

Most building managers know that 50% or so of all energy consumed by a commercial building is dedicated to running the heating, ventilating, and air conditioning system.

There is no doubt that energy is one of the premier contributors in building operational expense. Anything that can be done to reduce consumption, even by a few percent is a valid undertaking.



What EER Ratings Represent

EER is an acronym for Energy Efficiency Ratio. You take the number of BTUs for the unit, and divide by the power it consumes. For example, take a one-ton PTAC (through the wall) air conditioner.

This is 12,000 BTU. Lets say that the power draw is 1,000 watts. This would be 12,000 divided by 1,000 or an EER of 12.

If the same unit only used 800 watts, then the EER would be 12,000 divided by 800, or an EER of 15. Obviously, this uses less energy and so would be more desirable to operate.

Briefly then, the higher the EER, the better the efficiency.

Types of EER

EER ratings are often seen as two different types: the SEER and the EER.

What is the difference between these two?

The EER is the Energy Efficiency Ratio, while the SEER is the Seasonal Efficiency Ratio.

The difference is what outside temperatures that the unit encounters during its operation. For example, the SEER measures a systems performance at 82 deg F outdoor temperature.

The EER measures cooling performance at 95 degs F, a condition more likely in Southern climates such as Florida, Texas, and other hot and humid environments.

It is likely that the SEER number will be higher than the EER number, so if one were to purchase units for the Southern climates, one would be more interested in the EER rather than the SEER to get a better of idea of energy expenditures. The EER is always a number lesser than the SEER and would be the best the unit might be expected to run.

Energy Efficiency and EER Rating

Controlled Release Technologies, Inc. (C) 2008 All rights reserved.

. www.cleanac.com 800-766-9057 1

Minimum SEER

No AC unit in the US may be sold unless the seasonal energy efficiency ratio is 10 or greater. This means a one ton air conditioner must not use more than 1,200 watts to operate.

Most savvy purchasers chose to always buy a unit with a minimum EER of at least 11, and a SEER of 13 or better. In use, a 14 SEER compared to a 10 SEER rating can save up to 18% based upon cooling.

Practical Matters for the Representative

Both the SEER and EER ratings are only for new units. SEER and EER are normally used for central residential air conditioning units, although the overall cooling system in large buildings also have a ratio of BTU to watts consumed.

Once any type of air conditioning system is started up and used for a while, the situation changes, and these ratings will drop.

Dirt, vapors, and other types of inorganic fouling will adhere to the coils, reducing their efficiency by up to 20 % or more. So energy usage based upon an EER of 10 for example, may well turn out to be only an 8 due to dirty coils.

This increased demand for energy can be turned around with First Strike Micro Coat (r).

Continuously Clean Coils - 24/7

Controlled Release Technologies research and development labs patented First Strike MicroCoat (r) which is not subject to the above issues.

It does not cause water beading. There is no reduction of cooling transfer as measured by the most modern equipment. It is easy to apply by in house staff, and works without attention for a year or more.

You can read more about the technology behind First Strike MicroCoat at our website at www.cleanac.com, or on our bulletin for this product.