Thermal Efficiency

Category 1 – (energy and CO^2 emissions) – Ene1 thermal efficiency.

Aim: To limit emissions of carbon dioxide (CO2) to the atmosphere arising from the operation of a dwelling and its services.

"Timber frame thermal efficiency solutions are highly flexible and can be optimized to provide the desired DER (Dwelling Emission Rate)."

Wall Performance

- U-values of 0.30 W/m²K for walls (14% better than minimum building regs) can easily be achieved using standard timber frame with 140mm stud sections.
- The addition of reflective breather membrane and high performance fibre insulation can improve U-values down to 0.25 W/m²K (29% better than building regulations).
- 0.21 W/m²K U value (40% better than building regs) can be achieved using high performance fibre insulation, reflective vapour control layers and a service void.
- Further improvements possible down to 0.19 W/m²K by the use of high performance rigid insulation, however the cost and environmental impact associated with the use of such materials is less desirable.

Air Leakage

Air leakage is also considerably reduced for timber frame when compared to traditional building techniques.

- Air leakage levels have a significant impact on DER calculations.
- Standard timber frame achieves between 5-8 m³/h.m². By paying particular attention to the vapour check layer and sealing around service penetrations to the external wall, this can be reduced to <5 m³/h.m².
- By the use of a service zone in the external wall air leakage can be reduced down to less than 2.5 m³/h.m². In this situation forced ventilation should be considered and with the addition of a heat recovery unit, the DER can be further improved.

Pinewood

BRE Certification Limited

FSC TT-COC-2130

PEFC BMC-PEFC-0221

BM TRADA ISO 9001:2000

BM TRADA Trussed Rafters BS 5268:3 BS EN 14250

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Pinewood

Maximise your Sustainability Scores with Timber Frame from Pinewood Structures

See how structural timber frame solutions from Pinewood Structures can help you maximise your Code for Sustainable Homes scores.

www.pinewood-structures.co.uk
Tel: 01767 651218

Green Guide Rating

Category 3* (materials) – 'Mat 1' Environmental Impact of Materials.

Aim: To encourage the use of materials with lower environmental impacts over their life cycle.

Only Pinewood Structures timber frame products will supply credit to gain points for this mandatory area of the Code for Sustainable Homes.

- **Roofs** – gained A+ rating under the Green Guide criteria = 3 Credits.
- **Floors** – gained A+ rating under the Green Guide criteria = 3 Credits.
- **External Walls** – gained A rating under the Green Guide criteria = 2 Credits.
- **Internals Walls** – gained A rating under the Green Guide criteria = 2 Credits.

An A+ rating indicates the products with the lowest environmental impact.

Total credits acquired = 10, this leads to 2.7 points.

If windows are used, which have an A or A+ rating, the number credits acquired would be 13. This amount of credits would result in a 3.6 point score.

* Code for sustainable homes.

BRE Certification Limited

Chain of Custody

Category 3* (materials) – 'Mat 2' Responsible Sourcing of Materials – Basic Building Elements.

Aim: To recognise and encourage the specification of responsibly sourced materials for the basic building elements.

Pinewood can supply certified responsibly sourced materials for 4 out of the 8 areas in the criteria (upper floors, roof, external walls and internal walls). All certification and relevant paper work will be supplied.

Pinewood certified timber is sourced from tier level 1 FSC and PEFC. Due to this our products can contribute the maximum 3 points per element used.

Total points scored for the 4 areas = 12. When coupled with the other non point scoring areas this will gain at least 4 credits, this leads to 1.2 points towards the Code for Sustainable Homes.

Coupled with other scoring elements it is possible to achieve the maximum of 1.8 points the Code.

* Code for sustainable homes.

Credits	6	4	3	2
No. Elements	Points Range			
9	=18	≥12	≥9	≥6
7	≥15.75	≥10.25	≥7.87	≥5.25
6	≥13.5	≥9	≥6.75	≥4.5
5	≥11.25	≥7.5	≥5.625	≥3.75

FSC TT-COC-2130

PEFC BMC-PEFC-0221

Sound Insulation Part E

Category 7* (health and well being) – 'Hea 2' Sound Insulation.

Aim: To ensure the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours.

To achieve credits in this category, higher standards of sound insulation then specified in the building regulations need to be achieved. Below is a table of how the Robust Details (mean values) perform against the building regulations.

	Building Regs (dB)	Robust Detail (dB)	Improvement	Credits Attainable
Walls (Airborne)	45	55	+10dB	4
Floors (Airborne)	45	50	+5dB	3
Floors (Impact)	62	54	-8dB	4

NB: With airborne sound the higher the figure the better, with impact sound the lower the figure the better.

* Code for sustainable homes.

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