

Domestic Airtightness Training – Additional Information

How difficult is the course?

Unfortunately, not everyone passes the course first time. Of the three exams, the one which causes most problems is envelope area. The concept of envelope area is explained in ATTMA TS1 (www.attma.org/ATTMA_TS1_Issue2_July07.pdf) together with some sample calculations. Also, questions 16-20 in the prequalification test (www.bsria.co.uk/download/dat-prequal-test.pdf) relate to envelope area calculations and a sample calculation is attached to this information sheet.

How do I become BINDT registered?

- This course is the first step in becoming registered with BINDT as a non-domestic tester. After attending the training course and successfully completing all the examinations, the next step is to carry out an initial review.
- The initial review involves carrying out three unpaid airtightness tests on your own, and presenting full test reports, including envelope area calculations, to BSRIA for review.
- The initial review is normally face-to-face, however it can be carried out remotely if distance is an issue. The cost of the initial review is included in the course fee.
- After undertaking the Initial Review, candidates must demonstrate to BINDT that they have adequate insurance, and access to equipment with valid UKAS calibrations. The candidate will receive a probationary certificate, which is valid for one year.
- Candidates must undertake a one-year review in order to maintain their BINDT registration. The candidate will submit a log of all tests carried out to BINDT, who will select three tests for review. The candidate will make an appointment with BSRIA.
- At the review, the candidate will present full test reports, including envelope area calculations, in addition to undertaking a complete airtightness test on BSRIA's test rig. The candidate can then proceed to an unrestricted certificate, which is valid for one year.
- In subsequent years, in order to maintain their BINDT registration, candidates must submit a log of tests carried out in the past year, and BINDT may carry out spot-checks on candidates' reports, calculations and testing procedures.

What are the costs involved in airtightness testing?

- The fee for the course is £1400 for the first delegate and £1150 for subsequent delegates. The initial review is included in this fee.
- The initial BINDT registration fee is £100.
- The fee for the BSRIA one-year review is £430
- The one-year BINDT registration renewal fee is £100
- The fee for BINDT registration renewal in subsequent years is £200
- A full set of equipment costs around £4500 (including initial calibration)
- All equipment requires annual recalibration – this costs around £665

The above fees are correct to the best of our knowledge as of 30th August 2011

Can BINDT-registered testers test non-dwellings?

The BSRIA domestic airtightness training course and the BINDT domestic airtightness registration scheme only cover tests on dwellings.

It is not a legal requirement for airtightness testers to be registered, however the Building Regulations state that building control bodies are authorised to accept certificates from BINDT-registered testers. What this effectively means is that the building control body would have to check the competency and equipment calibrations of any non-registered testers. Most building control bodies don't have the technical knowledge to supervise tests, and an increasing number will only accept certificates from BINDT-registered testers.

Procedures for becoming accredited by BINDT to carry out airtightness testing on non-dwellings are different from those for dwellings. There is no recognised training course for testing non-dwellings. Unlike for dwellings, the BINDT accreditation is for the company, not the individual. First the company would need to become a member of ATTMA. Through ATTMA the company would then need to gain UKAS accreditation. This involves approval of equipment, software, quality assurance schemes, equipment logs, staff training protocols, adherence to ATTMA TS1, etc. In order to gain UKAS accreditation, the company must have at least two employees, so they can quality assure each other's work. The company will also have to submit test reports to ATTMA members for review.

Small non-dwellings can be tested using off-the shelf blower door equipment. Larger buildings require custom-built equipment, which in turn will need a custom-built calibration rig that satisfies UKAS requirements.

Contacts

- Technical questions should be addressed to the course lecturer David Bleicher: david.bleicher@bsria.co.uk; 01344 465 589
- Administrative questions should be addressed to the course administrator Kathie Bull: Kathie.bull@bsria.co.uk; 01344 465527
- Questions about BINDT registration should be addressed to Peter Milligan: peter.milligan@bindt.org; 01604 823722, Jennifer Harrison: jennifer.harrison@bindt.org; 01604 823726, or Amy Cooke amy.cooke@bindt.org; 01604 823715
- BSRIA Instrument Solutions can provide airtightness testing equipment and other instruments, and also carry out UKAS calibrations: www.bis.fm; 01344 459314 Sales: sales@bis.fm Hire: hire@bis.fm Calibration: calibration@bis.fm
- For enquiries about becoming accredited as a non-dwelling airtightness tester, contact ATTMA chairman Rob Coxon (R.Coxon@stroma.com; 0845 621 1111).

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Envelope Area Practice Paper

Refer to Ground Floor Plan, First Floor Plan and Section A-A

Cold Roof or Warm Roof construction?

