

**PAPER TITLE**

Practical experience with airtightness testing of large buildings in Norway

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More than 35 years of theoretical and practical test of buildings with BlowerDoor and Thermography.

**ABSTRACT**

Combined airtightness measurements and IR thermography inspection have become increasingly popular in Norway because of problems related to the airtightness of the wind stopper and/or the vapor barrier. This presentation will focus on large buildings that have specific challenges for airtightness design and testing.

According to measurement standard EN 13829 “Thermal performance of buildings. Determination of air permeability of building. Fan pressurization method” which is widely used in Europe, a large building is a building whose volume is greater than 4000 m<sup>3</sup>. In practice however, buildings are considered as large for airtightness pressurization tests when you need more than one common commercially-available fan to test them.

We will discuss recurring problems in large buildings in Norway based on practical experience. We will also explain airtightness testing procedures in pre-fabrication processes where we test:

- the airtightness of the element itself at the factory;
- the element when delivered to the building site to check if anything has happened through transportation;
- the first elements when they are assembled to see that the connections work.

We normally combine airtightness measurements with thermography inspection. Combining these two methods gives the airtightness metric and at the same time the location of leakage paths, if any. This has become more and more popular in Norway.