Guide to Section 6 2015

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Section 6
Scotland

What is Section 6?

Section 6 of the Scottish Building Regulations is the Technical Handbook that deals with energy within the built environment. Section 6 supports the Climate Change (Scotland) Act 2009 as it seeks to meet the target of an 80% reduction in carbon emissions by 2050. The regulations ensure that effective measures for the conservation of fuel and power are taken when constructing new or modifying existing buildings.

Domestic carbon reductions in Section 6

21% reduction in carbon emissions over 2010 requirements

Carbon emissions and Section 6

For new build, the CO_2 emissions are calculated by entering the building parameters in to a computer program to give a CO_2 emission rate. Each time Section 6 changes, the targets for allowable emissions get tighter, requiring designers and contractors to ensure specifications will produce a building that reduces its impact on the UK's carbon emissions.

Section 6 2015 targets reduction in CO_2 from:

- Heating
- Hot Water
- Lighting
- Ventilation
- Cooling

How to comply with Section 6

Party Walls

If you have a party wall the best advice is to ensure it has a U-value of zero by either building a solid party wall or by fully filling and sealing the gap.

Thermal Bridging

This must be addressed to give the best chance of compliance. A common approach is to follow the thermal bridging detailed within 'Accredited Construction Details (Scotland) 2015'.

If no attention is paid to thermal bridging and the default y-value of 0.15 is taken it will be very difficult to compensate for the increased emissions that result elsewhere in the design.

Darren Evans offers a range of junction details downloadable on the Darren Evans Members' Area. Find out more at **www.darren-evans.co.uk**

There are two ways to comply with Section 6:

- Calculation Method
- Simplified Approach Method

Calculation Method

The calculated CO_2 emissions for the proposed dwelling (DER) should be less than or equal to the target CO_2 emission (TER) for a 'notional dwelling'.

Notional Dwelling

The details of the notional dwelling depend on the type of fuel used for the main space heating system. It has a fixed set of criteria for the fabric heat loss, building services and air infiltration. There are five packages based on the type of fuel used and some of the U-value details are reproduced in this extract from Table 6.1.2.

Table 6.1.2

Source: Section 6 Energy

	Package 1	Package 2	Package 3	Package 4	Package 5
Fuel	Gas	LPG	Oil	Electricity	Biomass
Walls	0.17	0.17	0.17	0.17	0.17
Floors	0.15	0.15	0.15	0.15	0.15
Roofs	0.11	0.11	0.11	0.11	0.11
Openings	1.4	1.4	1.4	1.4	1.4
Air Infiltration	7 m^3/m^2h	7 m^3/m^2h	7 m^3/m^2h	7 m^3/m^2h	7 m^3/m^2h

Other elements or systems defined in Table 6.1.2 are:

- *Allowance for thermal bridging*
- *Number of open flues*
- *Heating system (pump in a heated space)*
- *Heating system controls*
- *Hot water system*
- *Secondary space heating*
- *Waste water heat recovery system 45% efficient (new for 2015)*
- *Photovoltaic panels (PV) (was solar hot water) with area of PV not to exceed 30% of the roof area*

Simplified Approach Method

In this method, the dwelling is designed to one of the packages of measures in Table 6.1.2 within Section 6 of the Technical Handbook. It will reduce CO_2 emissions to the same level as by use of the calculation methodology.

Non-Domestic carbon reductions in Section 6

43% reduction in carbon emissions over 2010 requirements

Non-Domestic

Cavity Separating Walls

As with domestic, this should be addressed to reduce the heat loss associated with this element.

Thermal Bridging

The heat loss arising from thermal bridging should be addressed and the use of Accredited Construction Details (Scotland) 2015 will give guidance on the process required and values of particular junctions if built as described.

Notional Building

There is a new Notional Building for 2015 and following the fabric and services specified will result in a complaint building. However, designers are able to vary these specifications as long as backstop values are maintained and the CO_2 Target Emission Rate (TER) is achieved.

Details of the Notional Building are available in the document 'National Calculation Methodology (NCM) Modelling Guide for Non-Domestic Buildings in Scotland - 2015 Edition'.

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