

Welcome to the first edition of the TightVent Europe Newsletter

I am very pleased to introduce the first issue of the TightVent Europe Newsletter whose aim is to keep you regularly informed about developments regarding building and ductwork airtightness, including policy issues, publications, events, innovative technologies, case studies, research activities,....

Your feed-back and comments on the information we provide is important to us. Feel free to visit our website www.tightvent.eu, contact us and subscribe to the RSS feed.



Peter Wouters , *Manager INIVE EEIG*



Challenges for nearly zero-energy buildings

The EPBD recast¹ includes the obligation for EU countries to implement regulations to increase the number of nearly zero-energy buildings (NZEB) in the next few years, and to generalize in 2020 nearly zero-energy targets in new buildings and major renovations. Therefore, as illustrated in Figure 1:

- Because of the demonstrated energy impact of envelope and ductwork leakage, the implementation of the EPBD recast will for most climates automatically lead to specific attention to building airtightness (1);

- As a result of the increased attention for building airtightness, the need for appropriate, energy efficient, ventilation systems (2) will grow. Issues such as correct airflow rates, air quality, acoustics, draught, energy optimisation, economics, etc. will have to be handled. At present, we know that poor ventilation system performance is common in many European countries.

- Indirectly, the move towards nearly zero-energy buildings will lead to a greater need for ventilation systems, whether mechanical, natural or hybrid (3).

In addition, there are tremendous challenges

for the existing building stock. Although there will be in most countries more time for implementation and, in absolute terms, probably less severe targets, in addition to challenges similar to the new stock, there are specificities that considerably complexify the improvement of ventilation and airtightness.

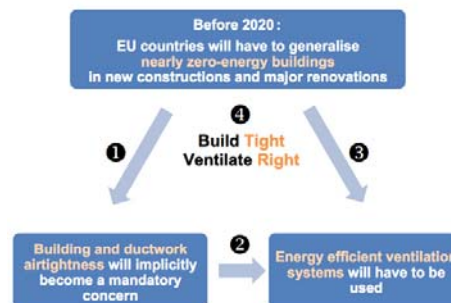


Figure 1. Diagram representing interactions between energy targets, ventilation, and airtightness

¹ Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010. Official Journal of the European Union. 18 June 2010. L 153/13-34.

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The BUILDAIR symposium

Berlin, 6 May 2011



An important aspect of TightVent Europe's strategy is to bring added-value to existing initiatives rather than to duplicate efforts. One illustration of this strategy lies in the partnership established with the BUILDAIR symposium. This conference has been for a number of years a major event on airtightness issues in Germany (www.buildair.eu).

The AIVC-TightVent conference "Towards Optimal Airtightness Performance"

Brussels, 12-13 October 2011



In collaboration with:



TightVent Europe is also combining forces with the Air Infiltration and Ventilation Centre (AIVC — www.aivc.org), which is the IEA information centre on energy efficient ventilation. The 32nd AIVC conference (AIVC conferences have been the major international events on air infiltration and ventilation for over 30 years) will be combined with the 1st TightVent conference and is organized in collaboration with BUILDAIR.

The programme includes 2 parallel tracks:

- One track focusing on airtightness related issues;
- The other track addressing ventilation issues in general.

The conference will consist of a mixture of:

- Well-prepared workshops;
- Presentations on invitation;
- Presentations from call for papers.

The deadline for abstract submission is May 31.

Topical sessions foreseen

- Quality systems for airtightness requirements
- Development and applications of air leakage databases
- Philosophy for building airtightness requirements
- How tight and insulated ducts should be?
- Night ventilation for passive cooling

What is TightVent Europe?

An increasing number of countries are paying attention to building and ductwork airtightness, whereby some countries clearly have already a quite long experience. In the next 10 years, ALL countries must have effective measures in place to guarantee appropriate airtightness levels. The challenges are huge, in particular since it involves nearly all building professionals, it has a clear impact on the building workforce (architects, consultants, material, suppliers, all types of building contractors, ...) and it will in most cases require testing. And this for millions of buildings a year [2][6][7].

Since the challenges are to a large extent similar for the whole of Europe, the TightVent Europe platform aims to bring all interested parties together in order to accelerate and to optimise the process, to minimize redundancy and to increase the chances for success. Indeed, sharing experience on practical issues such as specifications, design, execution, control, ... and taking advantage of the lessons learnt from pioneering work will help improve airtightness quality while keeping in mind the need for adequate ventilation. TightVent Europe has been initiated by INIVE EEIG (International Network for Information on Ventilation and Energy Performance) with at present the financial and/or technical support of the following partners: Buildings Performance Institute Europe, European Climate Foundation, Eurima, Lindab, Soudal, Tremco illbruck, and Wienerberger.

