

Extension – What’s involved

There are three calculation methods which can be used to show compliance with ADL1B which are the “**Reference Method**”, the “**Area-weighted U-value method**” and the “**Whole dwelling calculation method**”.

1) Reference Method

The Reference Method can only be used where the total area of the openings in the extension does not exceed 25% of the floor area plus the total area of any window & Door that no longer exists or is exposed to the external environment.

2) Area-weighted U-value method

The Area-weight U-value method calculates the area weighted u-value of all thermal elements of the proposed extension and compares this with a notional extension. The notional extension uses the same Roof, Wall & floor areas as the actual extension, but calculates the opening areas (Windows, Doors & Rooflights) as 25% of the actual floor area plus the opening area which has been removed as a result of the extension. This new area is then proportioned equally to the associated openings of the actual dwelling.

Compliance is achieved where the Actual area weighted u-value is less than the Notional area weighted u-value.

3) Whole dwelling calculation method

The “Whole dwelling calculation method” is the most common method for achieving compliance, as most extensions exceed the allowed glazing tolerance, and compliance usually struggles to be achieved using the previous 2 methods.

This method incorporates the existing dwelling as well as the proposed extension which provides more design flexibility. This method allows you to make improvements to the existing property to help offset the energy reductions from the proposed extension, if required.

Some extensions achieve compliance using this method and no additional alterations to the main dwelling are required. However, a conservatory for example, which is open to the main house will struggle to achieve compliance due to the higher u-values in the fabric. In these circumstances additional improvements will be required to offset the losses. The simplest way to offset these losses is by increasing the loft or cavity wall insulation.

Building Control Requirements?

Building control need to see that the proposed extension will not have a detrimental effect on the existing dwellings CO₂ emissions. To show compliance has been met, we will complete 2 reports. The first report is the “Actual Dwelling” the second report is the “Notional Dwelling”.

Actual Dwelling

The actual dwelling is self-explanatory. It is the proposed extension or non-separated conservatory as specified by the client.

Notional Dwelling

The notional dwelling uses the same dimension calculations in the actual dwelling but uses u-values in ADL1B - Conservation of Fuel & Power for the Floors Walls & Roofs. It also uses the minimum efficiencies in the DBSCG – Domestic Building Services Compliance Guide.