC and Heat Pump Units?

Many manufacturers are significantly increasing the size of their indoor air handlers and coils as well as their outdoor units to meet the new standard. This is due to the need for expanded coil surfaces. Because of the increase of overall system size and weight of the indoor coil and air handler, homebuilders using designs locating mechanical systems in closets, attics, and other confined spaces may be required to adjust new construction designs and blueprints to provide adequate space and support for the indoor side of the system. Some manufacturer's outdoor condensing units are becoming so tall that location of the system could obscure low windows or become an aesthetic objection by prospective home buyers. The new Rheem 13-SEER models feature a low profile, compact design, that is fast and easy for contractors to install. In fact, a new Rheem 13-SEER condenser or heat pump is smaller than most manufacturer's pre-regulation 12-SEER products. And, Rheem will continue to have the most advanced and most complete furnace line available to builders.



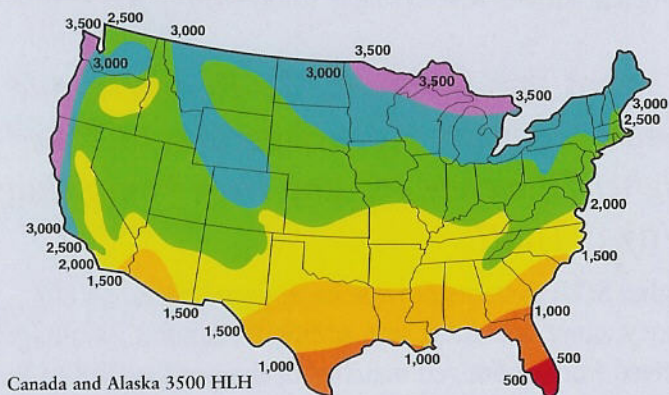
## It Seems that Furnaces, Air Handlers, and Indoor Coils are More Important to These Higher Efficiency AC and Heat Pump Units; Why is That?

Higher SEER systems provide exceptional operating efficiency, quiet operation, and additional comfort advantages derived from optimized matches of the outdoor half to the indoor half of a unitary split system. The advanced designs of many Rheem *Classic* and *Prestige Series* models feature variable speed technology that provides humidity management when the conditioned space is fitted with a humidistat. These advanced systems can also be designed with indoor air quality features that circulate fresh air as well as clean the air. This helps reduce dust mites, pollen, microorganisms, and other air-borne pollutants and allergens. This feature is especially important for young children, elderly, allergy sufferers, and in homes where pets are present.

## How Can Builders Hope to Make a Profit During These Competitive Times and Manage Cost Increases and Design Changes?

The new federal regulation adds more cost to the entire homebuilding channel from the homebuyer and builder to the HVAC contractor, distributor, and manufacturer. At every level of the new construction transaction chain, cost and competitive pressures are intense. While challenging, these costs are the way the US and Canada have decided to manage energy usage in areas of largest consumption. Air conditioners and heat pumps account for two-thirds of electricity used during peak cooling demand periods. The new regulation is viewed as a key to reducing future electricity demand and easing strain on the nations' power grids even while the population increases and new home and business construction adds to the national energy consumption base. The US change alone will avoid the need to build 53 new 400-megawatt power plants. Homebuilder profitability will come from understanding project costs related to using higher efficiency products and effectively marketing the new comfort and health advantages as well as the value benefits of these systems to homebuyers.

### Regional Winter Heating Load Hours

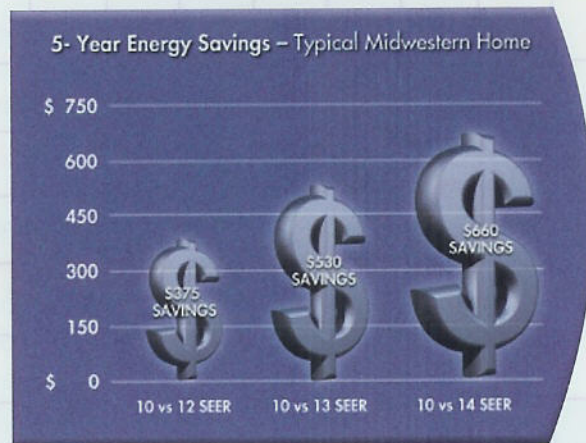


Gas furnace efficiency is determined by the Annual Fuel Utilization Efficiency (AFUE ratings). Higher AFUE ratings signify higher efficiency gas furnaces. Furnaces prior to 1992 have an Annual Fuel Utilization Efficiency rating (AFUE) of 65% or less. That means they only generate about 65¢ worth of heat for every dollar's worth of gas. Since 1992, a federal regulation has required all gas furnaces to provide an AFUE of at least 78%. And today, many furnaces, such as the Rheem *Classic Series* 90 Plus Gas Furnace with *Dual Comfort Control*, are rated 92% or higher. Based on your particular needs, your dealer can help you evaluate which efficiency level is best for you by using a payback period formula.

