



How do changes to Part L of Building Regulations affect SAP Calculations

J O S T E C
BUILDING REGULATIONS COMPLIANCE SERVICES

On 15th June 2022 UK Building Regulations changed. The changes primarily affect the building of new homes although some of the changes also affect renovations of existing dwellings too.

The changes are many and complex and in some cases, open to interpretation too.

This document will provide you with the key points that you need to know, to ensure your projects adhere to the most up-to-date Building Regulations and can ultimately achieve sign-off from Building Control.

Why are Building Regulations changing?

The UK is committed to achieving net zero CO₂ by 2050 in a collective effort to combat climate change. Together with the 2025 Future Homes and Buildings Standard, these changes are designed to keep us on track when it comes to a low-carbon future, through the building of more energy-efficient homes.

Changes relating to ventilation standards have arisen from Public Health England data on indoor air pollution.

Which part of the Building Regulations is changing?

The changes to Building Regulations launched in June 2022 focused on 4 specific areas of overall Building Regulation...

- Changes to Approved Document L - Conservation of fuel and power
- Changes to Approved Document F - Ventilation
- Creation of Approved Document O - Overheating
- Creation of Approved Document S - Infrastructure for charging electric vehicles.

How do these changes affect SAP Calculations?

Firstly, let's remind ourselves of what SAP Calculations are...

Standard Assessment Procedure (SAP) calculations make up a big part of the planning and building compliance process.

SAP is the government-approved method of assessing and measuring the energy rating of a dwelling. It is typically required for new houses but you may also require a SAP calculation for a conversion or extension.

The calculation itself produces a rating which typically indicates a score from 1 to 100+ whereby a score of 1 would represent an extremely un-efficient home, anything above 100 would mean the dwelling is a net exporter of regulated energy. This is shown on your EPC (Energy performance Certificate)

Introduction of new SAP Software

Despite advancements in technology, construction methods and the greening of the UK's electricity grid, prior to June 2022, The SAP software (SAP2012) hadn't changed since its last update in 2013. This meant that SAP calculations were often based on outdated data (called carbon factors).

Along with the changes announced in June 2022, SAP10.2 was launched. This represents a modernization of the current calculation methodology. Updating and introducing new carbon factors will have a significant impact on the EPC result, making them more accurate and reflective of a dwelling's energy efficiency. For example, electricity now has a lower carbon factor than gas. Grid electricity is now considered by the model as producing 136 grams CO₂e/kWh; whereas gas remains unchanged at 210 grams.

Ultimately, the updates to SAP software mean that it will be easier for houses that are heated electrically to comply than previously.

SAP Evidence Requirements

To address the performance gap there will be a greater requirement for evidence for the SAP calculation. The SAP assessor and the property developer will be required to sign a BREL (Building Regulations England Part L) compliance report as well as providing photographic evidence throughout the build process.

The new changes go further and state that all images must contain 'Geolocation' and 'Time-Stamp' data. JosTec has published a complete guide about SAP evidence requirements and how to ensure you comply with the updated regulations.

Changes to U Values

In general, the updates to building regulations released in June 2022 attempt to increase the threshold for compliance, encouraging developers to build homes with better thermal standards, using more energy efficient materials. This is particularly notable with the stricter U values and air permeability results, as shown below.

Element type	Previous maximum U-value (W/m ² K)	New maximum U-value (W/m ² K)
Floor	0.25	0.18
External walls	0.3	0.26
All roof types	0.2	0.16
Party walls	0.2	0.2
Swimming pool basin	0.25	0.25
Windows (inc roof windows)	2.0	1.6
Rooflights	2.0	2.2
Doors (inc glazed doors)	2.0	1.6

Introduction of the Target Primary Energy Rate

The updated Part L also introduces a third compliance metric to go alongside the existing Target Emission Rate (TER) and Target Fabric Energy Efficiency (TFEE), which will be known as the Target Primary Energy Rate (TPER).

The Target Primary Energy Rate (TPER) considers how much energy is required to provide heating and hot water to a newly built dwelling. It also includes energy used by lighting, ventilation, cooling systems and showers.

The Target Primary Energy Rate (TPER) is defined in kWhPE/m²/year, and is the maximum allowable primary energy usage by the dwelling. Primary energy is considered as *"energy from renewable and non-renewable sources which has not undergone any conversion of transformation process"*. The calculation accounts for factors such as:

- The efficiency of the property's heating system;
- Power station efficiency for electricity; and
- The energy used to produce the fuel and deliver it to the property.

As with the other two existing compliance metrics, the target value will be set according to the notional building specification.

Need help or advice with SAP Calculations?

Here at JosTec, we offer the highest levels of service and expertise and are always happy to work with our customers to give you the best possible chance of achieving a pass on your SAP Calculations and EPC. Additionally, if you need your SAP assessment quickly, we offer an urgent SAP service. Please contact us for further information, by calling 01923 518923 or emailing us at info@jostec.co.uk