

Cut Roof Construction

Roof to be formed as traditional cut roof construction with rafters, purlins, ceiling joists and binders cut and fixed on site, sized, graded and spaced in accordance with the structural engineer's details and calculations.

Roof covering to comprise plain or interlocking tiles to match the existing roof, installed strictly in accordance with BS 5534 and the tile manufacturer's instructions (headlap, batten gauge and fixings to suit roof pitch; proprietary flashing kits to suit covering type).

Provide treated timber battens fixed over a breathable roof underlay laid on rafters. All restraint straps, bracing and connections to be in accordance with the structural engineer's specification.

Provide 25 mm continuous ventilation at eaves and 5 mm continuous ridge or abutment ventilation (or proprietary equivalent) to ensure cross-ventilation of the roof void in accordance with BS 5250.

Construction to achieve compliance with Approved Document A (Structure), Approved Document B (Fire Safety), and Approved Document C (Resistance to Moisture).

Eaves / Lean-to Vaulted Ceiling

Provide insulation to vaulted ceiling where flat ceiling meets lean-to roof.

Between rafters install 100 mm Kooltherm K107 insulation, tightly fitted, maintaining a continuous 50 mm ventilated air gap above to underside of roof underlay.

Provide continuous 25 mm equivalent ventilation at eaves, together with high-level abutment ventilation (equivalent to 5 mm continuous slot) at junction with main wall using proprietary abutment ventilators (e.g. Glidevale AV50 AbVent or similar).

Finish internally with 62.5 mm insulated plasterboard (Kingspan K118 or similar) to achieve thermal continuity, joints sealed to act as vapour control layer.

Over-board internally with minimum 12.5 mm fireline plasterboard (Type F to BS EN 520) with skim finish to achieve required fire resistance.

Construction to achieve U-value $\leq 0.15 \text{ W/m}^2 \cdot \text{K}$ in accordance with Approved Document L (Conservation of Fuel and Power) and to provide minimum 30 minutes fire resistance in accordance with Approved Document B (Fire Safety).

Ground Bearing Concrete Floor Slab Construction

Provide in-situ 150 mm reinforced concrete slab (C25/30) laid over 1200 gauge polythene damp proof membrane (DPM) lapped and sealed with cavity wall DPC, on 150 mm Celotex GA4000 insulation with joints tightly butted and taped.

Below insulation provide 1200 gauge separating layer on 150 mm well-compacted hardcore sub-base.

Finish with 65 mm sand/cement screed (reinforced with polypropylene fibres or welded mesh reinforcement) to receive floor finishes.

All insulation and membranes to be installed in strict accordance with manufacturer's instructions, ensuring continuity at junctions and sealing around services to minimise thermal bridging and air leakage.

Construction to achieve U-value $\leq 0.18 \text{ W/m}^2 \cdot \text{K}$ in accordance with BS EN ISO 13370:2007 and to comply with Approved Document L (Conservation of Fuel and Power) and Approved Document C (Site Preparation and Resistance to Contaminants and Moisture).

New Rooflight

Provide new rooflight windows with a minimum overall performance of U-value $1.4 \text{ W/m}^2 \cdot \text{K}$ or better, in accordance with the requirements of Approved Document L (Conservation of Fuel and Power).

All rooflights to be installed in accordance with manufacturer's instructions and to achieve compliance with Building Regulations. Provide background ventilation in accordance with Approved Document F (Ventilation), using trickle vents sized to meet minimum equivalent area requirements.

Trim roof structure locally to form openings, using doubled/trippled trimmers and rafters as required, in accordance with structural engineer's details and manufacturer's recommendations.

Warm Flat Roof Construction (Fire Rated – BROOF(t4))

Flat roof to be constructed as a warm roof system, formed to a minimum structural fall of 1:40 using timber firing pieces on joists, ensuring a finished fall of not less than 1:80 towards outlets, gutters or rainwater pipes.

Roof build-up to comprise proprietary BROOF(t4)-rated waterproofing system (high-performance bituminous felt, mastic asphalt, single-ply membrane or liquid-applied system) installed strictly in accordance with manufacturer's tested and certified build-up. Contractor to provide certification confirming BROOF(t4) compliance prior to installation.

18 mm WBP plywood or OSB3 decking to be fixed over treated timber firrings on existing timber joists. Provide a continuous vapour control layer laid directly over roof deck, lapped and sealed at all joints, penetrations and perimeters to maintain airtightness.

Above the vapour control layer, install 150 mm Kingspan Thermaroof TR27 or equivalent rigid PIR insulation, fully bonded in accordance with manufacturer's instructions, with staggered and taped joints to maintain vapour control and eliminate thermal bridging. Waterproofing layer to be fully bonded over insulation as part of the certified BROOF(t4) system.

All components to be installed strictly in accordance with manufacturer's instructions, ensuring continuity of insulation, vapour control and airtightness at all junctions.

Construction achieves U-value $\leq 0.15 \text{ W/m}^2 \cdot \text{K}$ in accordance with BS EN ISO 6946:2007.

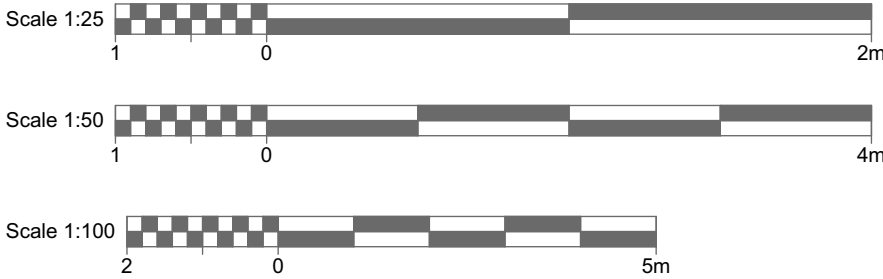
SECTION A-A

1:25

All Dims in millimeters unless otherwise stated.
Do not scale except for planning purposes.
If in doubt - Ask

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DRAWING SHEET SIZE:

A1

DRAWING NUMBER:

3347 B - 08

REVISION: B

02/12/2025
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