

Guidance Notes - Foundation Area

Foundation area in SBEM 6.1

A “foundation area” entry has been added to SBEM. This terminology is highly confusing as it is not the area of the foundation. It is a value calculated by dividing the total conditioned floor area by the maximum number of storeys in the overall structure.

The conditioned floor area will be less than the total floor area if there are any unconditioned spaces. That therefore reduces the foundation area.

Even more confusingly, it is used by the software to estimate how much roof area will be available for solar panels. That is then used to determine how much solar contribution to attribute in the Notional and Reference buildings.

Note - If you are producing an EPC for an unconditioned building, the calculation will not run with a foundation area of zero. In this situation, you must enter a foundation area of 1 m².

SBEM also has an entry for number of storeys in the Building. You would think that dividing the total conditioned floor area by the number of storeys you enter here you would arrive at the foundations area.

If the number of storeys in the Building Unit you are assessing is the same as the overall structure then that would be correct. However, if the Building Unit is part of a larger structure with more floors it will probably be incorrect.

The number of stories you specify in SBEM is the number of storeys in the Building Unit you are assessing. The foundation area is based on the number of stories in the overall structure it is a part of, which may have more storeys. **They are often different.**

Make sure you calculate the foundation area using the storeys in the overall structure and not just in the part you are assessing if they are different. It is the number of storeys in the part you are assessing that you enter into SBEM however.

What difference does the foundation area make?

It does not appear to alter the EPC rating.

It does change the TER and because of that the "If newly built" rating shown on the EPC changes.

It also changes the Stock Average value. Because of that, the "If typical of existing" rating shown on the EPC changes.

It is unclear whether these would be grounds for audit failure, but it is best to get the foundation area right so you don't have to have that conversation with your scheme.

More significantly, if you are assessing a new-build then the fact it changes the TER means that it can have a massive impact on compliance.

What difference does the number of storeys entered into SBEM make?

Our tests indicate not a massive amount, but it does make some. It would appear the rating would potentially be slightly lower if you enter more storeys than there are in the actual building part (Building Unit) you are assessing.

Note for DesignBuilder users

Helpfully, DesignBuilder have provided the ability to let the software do the calculation for you. However, it will only be correct if the number of storeys in the whole structure and the number of storeys in the part you are assessing (the Building Unit) are the same.

If they are different, a simple trick is to run the calculation with the number of storeys set to the number of storeys in the whole structure. Open up the data reflection report and take a screen-shot of the calculated foundation area for audit evidence. Use that value to manually override the foundation area (so you lock it in) then change the number of storeys to the correct number for the Building Unit you are assessing

Disclaimer.

Hopefully this will provide some clarity until a convention is released. It is consistent with the discussions held between Proficiency, the accreditation schemes, DLUHC representatives and the BRE.

Ultimately the arbiters of what you must do are your accreditation scheme, and their decision is the final one. The above does not override any guidance or instruction you are given by your scheme. However, we have been actively involved in the conversations about this topic at scheme manager level so believe the above should be consistent with the advice you get from any of their support personnel.

(Should you receive guidance from a scheme which contradicts the guidance above, please let us know. In that instance we can explore the reasons and either update this guidance or challenge the scheme to justify or correct theirs).

This guidance is believed to be correct at the date of writing but may not remain correct should conventions or cross scheme guidance be altered. Conventions issue 8 is current at time of issue.

May 2023
V1.0