

Foreword

We are happy to share with you the June 2019 edition of the TightVent Europe newsletter aiming to provide you with an overview of our achievements, progress and latest news in the past months as well as our planned activities for the upcoming period. Read more about our past and upcoming events, the TightVent Airtightness Associations Committee (TAAC), CEN activities and more.

Also, please visit our website, follow us on twitter and LinkedIn and subscribe to our monthly newspaper "Energy Efficiency and Indoor Climate in Buildings" to find out more about our activities.

We wish you a pleasant reading and look forward to seeing you in our future events!

The TightVent team



15 - 16 October 2019, 40th AIVC - 8th TightVent & 6th venticool conference in Ghent, Belgium

The 40th AIVC conference "From Energy crisis to sustainable indoor climate – 40 years of AIVC" will be held on the 15th and 16th October 2019 at 'Het Pand', the congress centre of Ghent University in Ghent, Belgium. It will also be the 8th TightVent conference and the 6th venticool conference. The conference will consist of 3 parallel sessions largely devoted to:

1. Smart ventilation, Indoor Air Quality (IAQ) and health relationships
2. Airtightness
3. Ventilative cooling – Resilient cooling

The conference programme will include well-prepared and structured sessions focused on the conference topics, invited speakers, long and short oral presentations arising from the call, as well as 90 seconds industry presentations.

Confirmed **topical sessions** include:

1. 40 years of AIVC
2. Bedroom ventilation, IAQ and sleep
3. Better implementation of ventilative cooling (cooling of buildings using outside air as main source) in national (building) standards, legislation and compliance tools
4. Controlling moisture for improved

Indoor Air Quality

5. EPBD 2018/844/EU Article 19a feasibility study on the "inspection of stand-alone ventilation systems"
6. EBC Annex 68 - Design and Operational Strategies for High IAQ in Low Energy Buildings
7. EBC Annex 78 - Supplementing Ventilation with Gas-phase Air Cleaning, Implementation and Energy Implications
8. EBC Annex 80 - Resilient Cooling
9. Integrating uncertainties due to wind and stack effect in declared airtightness results
10. Model based control and concepts for ventilation systems
11. Performance-based assessment methods for ventilation systems
12. What information do we need for occupant-centric building design and operation?

To proceed with your on line **registration** please visit: <https://www.aivc.org/40th-aivc>

Early bird registration ends on **30 June 2019!**

For further information and updates visit us at: <https://www.aivc2019conference.org>

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Feedback from the AIVC Workshop “Quality ventilation is the key to achieving low energy healthy buildings”, 27-28 March 2019, Dublin

The Air Infiltration and Ventilation Centre (AIVC) together with Sustainable Energy Authority of Ireland (SEAI) organised the workshop "Quality ventilation is the key to achieving low energy healthy buildings" which was held on 27-28 March 2019 in Dublin, Ireland. Around 80 participants attended this 2 days' workshop, which provided a wealth of insights from experiences both nationally and internationally, informing approach on ventilation as a key component of delivering both new buildings and deep retrofit low energy buildings. The programme consisted of 23 presentations grouped under two main themes "Ventilation for good indoor air quality (IAQ)" & "Quality of Ventilation Systems". The slides of the presentations are available at: <https://www.aivc.org/event/27-28-march-2019-symposium-dublin-quality-ventilation-key-achieving-low-energy-healthy>.

The article available here provides snapshots some of the most relevant presentations in the context of TightVent Europe focusing on the topic of building & ductwork airtightness & inspection of ventilation systems).

Conor Hanniffy & Brian McIntyre presented an [overview of the SEAI's deep retrofit pilot programme and Research Development and Demonstration Fund](#) which aims to deliver low energy and healthy homes in Ireland. 1.000.000 homes will be retrofitted by the year 2050 corresponding to an estimated investment of €35b. Among the guiding principles of the programme, mechanical ventilation is required and there is a constraint on the air permeability at q50 which should be $\leq 5 \text{ m}^3/\text{h.m}^2$, while there is a bonus for

achievement of $\leq 3 \text{ m}^3/\text{h.m}^2$. Since the launch of the programme in 2017, the measured values of airtightness have already decreased by a factor of ~ 3 (before $\rightarrow 9.7 \text{ m}^3/\text{h.m}^2$, after $\rightarrow 3.3 \text{ m}^3/\text{h.m}^2$). The SEAI also conducted a survey to obtain feedback from the homeowners, according to which a 35% of the people claim to have had fewer trips to the doctor while a 94% think the air in their home is healthier.