Section A-A indicates insulation in the first floor ceiling, and none at rafter level. Therefore the house uses Cold Roof Construction.

Dimensions

Envelope areas are always calculated using internal dimensions. In this example the dimensions on the drawings will be used. In real life, you may need to measure some dimensions using a scale rule, in which case you should check what scale the drawings are printed at. Also, you should always check dimensions on site, as the building may not have been built exactly as shown on the construction drawings. Note that the dimensions on the drawings are given in millimetres. To convert these dimensions to metres, divide by 1000. In this example, I have rounded all dimensions to the nearest 0.1m.

Ground Floor

The ground floor has an L-shaped plan. The easiest way to deal with this is to split it up into two rectangles with the following dimensions:

The ground floor area is $(4.9\text{m} \times 8.0\text{m}) + (2.9\text{m} \times 6.0\text{m}) = 56.6\text{m}^2$

Roof

As the house uses Cold Roof Construction, the roof area will be the same as the ground floor area i.e. 56.6m^2

Walls

The house has six wall areas that need to be taken into account. These are labelled 1 to 6 on the first floor plan.

Area of wall 1 = $4.9\text{m} \times 5.0\text{m} = 24.5\text{m}^2$

Area of wall 2 = $2.0\text{m} \times 5.0\text{m} = 10.0\text{m}^2$

Area of wall 3 = $2.9\text{m} \times 5.0\text{m} = 14.5\text{m}^2$

Area of wall 4 = $6.0\text{m} \times 5.0\text{m} = 30.0\text{m}^2$

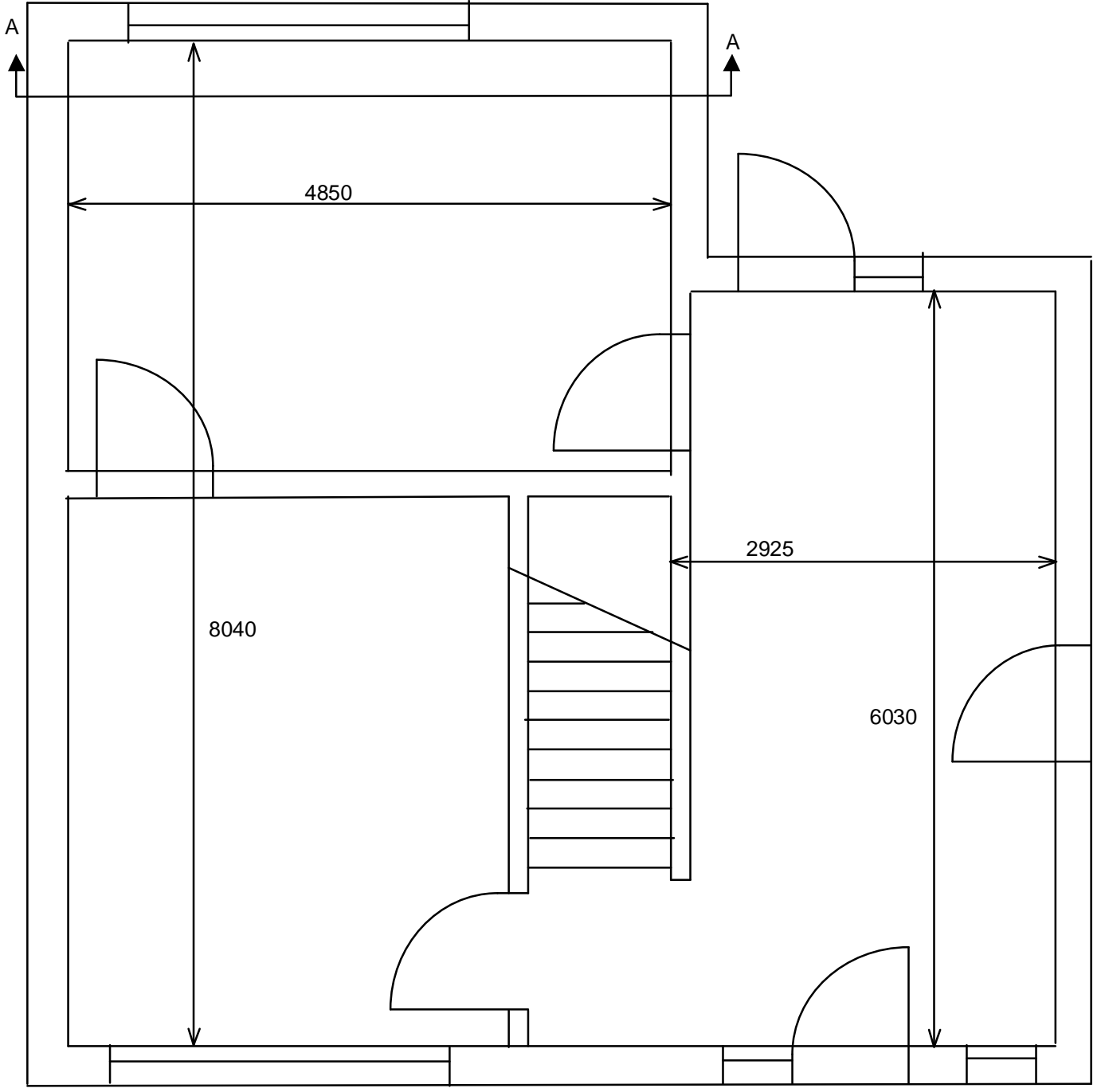
Area of wall 5 = $7.8\text{m} \times 5.0\text{m} = 39.0\text{m}^2$

