Pitched roofs.

Superglass Timber and Rafter Insulation.

Achieving high levels of thermal insulation between rafters.

The insulation of a pitched roof can take many forms. In most instances the loft space is a cold air space with the insulation being installed at the ceiling level to prevent warm air escaping into the loft space below the roof. There are other installation types that Superglass products can be used for namely Warm Roofs and “Room in a Roof”.

A warm roof is when the insulation is installed into the rafters below the roof line. This allows for the maximum utilisation of the roof space. There are design requirements to ensure that wind driven rain is allowed to freely drain using counter batten and that allow water vapour to disperse.

A “Room in a Roof” will have access to the roof space provided by stairs and allows the homeowner to increase the amount of habitable space that is available in their dwelling. The room will typically have sloping roofs, dwarf walls and possibly a dormer window.
The design of the roof still requires the same attention to ensure that water vapour is dispersed and that wind driven rain is allowed to freely drain to the gutters.

Thermal Insulation

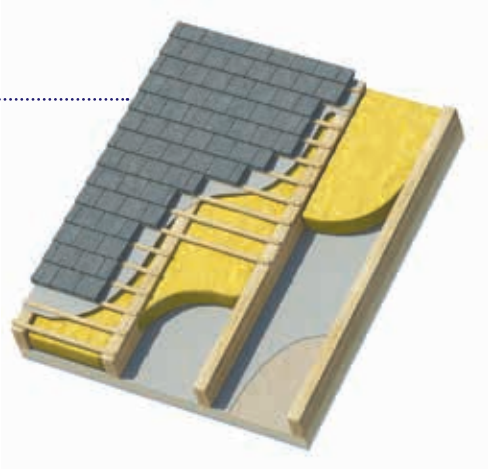
Superglass Timber & Rafter Insulation for pitched roofs

Superglass Timber & Rafter Rolls / Batts are lightweight, non-combustible glass mineral wool insulation products. The flexible rolls and batts are manufactured to allow easy installation between common stud spacings, and minimum on-site cutting and waste. The products are supported by friction fitting between timber studs which helps to eliminate air gaps.

Superglass Products	Thermal Conductivity
Timber & Rafter Roll or Batt 32	0.032 W/mK
Timber & Rafter Roll or Batt 35	0.035 W/mK
Timber & Rafter Roll or Batt 40	0.040 W/mK

Typical U-Values achieved when using Superglass Timber and Rafter Insulation.

Standard plasterboard

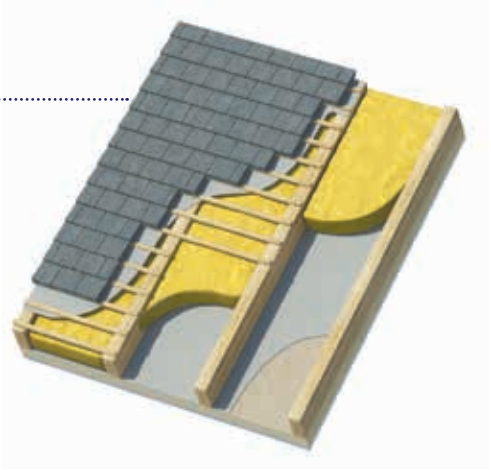


- Roof tiles
- 25mm timber battens (unvented)
- 25mm timber counter battens (unvented)
- Standard breather membrane
- 9mm OSB
- **Timber rafters (600mm centres) with Superglass Timber and Rafter rolls or batts**
- Standard vapour barrier
- 12.5mm standard plasterboard (0.18W/mK)
- 3mm plaster skim

Insulation and stud thickness (mm)	Superglass insulation	U-Value Achieved (W/m²K)
300	Timber & Rafter Batt 32 (3x100mm)	0.12
280	Timber & Rafter Roll or Batt 32 (2x140mm)	0.13
280	Timber & Rafter Roll or Batt 35 (2x140mm)	0.14
280	Timber & Rafter Roll or Batt 40 (2x140mm)	0.15
230	Timber & Rafter Roll or Batt 32 (140+90mm)	0.16
230	Timber & Rafter Roll or Batt 35 (140+90mm)	0.17
200	Timber & Rafter Batt 32 (2x100mm)	0.18
190	Timber & Rafter Batt 32 (100+90mm)	0.19
180	Timber & Rafter Roll or Batt 32 (2x90mm)	0.20
180	Timber & Rafter Roll or Batt 35 (2x90mm)	0.21
180	Timber & Rafter Roll or Batt 40 (2x90mm)	0.23
140	Timber & Rafter Roll or Batt 32	0.24
140	Timber & Rafter Roll or Batt 35	0.26
140	Timber & Rafter Roll or Batt 40	0.28

Calculated using 9% bridging for timber rafters.

Plasterboard laminate



- Roof tiles
- 25mm timber battens (unvented)
- 25mm timber counter battens (unvented)
- Standard breather membrane
- 9mm OSB
- **Timber rafters (600mm centres) with Superglass Timber and Rafter rolls or batts**
- Standard vapour barrier
- 24.5mm plasterboard laminate (0.022W/mK)
- 3mm plaster skim

Insulation and stud thickness (mm)	Superglass insulation	U-Value Achieved (W/m²K)
300	Timber & Rafter Batt 32 (3x100mm)	0.11
280	Timber & Rafter Roll or Batt 35 (2x140mm)	0.12
230	Timber & Rafter Roll or Batt 32 (140+90mm)	0.13
230	Timber & Rafter Roll or Batt 35 (140+90mm)	0.14
190	Timber & Rafter Batt 32 (100+90mm)	0.15
180	Timber & Rafter Roll or Batt 32 (2x90mm)	0.16
180	Timber & Rafter Roll or Batt 35 (2x90mm)	0.17
180	Timber & Rafter Roll or Batt 40 (2x90mm)	0.18
140	Timber & Rafter Roll or Batt 32	0.19
140	Timber & Rafter Roll or Batt 35	0.20
140	Timber & Rafter Roll or Batt 40	0.21

Calculated using 9% bridging for timber rafters.