

Developing regulations to improve IAQ and ventilation in Belgian buildings

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ABSTRACT

The paper describes 4 regulatory developments with a substantial impact on ventilation provisions and indoor air quality improvements in residential and non-residential buildings in Belgium.

In the framework of the European Energy Performance of Buildings Directive, minimum ventilation requirements are applicable since 2006 in the 3 Belgian regions for all new buildings, whereby the specifications are identical in the 3 regions. Within the context of this legislation there are specific procedures for the assessment of innovative ventilation systems and various systems have been assessed. Also, a database has been developed which includes recognized data regarding the performances of various ventilation devices with as objective 'easy access to reliable data'.

In order to improve the on-site performances, there is for the Flemish Region in the context of the above mentioned EPBD regulation since 2016 a mandatory quality framework for residential buildings imposing on-site checks of the performances of these ventilation systems at the moment of handover of the ventilation installation. Overall, there is good compliance with the requirements and, moreover, the reporting seems to be reliable. A similar quality framework has been set up for all new buildings with respect to the building airtightness.

In the context of federal regulation regarding the wellbeing of employees, new regulation adopted in 2019 requires that a risk analysis is carried out with respect to the indoor air quality as well as an action plan with minimum requirements in terms of ventilation flow rates or CO₂ concentration. The use of low-emitting materials is taken into account in the definition of the requirements to be met in workrooms..

Finally and more recently, federal legislation is in place regarding indoor air quality and ventilation provisions in public spaces. The law defines reference levels for CO₂-concentrations or outside air flow rates in line with the regulation regarding wellbeing of employees. Use of air quality meters, minimally measuring CO₂, is mandatory. It is the intention to further develop the regulation with a framework for certification and labelling of all public places. The presence and impact of air cleaning devices will be integrated in this framework. The primary focus of this regulation is to develop reliable information about the provisions in these spaces, and make it available to the public, without mandatory requirements of minimum performances.

KEYWORDS

Regulation, ventilation, quality framework, air cleaning, CO₂