Area of wall 6 = $8.0\text{m} \times 5.0\text{m} = 40.0\text{m}^2$

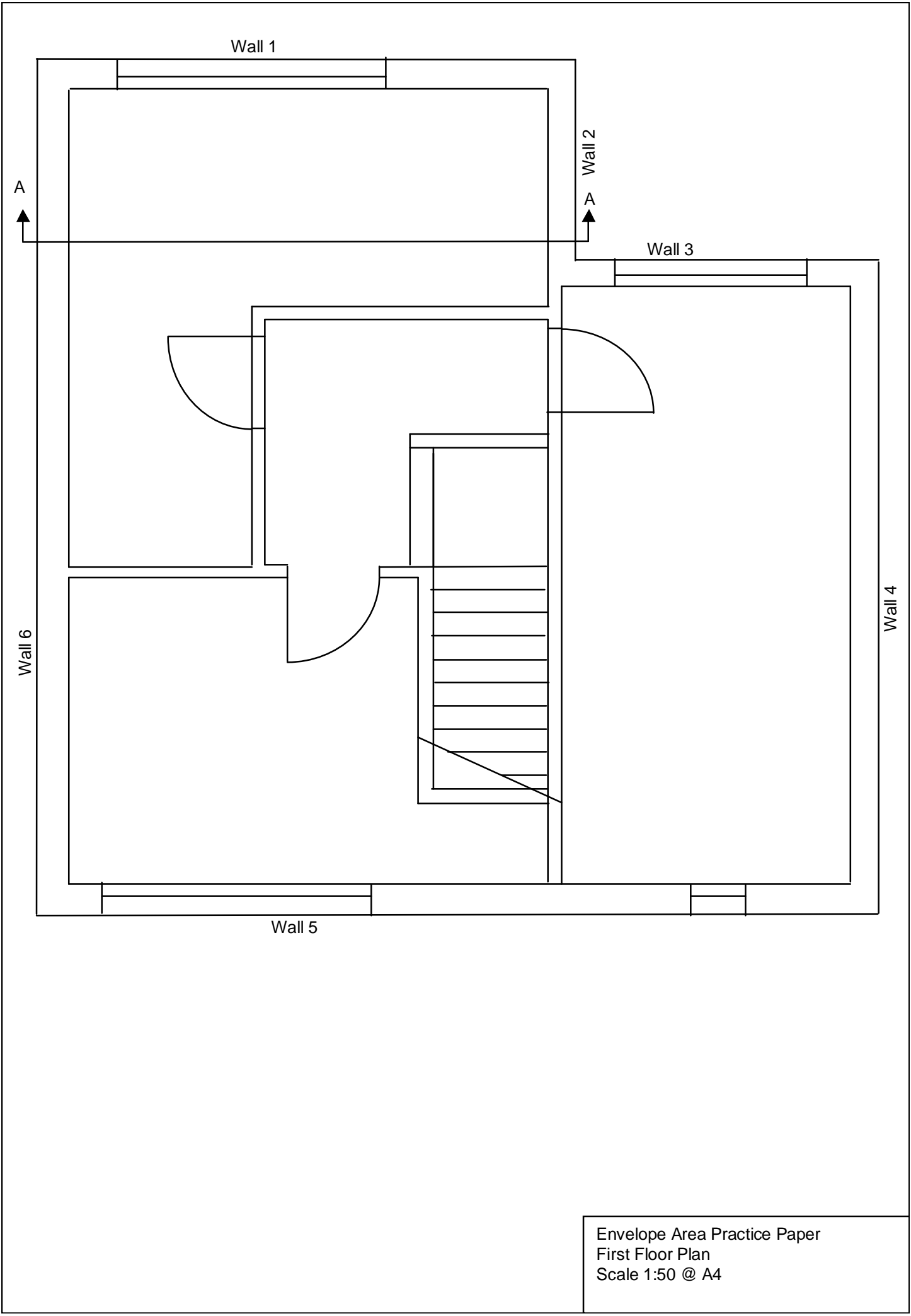
Total wall area = 158.0m^2

Adding it all up...

