



New Rooflight

Provide footlight as per manufacturer's instructions with a minimum overall performance of U-value 1.4 W/m²·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.

Cut Roof Construction with Tiles

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 tiles suitable for 15 deg pitch, installed strictly in accordance with BS 5534 and tile manufacturer's instructions (including details of flashing, batten and covering).

- Provide treated timber battens fixed over breathable roof underlay on rafters. All restraint straps, bracing and connections to be in accordance with engineer's specification.
- Provide 25 mm continuous ventilation at eaves and 5 mm continuous ridge/abutment ventilation (or proprietary system) 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).

Vaulted Ceiling

Provide insulation to vaulted ceiling.

Between rafters install 100 mm Kootherm 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. Gledvale 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.

Construction to achieve U-value ≤ 0.15 W/m²·K in accordance with Approved Document L (Conservation of Fuel and Power)

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/radon barrier), lapped and sealed with cavity wall DPC to maintain continuous protection.

Below membrane provide 150 mm Celotex GA4000 insulation with joints tightly butted and taped, laid on 1200 gauge separating layer over 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.

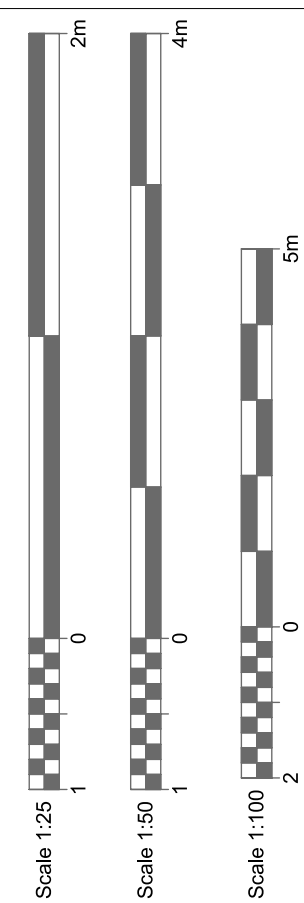
All membranes and insulation to be installed in strict accordance with manufacturer's guidance, ensuring joints lapped, sealed and service penetrations, and continuous with wall DPCs to provide airtightness and radon resistance.

Construction achieves U-value ≤ 0.13 W/m²·K in accordance with BS EN ISO 13370:2007, and complies with Approved Document L (Conservation of Fuel and Power) and BRE Report BR 211: Radon: Guidance on Protective Measures for New Buildings.

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:
3350 Rev D - 08

REVISION: D
09/12/2025
Val Pelovski

SECTION A-A

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Internal Stud Wall Construction

Provide timber stud partition walls with stud size and centres in accordance with structural engineer's details and calculations (typically 75x50mm studs at 400 mm centres).

Insulation to comprise mineral wool acoustic insulation fully filling stud void.

Internal finish to comprise 12.5 mm plasterboard with 3 mm plaster skim to both sides (use moisture resistant board where walls form part of bathrooms or kitchens).

Construction to achieve minimum sound resistance of 40 dB Rw in accordance with Approved Document E (Resistance to the Passage of Sound).

External Wall Construction

102.5 mm facing brickwork in 1:1.6 cement/sand mortar to outer leaf.

100 mm cavity with 90 mm EcoTherm Eco-Cavity partial fill insulation, held in position by stainless steel double-drip wall ties with retaining discs in accordance with manufacturer's instructions.

Maintain 10 mm residual cavity clear between insulation and outer leaf.

100 mm lightweight concrete block inner leaf (minimum 3.6 N/mm²), laid in 1:2.9 cement/sand mortar (refer to structural engineer's details for block strength).

Internal finish to comprise 12.5 mm Gyproc Wallboard on plaster dabs with 3 mm plaster skin.

Construction to achieve a U-value of 0.17 W/m²·K in accordance with BS EN ISO 6946:2007.

Substructure and Foundations

Provide concrete strip or trench fill foundations not less than 600 mm wide and to a minimum depth of 1,000 mm below finished ground level, or deeper as required to suit site conditions, nearby trees and Building Control approval. Concrete to be C25/30 mix laid level and compacted.

Above foundation, construct 300 mm cavity wall in Class A engineering brickwork and concrete blockwork laid in cement/sand mortar, continued up to minimum 150 mm below DPC level.

Provide horizontal DPC minimum 150 mm above external ground level, lapped with floor DPM to ensure continuous moisture protection.

Substructure to be constructed in accordance with Approved Document A (Structure) and Approved Document C (Site Preparation and Resistance to Contaminants and Moisture).

