

L1A Fact Sheet

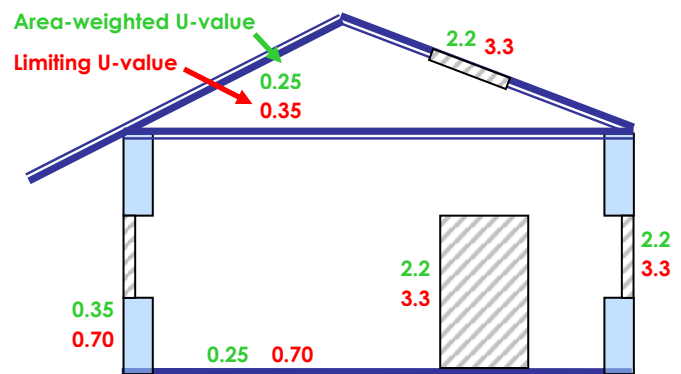
Based on the *Approved Documents for new Part L 2006*
(Conservation of Fuel and Power)

New Part L structure	
L1A: New dwellings ≤ 450m ²	L1B: Existing dwellings ≤ 450m ²
L2A: New buildings other than dwellings	L2B: Existing buildings other than dwellings

L1A Compliance Requirements

- SAP 2005 (see verso)
- Area weighted U-value
- Limiting U-value
- Air pressure testing
- Internal low-energy lighting
- External low-energy lighting
- Minimum services requirements
- Limiting summer solar gain
- Minimizing thermal bridging
- Commissioning
- Operating & Maintenance manual
- Energy rating (EPBD)

Design Limits for Building Envelope



Internal Low-Energy Lighting

Low-energy lighting = Fixed light fittings that only take lamps with a luminous efficacy greater than 40 lumens per circuit-watt.

**Requirement: 1 per 25m² of dwelling floor area
or 1 per 4 fixed outlets**

Should be provided in most used rooms:
Living rooms, kitchens, halls, and landings

What complies?

- CFLs (Compact Fluorescent Lamps)
- Fluorescent Tubes

What doesn't comply?

- Tungsten (GLS) bulbs with bayonet cap
- Tungsten (GLS) bulbs with Edison screw base
- Tungsten Halogen lamps (ELV, LV, & mains)

Air Pressure Testing

- Worst acceptable design and measured air permeability: **10 m³/hm² at 50Pa**
- Compliance if **DER** calculated using the measured air permeability ≤ **TER**

Number of air pressure tests required?

If design has used Approved Construction Details:

- 1 test per dwelling type

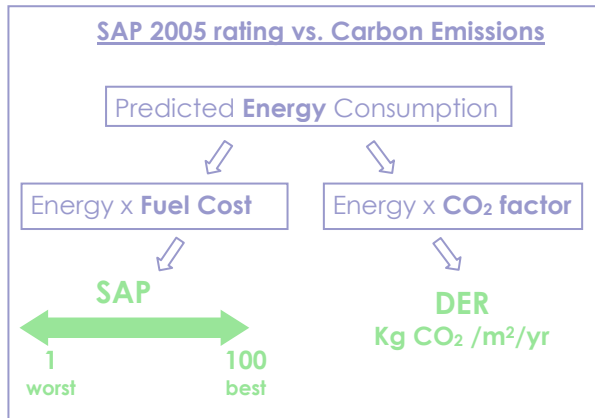
If design has NOT used Approved Construction Details:

- 1 test per dwelling type if dwelling type ≤ 4 units
- 2 tests per dwelling type if dwelling type > 4 and ≤ 40 units
- 5% of each dwelling type if dwelling type > 40 units (reduced to 2% if the first 5 units achieve design air permeability)

SAP 2005

Proving Part L SAP compliance for New Dwellings has radically changed...

- Elemental Method
- TARGET U-Value Method
- Carbon Index → **Replaced by DER ≤ TER**



- Renewable Energy to help meet TER**
- Opportunity to offset CO₂ emissions by using renewable energy
 - Use of low or zero carbon technologies such as:
 - Solar Water Heating
 - PVs
 - Micro-CHP & CHP
 - Heat Pumps
 - Biomass Heating

TER = Target Emissions Rate	DER = Dwelling Emissions Rate
<i>Energy from heating, hot water, ventilation, internal fixed lighting in Kg of CO₂/m²/year calculated using SAP 2005</i>	
<ul style="list-style-type: none"> • Based on a notional dwelling: same size & shape as actual dwelling • Notional dwelling assumes a set of Part L 2002 references: <ul style="list-style-type: none"> - Part L 2002 Elemental U-values - Openings: 25% of total floor area - Conventional Gas boiler SEDBUK 78% - Radiators and Hot Water Cylinders - Natural Ventilation with extract fans - 30% low energy lighting - Air permeability: 10 m³/hm² at 50Pa • TER = PART L 2002 CO₂ emissions x 20% Improvement 	<ul style="list-style-type: none"> • Predicted CO₂ emissions of the dwelling based on construction specifications • Minus any CO₂ emissions saved by on-site renewable energy generation • Takes into account the CO₂ fuel factor of each type of fuel used • Assumes 30% low energy lighting (fixed/non-tradable)

3 steps to ensure DER/TER compliance:

RIBA Stages A-C
Draft SAP 2005

RIBA Stages D-E
Design SAP 2005

RIBA Stage K
As-built SAP 2005

Required by Building Control

Required by Building Control