

# Belgium quality framework for building airtightness tests



**CLARISSE MEES**  
 Belgian Building Research  
 Institute (BBRI)  
[www.bbri.be](http://www.bbri.be)  
[clarisse.mees@bbri.be](mailto:clarisse.mees@bbri.be)



**CHRISTOPHE DELMOTTE**  
 Belgian Building Research  
 Institute (BBRI)  
[www.bbri.be](http://www.bbri.be)  
[christophe.delmotte@bbri.be](mailto:christophe.delmotte@bbri.be)

As a result of the reinforcement of the energy requirements in the 3 Belgian regions, the number of pressurization tests in new buildings is strongly increasing. This increasing market is attractive but experience shows that some testers don't have the needed competences. In order to deal with this lack of reliability, a quality framework imposing a competent tester scheme has been introduced.

**Keywords:** airtightness of buildings, fan pressurization test, quality, Belgium, qualified tester

## Background

In Belgium, the measured airtightness of buildings can be used in the regional Energy Performance (EP) regulations in order to improve the theoretical performance of these buildings. With the progressive strengthening of the regulations, the airtightness performance has become more crucial. Possible not-reliable tests are a great threat in this area.

## Description of the framework

The reference documents are the standard EN 138291 (ISO 9972) and additional specifications published by the Regions. Updated rules and technical criteria for pressurization tests have been defined in the Technical

Specifications STS-P 71-3 published by the federal ministry of economy<sup>2</sup>. The schematic content and specific items are shown below.

STS-P 71-3 contains an informative annex describing in general terms the requirements for a quality framework for the realization of pressurization tests. Certification bodies may organize a system allowing to show the compliance with the STS and this particular annex.

This system is based on two main points described in the informative annex.

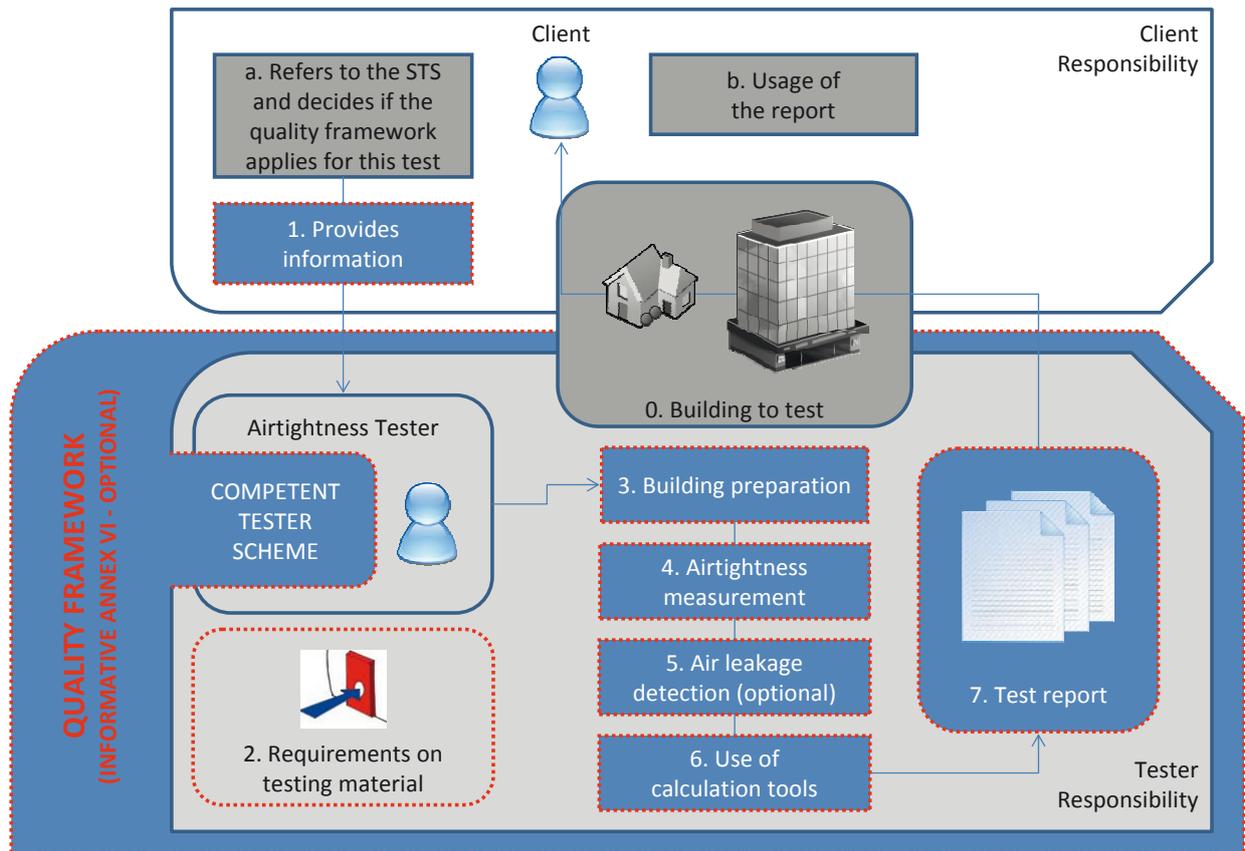
The first point is a qualification examination showing the competency of the testers. Examination includes a theoretical part (50 multiple choice questions) and a practical part. The practical examination consists of testing a dedicated building with a controller. Minimum experience in the field is also required (supply of at least 5 test reports).

In order to be recognized, companies must fulfil the following requirements:

- to have civil liability insurance;
- to have all necessary measuring instruments and software;
- to employ at least one qualified tester.

<sup>1</sup> Thermal performance of buildings - Determination of air permeability of buildings - Fan pressurization method (ISO 9972:1996, modified)

<sup>2</sup> The legislator wants to make measurement possible for nearly all buildings. So, criteria related to the zero-flow pressure difference have been loosened for large buildings. Highest pressure difference has also been adapted.



Legend:  Element covered by the STS-P 71-3

Steps for the report delivery.

It is worth noting that accredited companies can be automatically recognised without further requirements.

The second point of the quality system is a continuous control. Two types of controls are scheduled: control of the reports and on-site controls.

Respecting all requirements and the whole procedure permits the certified testers to deliver a **declaration of conformity for each airtightness test**.

Regional ministries in charge of the EPB-regulation in the building sector may refer to STS-P 71-3. Since January 2015, the Flemish region imposes the respect of the STS including the annex related to the quality framework for every new pressurization test in the context of the EP regulation. In other words, the introduction of the airtightness test result in the EP calculation is allowed only if a declaration of conformity is available.

At the time of writing this paper (June 2015), about 170 Belgian companies are already recognized.

## Advantages of the system

The advantages for the clients and the final users are the availability of a list of recognised competent professional and mainly the assurance of good quality results. It allows the authorities to hold reliable input data. In addition, less control is needed at the moment of EP declarations. Finally, the airtightness testers are also satisfied because they have better opportunities to value higher quality. ■

## References

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