How to pass a new build SAP Calculation

Part L 2021

SAP calculations are calculated based on the proposed dwelling against a "notional" – i.e. the minimum requirements of Part L Building Regulations.

The "notional" dwelling

Element	Notional specification	
Size and shape	Same as proposed dwelling	
Opening areas	Same as actual dwelling up to a maximum for total area openings of 25% of total floor area	
Fabric U Values (W/m2K)	External Walls	0.18
	Party Walls	0.00
	Floors	0.13
	Roofs	0.11
	Doors	1.00
	Windows	1.20 (frame factor 0.70, G Value 0.63)
	Roof windows	1.20
	Rooflights	1.70
Thermal bridging	Same as proposed dwelling with "appendix R" values	
Ventilation	Natural ventilation with intermittent extract fans	
Air permeability	5 m3/h.m2 at 50Pa	
Main heating system	Mains gas boiler with radiators (89.5% SEDBUK efficiency)	
Hot water	Heated by boiler, separate time control	
Showers and baths	Same number as proposed dwelling. Shower flow rate of 8 l/min.	
Waste Water Heat Recovery (WWHR)	WWHR included (36% recovery efficiency, utilization of 0.98)	
Hot water cylinder	Only if in proposed dwelling	
Lighting	80 lm/W	
Solar PV	For houses kWp = 40% of ground floor area including unheated spaces / 6.5 For flats kWp = 40% of dwelling floor area / (6.5 x number of storeys in block) Facing SE/SW 45 deg pitch	

If the proposed dwelling specification meets or betters the above notional values, then compliance should be achieved. It is always recommend to perform SAP calculations as early on in the design process as possible.

Tips to achieve compliance

- Meet or better the notional U Values
- Ensure good insulation detailing to reduce thermal bridges
- Use an air source heat pump for main heating and hot water
- If possible, use mechanical ventilation with heat recovery (MVHR)
- Solar PV is absolutely necessary where main heating systems are proposed to be mains gas, LPG, oil or direct electric systems

How can Energytest help?

Energytest don't just assess, we work with you at every stage of the build process. Our fully accredited staff and wealth of experience means we provide practical and cost-effective solutions to meet the ever demanding needs of Building Regulations.

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