

The Energy Assessment calculation (SAP) now has two targets which both have to be met to demonstrate Part L1A compliance so as to enable a new dwelling to be 'signed-off' by building Control.

- **Target Fabric Energy Efficiency (TFEE)** – relates to the type and amount of insulation on the building envelope.
- **Target Energy Rating (TER)** – CO2 Emission Rate – relates to the method of heating and lighting the dwelling.

This document provides some guidelines to the type of Insulation, Heating and Lighting you will need to gain Part L1A Building Regulation Compliance. All dwelling behave differently during the Energy Assessment and the data below should be thought of as the minimum specifications required for compliance.

Target Fabric Energy Efficiency (TFEE)

Recommended Specifications

Building Element	Type	Thickness mm	Lambda W/mK	Example	Comments
Slab Floors	Phenolic insulation board	125	0.018	Kingspan Kooltherm K103	For buildings with a small footprint try increasing thickness to 150mm
Cavity Walls	Cavity batts	150	0.032	Dritherm 32	For the Inner Leaf use a lightweight block if possible with Lambda value 0.11 W/mK (e.g. Toplite GTI)
	Phenolic insulation board	100	0.018	Kingspan Kooltherm K106	
Pitched Roof	Flat Ceiling rockwool	400	0.032	Earthwool Loft Roll 32	200 mm between joists plus 200 mm over joists
	Sloping Ceiling Phenolic insulation board	125	0.018	Kingspan Kooltherm K106	125 mm between rafters plus 20 mm below rafters
Flat Roof	Phenolic insulation board	100	0.018	Kingspan Kooltherm K106	100 mm between joists plus 20 mm below joists
Glazing	Argon filled double glazing with low e soft coating – u-value of 1.4 W/m ² K.				
Doors	Solid or Half-glazed with u-value of 1.5 W/m ² K.				
Air Pressure	Target value of 5 m ³ /m ² h and the building must be built to Accredited Details.				

Target Energy Rating (TER)

Air Source Heat Pump	This is the recommended method of heating and a building will easily pass the Target Energy Rating with an ASHP. ASHPs work well with underfloor heating on the ground floor and radiators on the first floor.	For best results use a boiler listed on the Product Characteristics Database http://www.ncm-pcdb.org.uk/sap/searchpod.jsp?id=17
Gas Boiler	It is quite difficult to get a dwelling to pass the Target Energy Rating using a gas boiler however it can be done provided the house is well insulated, has a wood burning stove, a modest amount of windows. We sometimes also need to add a Flue Gas Heat Recovery System to the boiler to meet the Energy Target.	
Wood Pellet Boiler	These boiler are now available for smaller dwellings and are a good alternative if no mains gas is available https://www.stovesonline.co.uk/wood_burning_stoves/Klover-Smart-120-wood-pellet-cooker.html	
Oil Boiler	If you want to use an Oil Boiler then you need to also have some renewable energy source such as 1.5 kWp/h of photovoltaic panels	
Lighting	100% low energy lighting – most people choose LEDs	