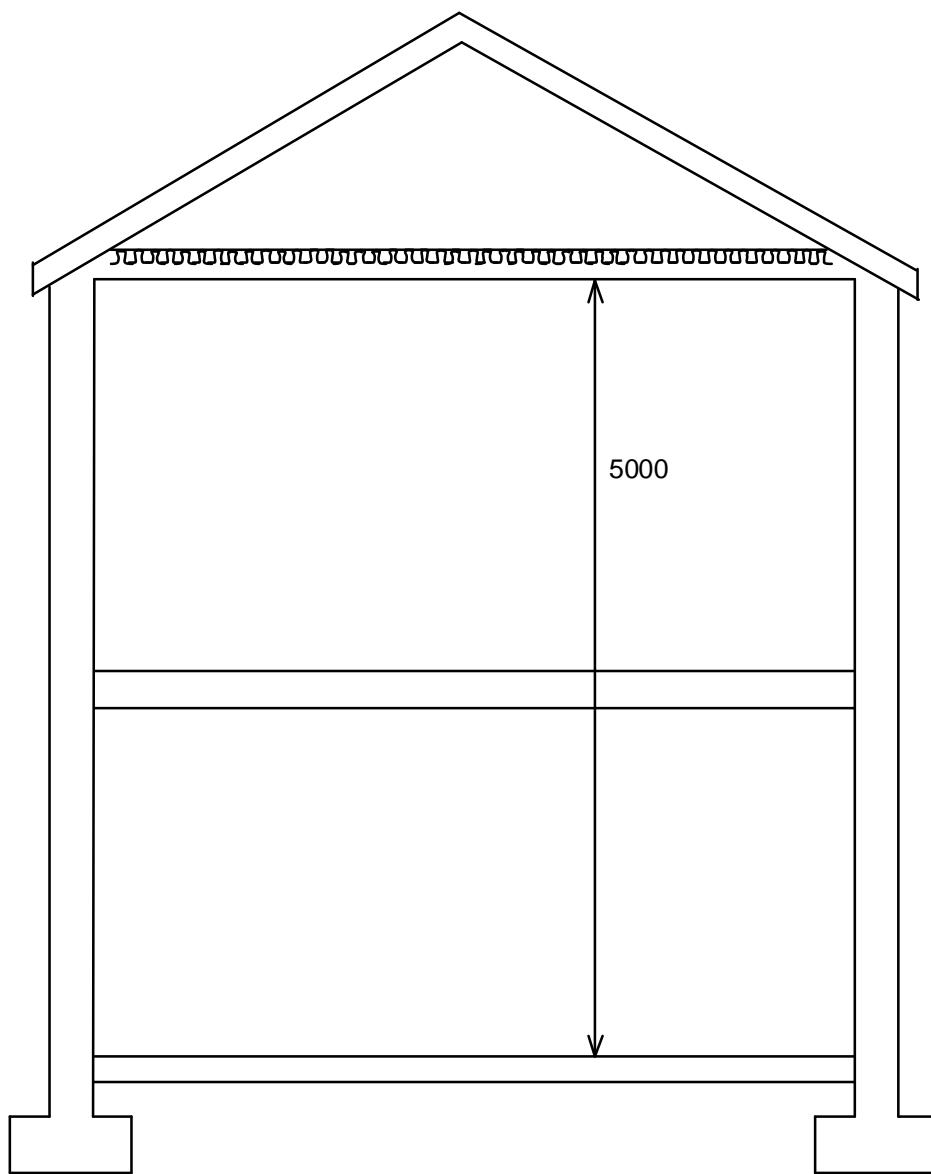
Envelope area = Ground floor + Roof + Walls
= $56.6\text{m}^2 + 56.6\text{m}^2 + 158.0\text{m}^2$
= 271.2m^2



Envelope Area Practice Paper
Ground Floor Plan
Scale 1:50 @ A4



Envelope Area Practice Paper
First Floor Plan
Scale 1:50 @ A4



Envelope Area Practice Paper
Section A-A
Scale 1:50 @ A4