NEW PART L 2010

THE GOVERNMENT HAS ISSUED A CONSULTATION PAPER ON THE PROPOSED NEW CHANGES TO PARTL OF THE BUILDING REGULATIONS IN 2010. SO WHAT ARE THEY PROPOSING?

The last major update of Part L of the Building Regulations was in 2006. Three years on, the Government has released a consultation paper on changes that will come in to force in October 2010.

So what are the main changes proposed?

CO_2 Emissions

The major change is the requirement for a further 25% reduction in buildings' CO_2 emissions. The consultation paper asks for views on two alternative approaches i.e. 'flat' and 'aggregate'.

Flat Approach

Under the flat approach, the 2010 Target Emissions Rate (TER) would be 25% below the 2006 TER, which itself is derived by applying improvement factors to a notional building that meets the 2002 Building Regulations energy efficiency requirements.

For new dwellings, the reduction in CO_2 emissions relative to the notional dwelling (2002 regulations) would increase the current 20% betterment to approximately 40%. This is equivalent to achieving Code for Sustainable Homes Level 3 for CO_2 emissions.

For new naturally ventilated non-dwelling, the reduction in CO_2 emissions relative to the notional building (2002 regulations) would increase the current 23.5% betterment to approximately 42.5%. For new mechanically ventilated or air-conditioned non-dwelling the reduction in CO_2 emissions relative to the notional building would increase the current 28% betterment to approximately 46% below the emissions from a 2002 notional building

TIMETABLE

- **Consultation documents issued June 2009.**
- **Consultation closes 17th September 2009.**
- **Summary of comments on consultation issued with three months of consultation closing.**
- **Revised Statutory Instruments and Technical Documents issued spring 2010.**
- **New requirements come in to force October 2010.**

Aggregate Approach

Under the aggregate alternative, the 2010 TER would be the emissions from newly-defined notional building types, with no improvement factors applied. The specifications for notional buildings would be set such that new buildings would, on aggregate, achieve the national target of 25% lower emissions overall than under the 2006 Regulations. This means that the 2010 TER for some new building types will be more than 25% lower than the 2006 TER and for other types, less than 25% lower.

This approach reflects the fact that it is relatively straightforward in some building types to improve the energy performance by more than 25%, whilst in other building types a 25% improvement becomes much more difficult. For example, a warehouse that is mostly roof-lit would be different from an office which is side-lit, and a detached house has more external walls than a terraced house - and applying the same specifications for each component would result in very different target values.

The Government's preferred options are for a flat approach for new dwellings and an aggregate approach for non-dwellings.

Minimum Standards

The majority of the minimum standards such as fabric U values and air permeability requirements remain generally unchanged.

There are some new standards that apply to heat pumps and renewable energy systems. Minimum insulation values have been added for swimming pool tanks.

A requirement to assess the heat loss from cavity party walls between buildings has also been introduced.

Commissioning

A new requirement has been added requiring a commissioning plan to be prepared and submitted to the Building Control Body with the design stage TER/BER calculations.

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Limiting Solar Gains

The requirement to demonstrate that the building will not be subject to excessive solar gains has now been extended to all buildings whether or not they have air-conditioning

The method of demonstrating compliance in non-dwellings has changes from the 2006 version.

Reasonable provision for limiting solar gain through the building fabric is demonstrated by showing that, for each occupied space in the building, the solar gains through the glazing, aggregated over the period from April to September inclusive are no greater than would occur through one of the following reference glazing systems:

a) For every space that is predominantly side lit, the reference case is an east facing façade of the same total area that is 40% glazed as viewed from the inside out and having window units that have a framing factor of 10% and a solar energy transmittance (g-value) of 0.46;

b) For every space that is predominantly top lit, the reference case is a horizontal roof of the same total area that is 15% glazed as viewed from the inside out and having rooflights that have a framing factor of 25% and solar energy transmittance (g-value) of 0.46.

OTHER PROPOSED CHANGES

- **Clarification on requirements for 'shell & core' developments.**
- **New requirements for conservatories.**
- **Revision to the definition of 'renovation' work where improvements are required to thermal elements in existing buildings.**
- **Clarification that the energy efficiency requirements apply not just to spaces that use energy for the purposes of providing human comfort, but to any building space where energy is used to condition the indoor climate e.g. data centres.**
- **Consequential improvements apply to all extensions irrespective of their floor area.**
- **Consequential improvements apply if the conditioned inhabited area of an existing building is increased.**

Air Tests

The requirements for air testing dwellings where accredited construction details have not been adopted have been extended as detailed in the table bellow.

Number of pressure tests for dwellings that have not adopted accredited construction details	
Number of instances of the dwelling type	**Number of tests to be carried out on the dwelling type**
4 or less	Two tests of each dwelling type
Greater than 4, but equal to or less than 40	Three tests of each dwelling type
More than 40	At least 10% of the dwelling type, unless the first 5 units of the type that are tested achieve the design air permeability, when the sampling frequency can be subsequently reduced to 2%

How will these changes effect building design?

The requirement to reduce CO_2 by a further 25% is undoubtedly a challenge for the industry. It will be difficult to squeeze further thermal performance from traditional building fabric elements. Innovative solutions to engineering systems, together with increased application of zero and low carbon technologies is likely to be the way these further reductions are achieved. The requirement to reduce solar gain in air-conditioned buildings could be the final death knell for highly glazed buildings.

SILCOCK DAWSON & PARTNERS

For further information contact

Barry Redman

bredman@silcockdawson.co.uk

Tel: 01844 347474

www.silcockdawson.co.uk