

# SAP Calculations, U-Values & EPC Certificates



## What are SAP Calculations?

A SAP rating is the calculation that is required in order to produce a Predicted Energy Assessment and an On Construction Energy Performance Certificate.

Building Regulations require that a SAP calculation and a Predicted EPC is submitted for new dwellings prior to the commencement of work.

A SAP calculation indicates a score from 1 to 100+ for the annual energy cost based on:

- The elements of structure
- The heating and hot water system
- The internal lighting
- The renewable technologies used in the home.

The higher the score the lower the running costs, with 100 representing zero energy cost. Dwellings with a rating in excess of 100 are net exporters of energy.

## What is a U-Value?

U-values measure how effective a material is as an insulator. The lower the U-value, the better the material is as a heat insulator.

U-values are generally used to describe the thermal performance (heat loss) for a section of construction that involves several materials – such as a floor, wall or ceiling. They are used as a general guide to the performance of a building element.

It is generally accepted that the lower the U-value of an element of a building's fabric, the more slowly heat is able to transmit through it, and so the better it performs as an insulator. Very broadly, the better (i.e. lower) the U-value of a building's fabric, the less energy is required to maintain comfortable conditions inside the building.

## What is an EPC Certificate and why you need one?

An EPC is a certificate that shows how energy-efficient your property is. The document includes estimated energy costs, as well as a summary of your home's energy performance-related features. EPCs also include recommendations on measures that would make your home more energy-efficient, along with estimated costs for implementing the changes and the potential savings you could make. Your property will be given an energy-efficiency grade between A and G, with A being the best – ie most energy-efficient – and G being the worst. undefined New-build homes tend to have high EPC ratings, while older homes often have lower ratings of around D or E. The average EPC rating for a home in the UK is D.

Homeowners in Scotland are required to display the EPC somewhere in their property, for example by the boiler.

EPCs are valid for 10 years.