

# Building and ductwork airtightness in Latvia: national trends and requirements

Andrejs Nitijevskis<sup>1</sup>, Vladislavs Keviss<sup>1</sup>, and Nolwenn Hurel\*<sup>2</sup>

*1 IRBEST Ltd  
Kurzemes prospekts 84 - 133  
Riga, Latvia*

*2 PLEIAQ  
2 Avenue de Mérande  
73000 Chambéry, France*

*\*Corresponding author: nolwenn.hurel@pleiaq.net*

## FOREWORD

The AIVC is preparing a series of VIP on national regulations and trends in airtightness for various countries (numbered VIP 45.XX), detailing for both building and ductwork airtightness:

- the national requirements and drivers (regulations, incentives, justifications and sanctions)
- whether it is taken into account in the energy performance calculations and how;
- the test protocol (testers qualifications, national guidelines, requirements on measuring devices);
- the tests already performed and whether there is a results database;
- key documents.

This presentation focuses on the airtightness trends in Latvia.

## KEYWORDS

Building airtightness, ductwork airtightness, regulation, trends, Latvia

## 1 BUILDING AIRTIGHTNESS

The attention to building airtightness in Latvia started in 2010 when the European Union (EU) started to require blower door tests for buildings renovated with EU funds.

In 2015, Latvian Construction Standard (LBN 002-01) on thermal insulation and airtightness became stricter, with the following requirements in force for residential houses, homes for the elderly, hospitals, kindergartens, and public buildings:

- $q_{50} \leq 3,0 \text{ m}^3/(\text{h}\cdot\text{m}^2)$  for buildings with natural ventilation (airing);
- $q_{50} \leq 2,0 \text{ m}^3/(\text{h}\cdot\text{m}^2)$  for buildings with mechanical ventilation;
- $q_{50} \leq 1,5 \text{ m}^3/(\text{h}\cdot\text{m}^2)$  for buildings with mechanical ventilation equipped with a heat recovery system;
- $q_{50} \leq 4,0 \text{ m}^3/(\text{h}\cdot\text{m}^2)$  for industrial buildings.

There is however no mandatory justification that these requirements are achieved. And these required airtightness values are used as defaults values in the energy calculation, still without required justification, which is not a good incentive for airtightness tests.

In 2021 the government recommended to provide air tightness tests for the commissioning of all public buildings larger than  $5000 \text{ m}^3$ , so about 70-80% of public buildings are tested, but probably only 5-10% of industrial buildings and 5-15% of dwellings.

## 2 DUCTWORK AIRTIGHTNESS

If awareness on building airtightness is emerging in Latvia, the ductwork airtightness is not really taken into account so far. There are no national regulations or guidelines on this subject, so there are no requirements on the airtightness level of ductworks.

There are only rare cases in which customers initiate a ductwork airtightness test. There are no data collected on these tests to quantify them and follow their evolution with time.