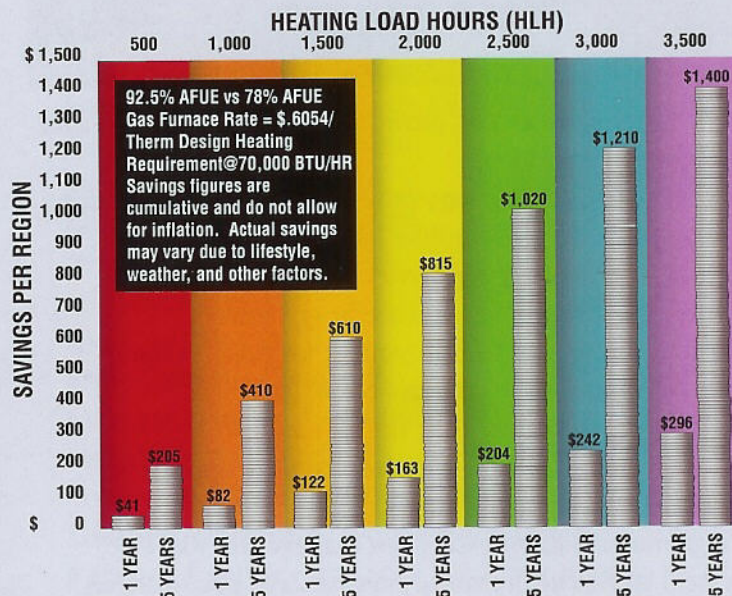
## How Can Builders Explain the Cost Difference to New Home Shoppers?

A new 13-SEER system saves about 30% more energy than 10-SEER systems and about 8% more than 12-SEER systems.

While most homeowners are unfamiliar with the technical aspects of their HVAC system, they are very familiar with the amount of monthly utility bills from their current systems.



A Rheem Contractor or Distributor can assist homebuilders with simple estimated payback analysis compared to the homebuyer's current equipment. In nearly every case, the additional cost of a 13-SEER system will be offset by attention-getting energy savings and enhanced comfort over the life of the system.



## What Are Some of the Most Marketable Comfort Features and Valuable Benefits of New 13-SEER Products that Builders Can Tell Homebuyers About?

Rheem 13 or higher SEER systems can deliver the following to homebuyers:

- Rheem *Classic Series 13 to 16-SEER and Prestige Series 13 to 18-SEER cooling products use the longest lasting, most dependable compressors made*
- Fully modulating or variable speed furnaces and air handlers are **quiet and efficient in reducing indoor humidity levels** during warm weather conditions for enhanced home comfort and protection of furnishings



- New larger-surface coils provide **optimized cooling and efficiency**
- Variable speed technology provides continuous efficient operation at very low airflow rates that **continually cleans the air and improves filtration** by passing more air across the filter on an efficient basis
- There is a Rheem 13-SEER product for every budget; warranties range from 5 years on all parts to **Limited Lifetime protection that includes Unit Replacement**. Other extended warranty options are available
- Programmable thermostats can manage the 13-SEER system to **fit the homebuyers precise preferences, schedules, and energy use goals**
- **Time-tested R-22 and new R410-A refrigerant-equipped models** are available from Rheem

- The Rheem *Prestige Series* two-stage 16 and 18-SEER condenser includes Comfort Alert on-board system monitoring to help **protect the unit and aid in accurate technical service diagnosis**. These models provide full unit replacement should failure occur.
- A Rheem *Prestige Series* 16 or 18-SEER system with humidistat **nearly doubles moisture removal in high humidity, warm weather climates**

## How Can Builders of High-End Custom Homes Differentiate Their Home Comfort Systems Now That All Homes Will Have High Efficiency Systems?

Just as energy efficiency ratings have risen since 1992, so too have homeowner expectations for size of home, quality, standard amenities and features in new homes. Similarly, average consumers seek and purchase products and services they value because they enhance comfort, health, fitness, convenience, and their image. Every new home will benefit from new 13-SEER or higher systems, but the greatest advantages come from beneficial life style and comfort benefits that homeowners will be able to feel and experience daily in the homes you build. New home shoppers want more choices and expect uncompromised comfort and dependability. New home shoppers research and learn quickly about valuable options available to them and premium home builders need to be prepared to offer those options. Some of those options are:

- **Advanced 16- and 18-SEER Rheem Prestige Series Home Comfort Systems with On-board Comfort Alert™** Diagnostics, system monitoring, and Dehumidification
- **Ozone compatible R-410A** refrigerant-equipped models (EPA mandated use in all HVAC systems in 2010)
- **Enhanced Air Cleaning, Microbial Filtering, Advanced Ventilation and Filtration** systems to reduce air-borne allergens
- **Lifetime warranties** with unit replacement protection
- **Extended service** and scheduled maintenance packages for essentially no-worry protection for the life of the product



