

SAP Calculations Checklist

Residential Conversions

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1. Building regulations

What regulation is being adhered to: 2013 or 2022. This is important for us to know as the calculation will need to be redone and recharged if this information isn't correct.

2. Address

We need to know the location of the building to apply the correct regional climate data to the assessment.

3. Date of existing building construction

We use this information to make assumptions on the U-values of existing building elements where construction/insulation is unknown.

4. Floor plans

We use these to measure glazing and doors.

5. Elevations

We use these to measure existing and new glazing and doors, and any openings which have been removed as a result of the extension.

6. Sections

We use these to measure internal floor to ceiling heights, and ensure we model the shape of the building correctly where there are vaulted ceilings or other complex aspects.

7. Site plan

We use this to determine the orientation of the building and if there is any shelter factor provided by surrounding buildings.



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8. Build specification for all heat loss areas

This includes build-ups for all new and upgraded wall, floor and roof types which have heated internal space on one side, and unheated space on the other side. We use these to calculate the fabric heat loss of the building.

9. Doors and glazing

Details, including U-values and G-values (if known) of doors and glazing, including any glazed doors and roof lights. We use these to calculate the solar gains and fabric heat loss of the building.

10. Ventilation

Type of ventilation system including make and model for system 3 or system 4 as soon as known. The type and efficiency of ventilation system plays a role in carbon emissions. By providing us with the make and model, we can ensure that the most accurate data is used.

11. Heating

Type of heating system including control system, emitter type/s, and make and model of heater and hot water cylinder (if applicable) as soon as known. The type and efficiency of heating system plays a significant role in carbon emissions. By providing us with the make and model, we can ensure that the most accurate data is used.

12. Light fittings

Number of light fittings, including wattage and capacity (lm) of bulbs used. Using low-energy lighting throughout plays a significant role in reducing CO₂ emissions.



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13. Any secondary heating systems (such as wood burning stove)

Having a secondary system can take some of the burden off the main heating system. If the fuel used for the secondary heating system has a lower carbon intensity, then this can be beneficial to a SAP assessment.

14. Renewables

Details of any renewable technologies including orientation and output (kWp) of any solar PV panels. We can add solar PV and other renewable technologies into a SAP assessment which will benefit the assessment by offsetting CO₂ emissions, and boosting the EPC score.