

---

## Overview

This standard is for those who carry out air tightness and/or change rate testing of buildings of any size or complexity. It covers those activities carried out to prepare the building for the conduct of the air tightness test.

You must prepare to carry out the air tightness test following the relevant test Standard(s). You must ensure that all necessary temporary seals are in place and that all mechanical ventilation and air conditioning systems are switched off.

You are required to carry out a relevant risk assessment of the site and building components before setting up appropriate air testing equipment and connecting all areas of the building to be tested. You must prepare the building with reference to the relevant test Standard. You are required to identify and record any variances from the required testing conditions that will compromise the representativeness of the final calculation. You must complete and keep accurate records of all measurements and location of equipment to be included in the air testing report.

## Performance criteria

### You must be able to:

- P1 carry out a relevant risk assessment of the testing process and its environment including parts of the building under test
- P2 comply with on-site health and safety requirements required by clients and contractors
- P3 ensure that all air testing equipment is correctly calibrated and fully operational prior to arriving on site
- P4 note and report any faults with test equipment and replace with operational equipment
- P5 locate fans correctly around the building to ensure an even distribution of air
- P6 ensure the building is prepared in accordance with relevant test standard by:
  - P6.1 opening and securing/restraining all internal doors in the test area
  - P6.2 connecting all areas of the building to be tested together by openings of the sufficient size to ensure equalised pressure
  - P6.3 checking that all trickle and side vents as well as all background ventilation are set in accordance with the relevant test standard
  - P6.4 ensuring that permanently open uncontrolled natural ventilation openings are temporarily sealed
  - P6.5 ensuring that mechanical ventilation and air conditioning systems are turned off and temporarily sealed to prevent air leakage during testing
  - P6.6 ensuring that all drainage traps are filled with water
  - P6.7 ensuring that cold roof loft access traps are closed and warm roof access traps are open
  - P6.8 ensuring that open-flued appliances and controls are temporarily sealed including any internal air inlets
  - P6.9 ensuring that kitchen and bathroom extractors are temporarily sealed
  - P6.10 ensuring that all passive stack ventilation points are temporarily sealed
  - P6.11 ensuring that all external doors remain unsealed
  - P6.12 erecting robust temporary screens/seals as required to allow the test to be undertaken and record their location for inclusion in the test report
- P7 identify and record any elements at variance with the required testing conditions or which may compromise the representativeness of the final calculation
- P8 ensure that temporary sealing, that does not comply with the test standard, is not removed or is recorded
- P9 take reading as required by the test standard using suitably calibrated equipment to:
  - P9.1 locate internal and external reference tubes in appropriate positions and record their location
  - P9.2 measure and record indoor/outdoor pressure differences and record

---

results

P9.3 to measure and record temperatures before and after the test procedure inside and outside the building

P9.4 measure and record barometric pressure if required

P9.5 to measure and record wind speed before and after the test procedure if required

P9.6 record the location of all measurement devices and thermometers on site test data sheet

P10 conduct final pre-test checks to ensure that the air testing specification has been fully complied with and the building is ready for air testing

## Knowledge and understanding

You need to know and understand:

- K1 the relevant and current test Standards and regulations to be applied
- K2 internal company procedures and documentation for the preparation of buildings for air testing
- K3 the effects of building structure, fabric, finishes, cladding and condition on air permeability
- K4 the types of fan pressurisation systems, their limitations and their impact on air tightness testing procedures
- K5 ways of categorising buildings based on function, size, ventilation systems and inter-relationship of building components
- K6 the impact of building categories on the selection of air tightness testing procedures
- K7 how to comply with on-site health and safety requirements required by clients and contractors
- K8 what constitutes a building envelope and the key components of buildings to be taken into consideration for air testing purposes
- K9 the recommended air testing Standards for different building types
- K10 what constitutes a representative sample of new buildings as defined in appropriate regulations
- K11 how to conduct a health and safety risk assessment of a building and how it will inform the conduct of the planned procedure
- K12 the most appropriate number and location of variable flow test fans to achieve appropriate flow of air and the required pressure values
- K13 the impact of any air flow restrictions around selected test fan locations
- K14 the impact of the location of useable electrical power supplies on planned fan locations
- K15 how to evaluate the impact of significant factors that may influence the conduct of the air tightness testing
- K16 the factors that prevent the carrying out of air tightness testing of the building
- K17 how to ensure that all air testing equipment is correctly calibrated and fully operational
- K18 how to ensure that all areas of the building to be tested are connected together to ensure equalised pressure
- K19 how to ensure that that all building components and services are correctly temporarily switched off/closed/sealed or left open to meet air testing requirements
- K20 how to identify the boundaries of the test area and how to secure it

---

K21 how to identify and record any elements at variance with the required testing conditions or which may compromise the representativeness of the final calculation

K22 how to locate and use relevant pressure, temperature and wind speed measuring devices required by the test specification

K23 how to record the location of all measurement devices and thermometers on site test data sheet

K24 the final pre-test checks required to ensure that the air testing specification has been fully complied with and the building is ready for air testing

ASTATT2

Prepare building for air tightness testing



---

**Developed by** Asset Skills

---

**Version Number** 1

---

**Date Approved** November 2014

---

**Indicative Review Date** November 2019

---

**Validity** Current

---

**Status** Original

---

**Originating Organisation** Asset Skills

---

**Original URN** ASTATT1

---

**Relevant Occupations** Air Tightness Tester

---

**Suite** Air Tightness Testing

---

**Keywords** air tightness testing; risk assessment; building

---