

PART L

TOP TIPS

The revision to Part L comes with four approved documents and two guides to help you tick those energy efficiency boxes. But in case you don't fancy reading the lot, **Nick Cullen** has a 12-point plan to lead you on the path to compliance

The 2010 revisions to Part L of the Building Regulations were quietly published on 30 April 2010. Four new approved documents and two compliance guides have been issued to replace the current versions from October 2010, subject to the transitional arrangements.

The compliance guides have been extensively revised and their scope widened to provide improved guidance, setting out the minimum energy efficiency standards and the commissioning and performance test requirements for fixed building services. To ensure that your building complies with the new regulations, it is important to understand the new Part L and the associated compliance guides.

1 The headline carbon reduction for 2010 is 25%. This 25% reduction is applied to dwellings (flat, non-aggregate approach). However, changes affecting SAP, such as the inclusion of party wall heat loss and emission factors, mean that simply taking 25% from your 2006 compliant building will not necessarily lead to a 2010 compliant solution.

2 The situation for buildings other than dwellings is more complex as the "aggregate" approach has been adopted to reflect the relative ease of compliance of different types of buildings. Therefore, the reduction for any particular building will vary but when aggregated across the non-domestic sector build mix, an overall reduction of 25% is achieved.

3 There is encouragement to use accredited construction details (ACD) to reduce thermal bridging. If quality-assured ACDs are adopted, the calculated thermal transmittance can be used directly to calculate the building emission rate. However, if the construction method is not independently assessed but the transmittance is calculated then the performance is assumed to be slightly worse and either 0.02W/mK or 25%, whichever is greater, is added. If no specific assessment is undertaken then either 0.04W/mK or 50%, whichever is greater, is added.

4 Read the statutory instrument, which gives guidance on the transition arrangements.

The key clauses can be paraphrased as follows: Part L (and F) 2006 continues to apply if:

- Work has started on site prior to 1 October 2010 and initial notice and full plans have been submitted
- Work has not started on site but an initial notice and full plans submission is given before 1 October 2010, in which case the work must be started before 1 October 2011.

5 The minimum air permeability limit remains at 10m³/hr/m². However, the consultation proposed that the notional buildings would assume 7 and 5m³/hr/m² for domestic and non-domestic buildings respectively. So it is important to achieve these lower limits, or carbon savings will need to be found elsewhere. Research has shown that the industry has learned to construct buildings to achieve reliably a pressure test of 5m³/hr/m².

CHANGES AFFECTING SAP MEAN THAT SIMPLY TAKING 25% FROM YOUR 2006 COMPLIANT BUILDING WILL NOT NECESSARILY LEAD TO A 2010 COMPLIANT SOLUTION

6 The notional model for dwellings assumes 30% low-energy lighting. If there is anything less in the actual design, carbon savings must be found elsewhere – rather like government spending budgets! Low-energy lighting is assumed to be lighting designed to achieve more than 45 lumens per circuit watt.

7 Consider the need for renewable energy systems from the start. Part L 2010 marks a point at which the limit of cost-effective improvement in energy efficiency has just about been reached and compliance will increasingly be dependent on some renewable energy

generation or connection to a low-carbon energy supply.

8 The efficiency requirements of mechanical ventilation systems have been tightened, which will lead to larger ducts and changes to riser sizes. It may also lead to a need for more efficient air-to-air heat recovery systems, so bigger air handling units and bigger and taller plant rooms.

9 There are energy rather than temperature limits for the calculation on overheating that apply to both naturally and mechanically cooled buildings.

The calculation sets a standard based on an assumed glazing area, orientation and specification. Designers of both naturally ventilated and mechanically cooled buildings will need to pay greater attention to the balance between solar gain, glazing performance, shading and daylighting.

10 A design-stage carbon calculation must be submitted to building control to enable them better to understand the building carbon reduction strategy and help improve on-site construction quality.

11 Explore the potential for "assignment" under the feed-in tariffs as a means of cost-effectively achieving compliance using renewable energy systems.

Assignment allows the revenues from the feed-in tariffs to be "assigned" to a third party, which opens up the possibility of allowing a third party to invest in a renewable power installation, such as photovoltaics, thus easing Part L compliance costs. The feed-in tariff revenues would be paid to the third party.

12 Remember that by the end of this decade all buildings will be required to be zero carbon. It doesn't sound that far away – and it isn't!

Nick Cullen is a partner in Hoare Lea Consulting Engineers