Valérie Leprince assessed [the energy impact of ductwork leakage](#) (fan energy use, heating & cooling loads etc.), based on an extended literature review in an effort to highlight the importance of ductwork airtightness. Based on a survey performed in the framework of the TightVent Airtightness Associations Committee (TAAC) she listed existing regulations and programmes to conclude that awareness on ductwork airtightness has moderately increased in Europe. The good news is that awareness regarding the efficiency of ventilation systems is getting broader and expected to expand to ductwork airtightness. Moreover, the speaker reviewed existing ductwork airtightness measurement databases and listed European standards and national guidance dealing with ductwork airtightness.

Maarten De Strycker gave [an overview of ventilation and building airtightness inspection schemes in Belgium](#). According to the information presented, a ventilation performance report is mandatory for every new residential building in Flanders, for building permits issued since January, 1st 2016. More specifically, the features of the ventilation system as installed in the dwelling must be reported and, in the EPB-report of the dwelling, these data justify the energy performance of the ventilation system. Before the start of the physical building process, ventilation predesign has to be made up. The content of these reports is guarded by a quality framework. The speaker described requirements of the Flemish Energy Agency to be an organizer of a quality framework i.e. requirements for the

ventilation performance reporters. Among other things, those requirements include the control of ventilation performance reporters' onsite and through desktop control and also to register every measurement and the corresponding report in a database.

Max Sherman looked into [the regulations regarding the inspection of stand-alone ventilation systems outside Europe](#). Countries covered included Australia, Canada, Korea, New Zealand, Singapore and the United States. When assessing the similarities between the investigated countries he observed that Australia and New Zealand converge and have the fewest requirements; there is a strong dependence on natural ventilation and a few stand-alone ventilation systems while CIBSE (Code A) is referenced. Canada & the US show similarities as well, namely making use of local codes, International Code Council (ICC) model codes and ASHRAE standards are referenced. Overall, according to the information presented, no regulation exists on the inspection of ventilation systems while there is a low penetration of stand-alone designed ventilation systems -except in high-rise dwellings. Even though several countries offer suggestions, guidance (e.g. ASHRAE) and options to be used, none are legally required (no direct use of CEN or ISO).



Photo: V. Leprince presenting "Why should we care about ductwork airtightness, and how to test it?" at the AIVC 2019 Workshop "Quality ventilation is the key to achieving low energy healthy buildings" held on 27-28 March 2019 in Dublin, Ireland

EPBD Article 19a feasibility study on the “inspection of stand-alone ventilation systems”

Article 19a of the EPBD Directive 2018/844/EU requires the European Commission to conduct a feasibility study to identify the need, possibilities and timeline for introducing EU provisions related to the inspection of stand-alone ventilation systems.

The objectives of this study are to deliver:

- An analysis of the stock of ventilation systems in EU buildings, including their technical characteristics, the distribution systems and foreseen evolution of the stock.
- A review of existing regulations, schemes, guidelines and standards on the inspection of ventilation systems, and other relevant initiatives and projects, in the EU, and, where relevant, in other regions.
- An investigation of the relevance and feasibility of further promoting the inspection of stand-alone ventilation systems in buildings at the EU level, and an exploration of the possible approaches to this end, including non-legislative and legislative measures, also in relation to EPBD Articles 14-15.

The tasks to be carried out within the specific feasibility study are:

- TASK 1: Review of regulations, guidelines and standards on the inspection of stand-alone ventilation systems.
- TASK 2: Analysis of the relevance, feasibility and possible scope of measures at EU-level for the inspection of stand-alone ventilation systems.
- TASK 3: Selection of policy options for inspections of stand-alone ventilation systems and analysis of related potential

impacts.

The feasibility study is explored by a team of acknowledged collaborators under the lead of INIVE EEIG who will provide technical support to the Directorate-General for Energy of the European Commission.

A first stakeholder meeting will take place in Brussels on 24 June 2019, in which preliminary results will be shared and discussed. You can register your interest in the stakeholder engagement activities [here](#).

