BUILDING REGS

KNOWLEDGE HUB

May 2019

Glazing

Stick to 25%

Building Regulation 28 deals with the consequential improvement to the energy performance of a building. When designing an extension to a dwelling, Approved Document L1B talks of the total amount of glazing being no more than 25% of the floor area of the extension - *plus the area of any external windows or doors that are no longer exposed as a result of the extension*.

When you want to exceed this using sun rooms + orangeries etc., there are 2 ways you can justify this increased glazing.

1) The area-weighted U-value method. Using this method you essentially measure the square area of each thermal element of the proposed extension (exposed roof, floor, walls + glazing (plus the area of any existing openings covered over by the extension). You then multiply these areas by their associated minimum U-values as stipulated in AD L1B. This value is then divided by the total area of all the thermal elements. This final figure is the area average U value for a 'notional' extension. You then carry out the same process for your proposed extension, adjusting the elemental U-values as necessary. As long as the proposed extension average U-value is less than the notional one, then you have successfully 'offset' the increased glazing by improving the U-value of other elements. If this doesn't work you can;
2) Carry out a whole house comparative SAP. This essentially means you model the house in SAP and calculate the TER + TFEE based on the minimum U-value requirements. You then re-model the house in SAP inputting the actual U-values based on the proposed glazing. Again, as long as the actual design SAP result is lower than the 'notional' building, then your offset U-values are fine.

Pros and Cons

The main one is price. We complete an Area-Weighted U-value calculation for £105, where a comparative SAP is likely to set you back about £400. However a comparative SAP could potentially mean that you don't have to improve any of the proposed extension elemental U-values at all, and could most likely allow for only basic improvements to the existing house - such as increased loft insulation.

How to choose?

When the total glazing reaches about 50% of the floor area an Area-Weighted U-value calculation requires all the extension U-values to be very low, but is just achievable. Over 50% and the required U-values are cost-prohibitively low, and a comparative SAP is more appropriate.

Need help with this, or other building regs issues, please get in touch.

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