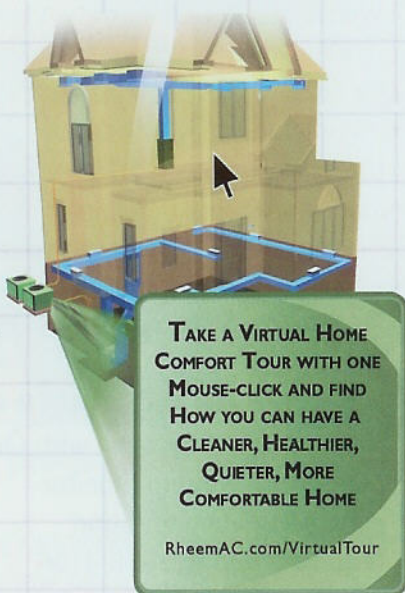
## How Can New Home Builders and Shoppers Find Time To Learn About All of These Great Options and Understand Them Enough to Make Good Decisions?



RheemBuilderGroup.com

The Rheem *Better Home Planning Guide* is an on-line HVAC upgrade service available to homebuyers through their homebuilder. Homebuyers, with a security password, use this unique Rheem web-based service to research and select HVAC upgrade options pre-determined

by their builder in concert with their Rheem HVAC contractor. 24/7 from the privacy of their home, homebuyers can review the several HVAC system option packages offered by their builder, their various features and benefits, and compare cost of operation, payback, and mortgage payment impact. Over 60% of homebuyers select HVAC upgrades when options are presented. *Builder Magazine* picked the Rheem *Better Home Planning Guide* as one of the building industry's most useful internet tools. This is a FREE service available to homebuilders working with Rheem HVAC contractors.



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RheemAC.com/VirtualTour

### Resources On The Web

For information about the US and Canadian Federal 13-SEER Minimum Efficiency Regulation, visit the following links:

[www.RheemAC.com/13SEER](http://www.RheemAC.com/13SEER)

[www.energy.gov](http://www.energy.gov)

[www.nrcan-rncan.gc.ca](http://www.nrcan-rncan.gc.ca) (Canada)

[www.ari.org](http://www.ari.org)

[www.hrai.ca](http://www.hrai.ca) (Canada)

[www.acca.org](http://www.acca.org)

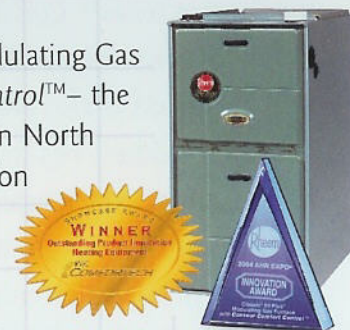
## Award-Winning Products



The awards keep coming for America's strongest furnace family. The latest recognition for the Rheem® commitment to design excellence: the *Dealer Design Gold Medal*, bestowed by the nation's Contractors in the residential product category. A panel of contractor judges agreed that the Rheem *Classic® Series Super Quiet 80®* represented a major leap forward in furnace design, with the quietest\* operation in its class.



The Rheem *Classic® 90 Plus®* Modulating Gas Furnace with *Contour Comfort Control™* – the only fully modulating gas furnace in North America – earned the ARI Innovation Award from a select panel of technical judges.



A leading consumer magazine rated Rheem air conditioning and heating products as a top performer in dependability and low incidence of consumer reported repairs.



And when you consider that Rheem boasts Energy Star certification and offers a full line of Earth-friendly ProOzone™ heating and cooling products – all of which meet or exceed world environmental standards – choosing Rheem has never made more sense

... for you, or your customers. Protection of the environment begins at home, and Rheem is committed to providing homeowners with a wide array of environmentally friendly products that carry the ProOzone label. The ProOzone label certifies Rheem units as environmentally compatible products.

\* Laboratory tested. Single stage mid-efficiency furnaces.





The Rheem *Builder Group* offers high-quality, competitively priced products, manufacturer incentives, and a consumer upgrade program designed to meet the unique needs of progressive Homebuilders, Homebuyers and Contractors.

The *Builder Group* offers a complete product line including the *Prestige Series*®, *Classic Series*®, and *Corsaire Series*® – a model for every need and budget. A suite of indoor air quality (IAQ) products is also available to Builders and Contractors in order to address healthy home, indoor air quality, environmental, and energy-efficiency-concerned Homebuyers.

The *Builder Group* product offering is complemented by competitive builder incentives, as well as an Internet-based consumer upgrade program. The upgrade program is a benefit to Builders, Homeowners, and Contractors alike since it enables contractors and builders to promote more fully-featured products by showing homeowners the full range of Rheem HVAC comfort solutions available for their homes, and allow them to consider upgrade options at their leisure.



[www.RheemAC.com](http://www.RheemAC.com)

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"In keeping with its policy of continuous progress and product improvement, Rheem reserves the right to make changes without notice."

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