

PAPER TITLE

Large Building Air Leakage Measurement – What Has Been Done and What Is Possible

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ABSTRACT

Retrotec has been involved with measuring air leakage in large buildings since 1985 when we developed a fire suppression containment standard for the National Fire Protection Association. This taught us how large buildings worked and how to manage testing in an environment where stack and HVAC pressures made testing difficult since our induced test pressure were often less than pre-existing pressures. This led Retrotec to develop a series of testing methods that were impervious to existing fluctuations and culminated in the writing of the first draft of the USACE protocol which is effectively the only large building air leakage initiative in the USA. This resulted in our working with clients who performed over 400 tests on a variety of large buildings. Along the way methodology evolved and this is the first track of our presentation.

Slowly, other States began looking at putting large building testing into Code. This is our second track.

Meanwhile, our European colleagues have taken large building testing by storm and have outdone the USA in imaginative tests. They have tested a wider variety of buildings and much larger buildings as well showing us that there is no effective limit on what we can test and how large a building that can be tested. This same group has worked in the Middle East as well and encouraged changes in building regulations there. Our final track will give some insights into our experiences there.