What is the Energy Efficiency Rating (EER)?

The Energy Efficiency Rating (EER) is a standardized classification system designed to help consumers and professionals assess the energy performance of products, buildings, or systems. It provides a clear, comparative measure of energy consumption, enabling informed decisions that promote energy savings and environmental sustainability. In the UK, this rating is widely used in the residential retrofit, home renovation, and extension sectors, as well as for appliances and building performance assessments.

The EER system is governed by the **Energy-Related Products (ErP) Directive** and aligns with UK Building Regulations, particularly **Approved Document L: Conservation of Fuel and Power**. For buildings, the EER is often part of the **Energy Performance Certificate (EPC)**, which is mandatory for properties being sold or rented in the UK. The EPC provides an overall energy efficiency rating for the building, alongside recommendations for improvement.

In practical terms, the EER helps homeowners, builders, and retrofit specialists identify opportunities to reduce energy consumption. For example, a home with a low EER (e.g., G) may benefit from insulation upgrades, high-efficiency boilers, or renewable energy systems like solar panels. Conversely, a home with a high EER (e.g., A+++) is already optimized for energy efficiency.

Practical Examples

1. **Appliance Purchase:** A homeowner buying a new refrigerator can compare models using the EER. A model rated A+++ will consume significantly less energy than one rated G, leading to lower utility bills and a reduced carbon footprint.
2. **Building Retrofit:** A contractor conducting a retrofit on a Victorian terrace house might use the EPC's EER to prioritize improvements, such as installing double-glazed windows or upgrading the heating system.
3. **New Build Compliance:** A developer constructing a new residential building must ensure it meets the minimum EER standards set out in Approved Document L, such as achieving an EPC rating of at least Band B.

Related Terms

1. **Energy Performance Certificate (EPC):** A document that assesses the energy efficiency of a building, including its EER, and provides recommendations for improvement.
2. **Approved Document L:** Part of the UK Building Regulations that sets standards for the conservation of fuel and power in buildings.
3. **ErP Directive:** EU legislation that establishes energy efficiency requirements for energy-related products, including appliances.
4. **SAP Rating (Standard Assessment Procedure):** A methodology used to calculate the energy performance of dwellings in the UK, often linked to the EPC.
5. **U-Value:** A measure of heat loss through a building element (e.g., walls, windows), crucial for achieving higher EERs.
6. **Renewable Energy Systems:** Technologies like solar panels or heat pumps that can improve a building's EER.
7. **Fabric First Approach:** A design philosophy that prioritizes improving the building's fabric (e.g., insulation, airtightness) to enhance energy efficiency before considering mechanical systems.