

Building and ductwork airtightness in Spain: national trends and requirements

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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 Spain.

KEYWORDS

Building airtightness, ductwork airtightness, regulation, trends, Spain

1 BUILDING AIRTIGHTNESS

Building airtightness has not traditionally been a major priority in the Spanish construction industry. Because most dwellings did not have any controlled ventilation systems, air infiltration has been a supplemental source of air renewal together with window airing, that contributed to indoor space air renewal. However, current mandatory controlled ventilation strategies have changed the scenario.

The past few years have been key regarding building airtightness in Spain. For the first time, the recent incorporation of whole minimum building airtightness requirements on the last update of Basic Document for the Energy Saving in Buildings (DB HE1), although not too stringent, can be seen as a way to raise awareness on this parameter and familiarize with the existing tools and techniques to handle it, which encourages positive progress towards energy-efficient buildings.

It is important to note that airtightness testing is not mandatory to prove compliance and usually reference values are used in the energy performance calculation. So far, the main drivers for building airtight and testing have been certifications like Passivhaus, BREEAM or LEED. These certifications have given way to a broader knowledge on the airtightness tests.

2 DUCTWORK AIRTIGHTNESS

Ductwork airtightness is still an issue that does not entail much concern in the construction sector.

Currently, ductwork airtightness is required by “Reglamento de instalaciones térmicas de los edificios” (RITE). Section IT 1.2.4.2.3 provides airtightness requirements, which specifies that the ductwork must comply at least with Class B values. This is in force since 2007 and the requirement makes reference to new buildings and retrofitted ones.

On Section 2.2.5. of (RITE), airtightness tests are required while the system is still accessible for its testing according to UNE-EN 12599:01. However, this requirement is somehow recent and still there is not much concern among construction agents. Therefore, in practice, ductwork is still not always tested. There are no sanctions if a ductwork does not comply with the requirement.