

LABSS INFORMATION PAPER INFOP42

Guidance Clause 6.2.8: Extensions to the insulation

envelope & Annex 6.A Compensatory approach

- heat loss example

Applicable to Domestic Buildings

Information for verifiers

This information paper has been produced by the Scottish Building Standards Hub (SBSH) on behalf of Local Authority Building Standards Scotland (LABSS).

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Document Version Control.

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Background

Guidance clause 6.2.8 - A compensatory approach allows U-values for the elements involved in the work to be varied provided that the resulting overall heat loss for an extension is not greater than that of a 'notional' extension. The 'notional' extension should be the same size and shape as the proposed extension, and have the area weighted average U-values from the guidance to clause 6.2.1 and have an area of opening equal to 25% of the total extension floor area plus the area of built over openings.

Annex 6.A - This annex gives an example of the compensatory approach for use in the design of conversions, extensions, and alterations. This is likely to be of use where there is a need to specify one or more constructions with a U-value higher than the recommended maximum area-weighted average U-values given the table to clause 6.2.1.

The heat loss for a 'notional extension' (i.e. one the same size and shape as the proposed extension but with the area of openings taken as a maximum 25% of the floor area plus the area of any built-over openings) is calculated using the U-values in the table to clause 6.2.1. To simplify calculation, the notional extension is assumed to have windows/doors but no roof windows/rooflights, with the 25% glazing area deducted from walls.

The 1.4 U-value of roof windows is adjusted by the allowances in BR 443 for pitch, and the U-value of roof lights is 2.1, as per Table 6.2. The impact of including these in a 'notional extension' is to reduce the overall threshold of compliance for fabric elements.

Technical interpretation

The intent of this guidance was considered as part of a recent LABSS Dispute Resolution Case. The approach by the applicant to maximise the area of rooflights to the 'notional extension' of the compensatory approach in excess of the area of rooflights in the 'actual extension' was rejected by the verifier as this does not provide an accurate representation of the notional extension. Feedback, after consultation with the local Consortium group and the Building Standards Division (BSD) of the Scottish Government, confirmed support for the verifiers position in this respect.

BSD advice

As part of the Dispute Resolution case, feedback was sought from the BSD to clarify the intent of the guidance. In response, the BSD confirmed:

'To simplify calculation, the notional extension is assumed to have windows/doors but no roof windows/rooflights, with the 25% glazing area deducted from walls" but this could be construed as applying only to the example illustrated. It is not explicitly a 'rule' in applying the calculation but was probably originally intended as that, before we started to set different U-values for openings. It may therefore be reasonable to identify roof windows/rooflights in the notional extension if roof windows/rooflights are part of the actual extension. But only to the



extent that these are part of the overall proposed openings – so a proportionate approach. That would still offer a reasonable heat loss comparison.

Simply assigning as much of the 25% opening area as possible to roof windows/rooflights, in excess of the area of rooflights in the actual extension would not be representative. The applicant's approach, to 'design the notional extension' in the way they describe to maximise rooflight area would not be supported. Additionally, any area of built over openings, if openings in walls, cannot reasonably be assigned a roof window/rooflight U-value in the notional extension. So, in short, we would agree that the approach to the compensatory approach does not offer a correct representation of a notional extension.'

Summary

When using the compensatory approach, any area of roof windows/rooflights included within the proposed extension should be replicated within the notional extension.

End.