Moreover, a topical session at the 2019 AIVC Conference to be held on 15-16 October, 2019 in Ghent, Belgium will be organized and structured around the outcomes of the feasibility study.

For further information please visit our website at: www.epbd19a.eu/

TAAC news

The TightVent Airtightness Associations Committee (TAAC) has met 29 times since the committee's launch in September 2012. The group usually meets three times per year online, and once a year physically, in conjunction with the AIVC conference. The TAAC working group includes formal or informal groups of airtightness testers from several countries as well as TightVent gold and diamond partners. 15 European countries are currently represented in the working group. The objectives of the working group are to: gather stakeholders from as many countries as possible; facilitate exchange between countries; share experience and knowledge; compare approaches.

In the past year presentations given during the TAAC meeting have focused mainly on four topics:

- Ductwork airtightness. Scientific research in the field and the status in European countries
- Databases for building airtightness. Huge databases are being developed in the UK, France and Belgium while other countries (e.g. Spain) are

gathering more and more data on building airtightness. The share of knowledge and difficulties when implementing those databases are part of the discussions within TAAC.

- The reliability of the building airtightness test. On-going research is taking place in various universities on this topic. PhD students have presented and discussed their work within TAAC.
- Standardisation has also been part of the discussion, e.g. with the new German national Annex for ISO 9972.

In case you are interested to obtain further information and/or join us, please send us an email at info@tightvent.eu.

CEN activities

At European level, standardisation of the inspection of ventilation system is intensively discussed. In the context of the European Performance of Building Directive two standards have been published in 2017: EN 16798-17 (Ventilation for buildings Guidelines for inspection of ventilation and air conditioning systems) and its associated technical report (EN 16798-18). This year a new version of EN 14134 (Ventilation for buildings Performance measurement and checks for residential ventilation systems) has been published. Currently two standards are under revision:

- EN 12599: Test procedures and measurement methods to hand over air conditioning and ventilation systems
- EN 16211: Measurement of air flows on site. Methods.

One of the objectives of the revision of EN 12599 is to improve the protocol to perform ductwork airtightness tests. All this work at European standardisation level shall help to improve ventilation systems, promote ductwork airtightness tests and consequently building airtightness tests.

Ductwork Airtightness Webinar – Recordings & slides now available!

The recordings and the slides of the TightVent webinar: “Ductwork airtightness measurements: protocols” organised in cooperation with TightVent Europe and the Air Infiltration and Ventilation Centre and held on April 25th 2019 are now available online at: <http://tightvent.eu/events/webinars>

Product news as provided by our partners

BlowerDoor's Spray Bar

The Spray Bar is the new addition to the BlowerDoor GmbH product range. This portable spraying system has been developed for mobile use at construction sites and creates a steady, closed film of water to simulate driving rain on building envelopes. The SPRAY BAR helps you to detect larger leakages in curtain walls according to EN 13051 and can be used for testing the water tightness of windows, French doors, as well as external doors including all exterior components. Ideally, the measurement should be conducted in combination with a Minneapolis BlowerDoor measuring system like BlowerDoor Standard or BlowerDoor MiniFan. Negative pressure tests are particularly suited to detect even small leakages. Contact: info@blowerdoor.com



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SOUDAFRAME SWI

SOUDAFRAME SWI (Soudal Window Installation) is a pre-wall window installation system made of innovative glass fiber reinforced plastic (GFRP), specially developed for the pre-wall installation of windows and doors in the insulating layer (ETICS). The lightweight yet extremely sturdy and durable subframe has a very low thermal conductivity. The window can be mounted directly into the pre-assembled SOUDAFRAME, eliminating the need for metal supports and minimizing the risk of thermal bridges. The very slim L-shaped frame elements allow a very tight transition to the insulating layer, maximizing the surface of the wall insulation and consequently resulting in better overall thermal performance and psi values. The system can be universally used for all common window profiles and materials and is available in different sizes. For more information, please check:

http://www.soudalairtight.com/soudaframe_swi.html,

<https://www.youtube.com/watch?v=pH0uMGSYhog>, <http://bim.soudal.com>



DIAMOND PARTNERS



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ASSOCIATE PARTNERS



PLATFORM FACILITATOR

