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10 Ways SAP 2010 will impact us all

SAP 2009 and Part L 2010 will come into force on 1 October 2010. The changes involved are significant and if not dealt with properly could result in major errors in Building Regulation submissions and EPCs and of course as a consequence, inconvenient and costly delays.

In order to shed some light on these imminent changes and how we at EAS can help you navigate your way through the maze of new requirements, we have compiled a short summary list of the 10 main ways that SAP 2009 will impact:

1- 25% less CO2 emissions than current Part L 2006 standards –

For all new dwellings there is a requirement to reduce CO2 emissions by 25% (31% in Wales) over Part L1A 2006. This is a 40% improvement over a dwelling built to the 2002 regulations and corresponds with the new standards set by the Code for Sustainable Homes.

2 - The Target Emission Rate (TER) –

The Target Emission Rate (TER) is calculated in much the same way as it was in Part L1A 2006. The main differences are that (a) an improvement factor of 0.4 is used rather than 0.2 to give the 40% improvement referred to above and (b) the SAP 2009 methodology is used to estimate the carbon emissions from heating, hot water, lighting, pumps and fans. Electric heat pumps and biomass will continue to be encouraged by the TER; although this is countered to an extent by lower limiting U-values (see point 8 below). The fuel factor for heat pumps is also to be reviewed after the renewable heat incentive is introduced next year.

3 - Cavity party walls –

A key feature of SAP 2009 is that party walls with unfilled and unsealed cavities are assumed to have a U value of 0.5 W/m2K. The 'notional' dwelling used in calculating the TER assumes a U-value for cavity party walls of 0.0 W/m2K. This means that these areas must now be insulated, however insulating and sealing cavity party walls will not count towards the 25% improvement target.

4 - Thermal bridges –

Previously it has been acceptable to assume an effective 'y' value of 0.08 W/m2K if accredited 'robust' construction details have been used. This will not be possible with Part L1A 2010. Instead, the length of each junction will need to be measured and calculated to produce this figure. This calculation can include values already supplied in the SAP 2009 document or alternatively supplied by the relevant approved government accredited construction detail scheme.

5 - Air Permeability –

There is a requirement for more pressure testing. A pressure test should be carried out on three units of each dwelling type or 50% of the instances of the dwelling type, whichever is the smaller.

Where a dwelling has been pressure tested, the measured value is used in the Final calculation of the Dwelling Emissions Rate (DER). Where the dwelling has not been tested, the value used is the average of the measured values for dwellings of the same type but with the addition of a confidence factor of 2 m3/(hm2) at 50 pa. This means that in effect the design air permeability must be at most 8 m3/(hm2) in order to meet the maximum allowable value of 10 m3/(hm2) at completion of the dwelling.

A default value of 15 m3/(hm2) can still be used in small developments if applicable.

6 - Low energy lighting –

A minimum of 75% of light fittings must be low energy. If further low energy light fittings are installed, the full 100% will contribute towards meeting the Target Emissions Rate (TER).

7 - Electric secondary heating –

In Part L 2006, a penalty was applied in dwellings not fitted with a secondary heating appliance. In such cases it was assumed that 10% of the heat in the property came from direct acting electric heaters, thereby significantly increasing the Dwelling Emission Rate. In Part L 2010, there is no such penalty.

8 - New limiting U-values (W/m2K) - including for party walls

Element	2006	2010
Roof	0.25	0.20
External wall	0.35	0.30
Party wall	N/A	0.20
Floor	0.25	0.25
Windows	2.20	2.00
Air permeability	10	10

9 - 'Design Stage' submissions now mandatory –

In Part L1A 2006, it was recommended that a submission be provided to Building Control at 'Design Stage' of the project, but this was not an absolute requirement. However, in Part L1A 2010 the person carrying out the work must provide Building Control with formal Part L certification showing the Target Emission Rate (TER), Dwelling Emission Rate (DER) and a list of specifications before work starts on site.

Then, no later than five days after the work has been completed, they must supply 'Final As-Built' certification to Building Control to show the TER and DER actually achieved, and whether the building has been constructed as per the design. If not, a list of changes to the design specification must be supplied. This is to better enable Building Control to confirm that what has been built aligns with the claimed performance. New outputs from Approved software are available to help Building Control with this process.

10 - Addressing the performance gap -

There is growing evidence that completed dwellings do not in practice achieve the intended energy performance. This is referred to by government as the 'performance gap'. If we are to achieve true zero carbon by 2016 it is vital that this gap be closed. Part L1A 2010 contains various things that aim to contribute to this.

Firstly, the document is clearer than previous versions in distinguishing between 'Regulation' and 'Guidance' and is less ambiguous in many places. This will help developers better understand what is required of them and give Building Control clearer guidance on how to check for compliance.

Secondly, the requirement to produce a 'Design Stage' submission as well as an 'Final As-Built' submission, including a comparison of specifications, will hopefully bring more consistency to the compliance checks.

Thirdly, the notion of 'confidence factors' will reward those developers who adopt good quality control procedures both in design and on site. We can expect to see more of these confidence factors in the next round of Part L changes in 2013 and beyond.