



# Room Integrity Testing Checklist

---

January 2018



Call us today on 01525 303 905  
to speak with an adviser or visit  
[aptsoundtesting.co.uk](http://aptsoundtesting.co.uk)

More often than not, noise assessments are requested in relation to the planning conditions on new build apartments, houses, or hotels. The assessment is required at the planning stage because the local authority want to ascertain what extra noise may be generated noise, by the proposed development.

Below we have provided a checklist of requirements to help you when planning your BS4142 noise survey.

1. We will require the following information at least 5 days prior to our arrival on site:
  - a. The Type of Agent used in the Suppression System.
  - b. The weight or volume of the Agent that would be discharged. –  
(usually marked on the cylinders in the room?)
  - c. The specified retention time for the enclosure.
  - d. The Normal Operating Temperature of the room.
  - e. The maximum height of the equipment to be protected in the room –  
normally the top of the equipment within the room.
  
2. The client will need to confirm whether or not any Air moving equipment is designed to switch off when the Fire Suppression system is discharged
  
3. All external doors in the test enclosure should have drop seals to the bottoms and seals around the jams. The personnel door chosen for the test equipment to be set up in must have a minimum clear opening width of 800mm and a maximum width of 1000mm. The height must not exceed 2100mm clear opening.
  
4. All internal doors within the enclosure should be wedged open.

5. Open all doors in adjacent rooms and around the outside of the enclosure and/or seal any further areas that we identify as requiring extra work.
6. Ductwork leading from or into the test enclosure should be permanently sealed off.
7. All HVAC systems & Fire Alarm/Suppression systems should be shut down during the test. A client representative (who can operate both Air Conditioning and Fire Alarm/suppression system) should be in attendance throughout the test
8. All dampers that would normally be closed during the retention period following a discharge of the clean agent must be closed.
9. Floor drains should have integral traps; these should be filled with water at all times.
10. We require two 240v mains powered electrical sockets within 5 metres of each of our testing equipment set up. We cannot use temporary power or generators to power the equipment.
11. We require a competent member of your staff available on the test day to modify and/or seal any further areas that we identify as requiring extra work.
12. To carry out smoke testing we will require uninterrupted access to the under floor and ceiling voids as well as the entire perimeter of the room.
13. We require a parking space for a transit van type vehicle within 10 metres of the test location on site.

If we arrive on site and are delayed due to the site not being prepared adequately, or the items in this checklist not being completed prior to our arrival, we reserve the right to cancel the test. The full test fee will be payable.

## **Most Common Areas of Air Leakage in Commercial Buildings**

1. The test enclosure walls should extend from the floor to ceiling slab, in areas where suspended ceilings exist, all the ceiling tiles should be present and clipped.
2. All holes, cracks or penetrations leading into or out of the test enclosure must be sealed; this includes pipe runs and cable trays. All walls should be sealed around the perimeter of the test enclosure where they rest on the floor slab and where they intersect/abut the ceiling above.
3. If voids below raised access floors continue out of the test enclosure to adjoining rooms, the floor void must be completely sealed under the floor, by constructing a bulkhead directly under the walls to the test enclosure, these bulkheads must be sealed completely top and bottom. If the rooms share the same under floor air handlers, then the bulkheads must have dampers installed.
4. Block walls/masonry walls must be sealed slab to slab to prevent air leakage through the walls, the walls should be painted with at least 2 coats of masonry paint, however rendering the walls is a more airtight option.
5. The general aim is to make the test enclosure as air tight as possible, during and after the clean agent discharge. Clean agent is heavier than air and therefore openings below floors are usually more critical than those above ceilings.
6. However during discharge the room gets pressurised to some extent and any gas that can be pushed out of the room will not return. This is more prevalent in smaller rooms because each little crack becomes more significant as the surface to area to room volume ratio changes.

7. Once the gas has been discharged into the test enclosure, it must remain in the room at its designed concentration for the specified retention time. This is usually 10 minutes.

8. The length of time the agent will remain in the room is proportional to the air tightness of the room, therefore it is critical the test enclosure is designed and constructed as air tight as possible.

9. Although the above points are not all inclusive nor guarantee that that the fire integrity test will pass. They are the more common items that will affect clean agent concentration tests.

If you have any questions about the preparation or room integrity test, then please ring our office to discuss them. We are here to help you achieve a pass at the first attempt.