

ROOM INTEGRITY TESTING

Room integrity testing is a mandatory requirement for all gas extinguishing system installations and is a practical alternative to carrying out gas discharge testing. It has been found that full scale gas discharge testing is misleading and gives a false sense of protection security.



HOW THE SYSTEM WORKS

Room integrity testing calculates the amount of leakage within the protected volume and predicts the time taken for the descending interface between the gas and air to reach a defined level.

The system is made up of a portable fan unit, which is mounted in the doorway of the protected volume, a set of pressure gauges and computer.

The fan positively pressurizes the room until it is the equivalent to the column weight of the extinguishing medium being utilised after a discharge. Readings are then taken from the gauges.

The rate of air input to the room is equivalent to the amount of leakage from the room.

The computer then evaluates this information to determine the equivalent leakage area.

This data is processed in compliance with SABS/ISO or NFPA procedures, which determines the time the concentration will be held in the room.

Using halon as an example, the computer program would assume a worst case scenario in which 50% of the openings would be at low level where heavier halon/air leakage could occur and 50% at high level where lighter air will enter to displace it.

The test is then repeated, only this time the room is negatively pressurized with the results of both tests then being averaged.

The computer then provides a printout of the tests. Should the halon/air interface drop below the minimum defined protected height in less than 10 minutes a failure would be indicated.

Different holding times can be programmed into the computer i.e. 20 minutes for inert gases.

When positively pressurizing the room, leaks can be identified by the use of smoke pencils, thus making it easier to seal the room prior to final commissioning.

In addition AST can provide additional fan units to pressurize the above ceiling spaces allowing a more accurate indication of room leakage.

THE BENEFITS

1. Inexpensive. No costly discharge testing.
2. Causes little disruption to everyday working conditions.
3. A repeatable test should the volume of the protected area change.
4. Major savings to air conditioner running costs.



Contact: Paul Wright or Casper
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information.



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