



Energy Assessment / SAP Details Applied

For the proposed development at:

Flats 1-4, 14-16 Tudor Road, Hampton, TW12 2NQ

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SAP ♦ CODE ♦ SBEM ♦ DESIGN

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Flats 1-4, 14-16 Tudor Road, Hampton, TW12 2NQ
20th September 2024
Property reference: SAP 10 -01236-01239



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1. Introduction

The calculations provided, draw upon the detailed SAP 10 assessment. This gives as accurate a guide as possible to the energy usage of the final development in operation, to comply with part L 2021

The Energy Assessment relates to a conversion of existing office to create a new dwellings at, 14-16 Tudor Road, Hampton, TW12 2NQ.

The report shows the reduction in Co2 for planning requirement of 35% over baseline over 2013 building regulations.

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2: Services & Thermals

The total CO₂ emissions has been calculated taking full account of energy demands for space heating and hot water, and electricity for pumps, fans, lights.. using the orientation and the use of building elements (walls, windows etc.) with U-values and other reference values and in most cases consistent with achieving compliance with Approved Document Part L: 2021.

2.1 Base line – Details and U – value applied 2013 building regulation

Element	U – Value Element	Element	U – Value Element
External solid wall to be upgraded	0.30	Floor	0.22
Flat roof	0.18	Door	1.80
Windows	1.60	Roof lights	1.60
Wall to Hall / Stairs	0.30	New wall	0.28
Dwarf Wall	0.28	New Dormer	0.28
New Roof slope	0.18	Roof void	0.16

Services

Intermittent extract fans

Mains gas boiler – 88% SEDBUK

Controls – Programmer, TRVS, Room Stat

Ventilation – Intermittent extract fans

Lighting – Efficacy 85 lm/W

Cold water storage – from mains

Boiler interlock

Shower 8 ltr per minute

Internal water use 110 litres per person per day

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2.3) SAP Details applied _ Lean

Element	U – Value Element	Element	U – Value Element
External solid wall to be upgraded to achieve	0.30	Floor achieves	0.10 / 0.08
Flat roof achieves	0.13	Door to achieve	1.40
Windows to achieve	1.40	Roof lights to achieve	1.40
Wall to Hall / Stairs to achieve	0.30	New wall achieves	0.18
Dwarf Wall achieve	0.09	New Dormer Wall to achieve	0.18
New Roof slope achieves	0.13	Roof void achieve	0.10

2.2) Services

Intermittent extract fans

Mains gas boiler – Ideal logic combi ESP1 24

Controls – Programmer, TRVS, Room Stat

Ventilation – Intermittent extract fans

Lighting – Efficacy 85 lm/W

Cold water storage – from mains

Shower 8 ltr per minute

Boiler interlock , Delayed start Stat

Internal water use 110 litres per person per day

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3: Renewables : - For planning

Flat 1- 0.70 Kw Peak Flat 2 - 0.60 Kw peak
 Flat 3 -0.80 Kw Peak Flat 4 – 0.70Kw peak

Facing South connected to the dwellings electricity meter and export capable meter.

4: Results - shows the summary for the calculations 2013- Building regulations

Building regs 2013

Flat	Base line Co2	Lean CO2	%reduction	Planning	Reduction %	SAP rating
1	1.51	1.25	17.22	0.97	35.70	81 B
2	1.46	1.20	17.81	0.92	37.0	82 B
3	2.00	1.67	16.50	1.29	35.5	85 B
4	1.28	1.13	11.72	0.80	37.5	83 B

4.1 Results 2010 Building regulations:

Flat	Co2 t/yr	DER kgCO2/yr/m2	SAP Rating
1	1.17	28.60	81 B
2	1.14	27.99	81 B
3	1.56	19.52	84 B
4	1.04	25.21	83 B

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5 Details:

With reference to the Boiler and domestic hot water these have been applied for the efficiency only and needs to be clarified that its suitable for use, if an alternative is used please inform us and we will check the efficiencies as an alternative could alter the EPC rating

With reference to the construction details a full specification / u – value calculations will be required before the As built SAP and EPC can be issued, including photograph evidence (date and location stamped - of construction, services, thermal bridging, and insulation levels and type. (see example)

It is the responsibility of the developer to confirm the photovoltaic panels can fit on the orientation listed, if the panels an not fit on the stated orientation and an alternative is required please inform us as soon as possible, as this will alter the amount of photovoltaic panels required, and could in turn make the dwelling fail part L building regulations.

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