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Stimulating better envelope and ductwork airtightness with the Energy Performance of Buildings Directive

F.R. Carrié, M. Fleury, G. Voisin
Centre d'Etudes Techniques de l'Équipement de Lyon, France

T. Aurlien
SINTEF Byggeforsk, Norway

Abstract

The Energy Performance of Buildings Directive mentions that each member states' energy performance (EP) calculation methodology may include envelope airtightness. In fact, many member states have included envelope airtightness in their EP calculation method. Many countries have also specific requirements for ductwork airtightness. However, they seem to be unequally successful in achieving a market transformation. This paper describes the mechanisms that have been used in some countries, with a special focus on success stories which could inspire other member states. The measures include actions directly related to the EP regulation as well as accompanying private or public initiatives (e.g., pilot projects, training). The paper is based on the analysis of a questionnaire submitted to experts in 13 countries as well as interviews and a literature review. It appears that adequate tuning of the EP regulation and ambitious low-energy buildings initiatives are excellent drivers to change the envelope airtightness market; however, in general, there remains a lack of practical tools for designers and craftsmen to build airtight envelopes although appropriate industrial products are available. As for ductwork, careful design coupled with widespread use of pre-fitted seals appear to be the dominant common element of success stories. This work has been performed in the framework of workpackage 5 of the ASIEPI project funded under the Intelligent Energy Europe programme.

Keywords

air infiltration, envelope, ductwork, leakage, airtightness, energy consumption, market