All partners are strongly interested in setting up a European wide collaboration and using the knowledge



Results of the EU ASIEPI project (www.asiepi.eu) [4] have shown that for most European climates, leaky envelopes and duct systems have a severe impact on the total energy use of the building, e.g., on the order of 10 kWh/m² of floor area per year for the heating needs of a house in a moderately cold region (2500 degree-days) and 0 to 5 kWh/m²/year for the ducts plus the additional fan energy use [1][8]. These figures should be compared with the allowable heating needs in today's high performance dwellings which is in the range of 15 to 30 kWh/m².

gathered through TightVent Europe for raising the awareness among all building professionals, for developing improved training courses, and for helping professionals in the development of quality management approaches.

The partners also believe that there are areas that need further investigation (for example, the durability of seals, the integration of airtightness and ventilation issues in renovation projects, optimal requirements, the variability of the energy impact with climate, etc.) where TightVent Europe can play a major role both in terms of research development and dissemination.

The target audience of the TightVent Europe activities is wide and ranges from European, national and regional

government policy makers over designers, practitioners, supply industry to researchers. It is clear that awareness raising is key in the start up phase, whereas in time the emphasis should move to providing the appropriate support tools and getting the knowledge into the market.

A project-oriented platform involving expert organisations from various countries

One key concept of TightVent Europe is to organize or encourage efforts in a consistent manner around specific topics, e.g., to develop a philosophy on airtightness requirements, to encourage the development of airtightness networks, to improve and encourage quality management. For this, TightVent will make use of its network of re-known specialists around the world and will put forward synergies between national initiatives. For instance, on the subject of airtightness requirements, this will probably take the form of a project involving a group of experts from various countries with a series of workshops and webinars including lessons learnt from national approaches. Most foreseen publications, conferences, webinars, and BUILD UP community of TightVent Europe fall under this project-oriented approach, i.e., they are linked to project deliverables.

Collaboration with AIVC

In order to guarantee high quality deliverables and an unbiased view, the TightVent scientific committee has been set up, with as primary objectives:

- To pay attention to the overall scientific approach of the platform;
- To take care of a correct balance between energy concerns and indoor climate concerns;
- To organise a review process for publications and to give advice to the steering committee.

It is made of internationally re-known individuals in the field of energy efficient ventilation and infiltration. In a concern for efficiency and focus, some of these experts are also members of

the Air Infiltration and Ventilation Centre (AIVC, www.aivc.org).

Join the BUILD UP community on airtightness of buildings and ductwork



Today, there is for many issues of interest not a lack of information but, at the same time, it is for most professionals difficult to easily find the information one is looking for. BUILD UP (www.buildup.eu) is the official EU platform on energy efficiency in buildings, and TightVent Europe is actively supporting this through facilitating a community on the "Airtightness of Buildings and Ductwork". Part of the information in BUILD UP can also be accessed on www.tightvent.eu.

Need some background on building and ductwork airtightness? Have a look at the following publications and presentations:

- [1] Carrié, F.R., Andersson, J., and Wouters, P. 1999. Improving Ductwork - A Time for Tighter Air Distribution Systems, Report, EU Project SAVE-DUCT, Brussels 1999. ISBN 1902177104. Available at <http://www.aivc.org/>.
- [2] Carrié, F.R., Wouters, P., Heijmans, N., Rosenthal, B., Aurlien, T., Guyot, G., 2008. Ways to stimulate a market transformation of envelope airtightness. Analysis of on-going developments and success stories in 4 European countries, Web event, 12th December 2008, <http://www.asiepi.eu/wp-5-airtightness/web-events/web-event-1.html>
- [3] Malmström, T.G., Andersson, J., Carrié, F.R., Wouters, P., and Demotte, C. 2002. Source Book for Efficient Ductwork in Europe. Report, EU Project SAVE-AIRWAYS, Contract n° 4.1031/Z/99-158.

http://www.inive.org/pages/E_Library.htm

- [4] Publications and activities of the ASIEPI project. <http://www.asiepi.eu/wp-5-airtightness.html>, EU Project IEE-SAVE, Contract n° EIE/07/169/SI2.466278.
- [5] Roulet, C.A., and Vandaele, L. 1991. Air Flow Patterns within Buildings Measurement Techniques. AIVC Technical Note 34, 284 pp. Available at <http://www.aivc.org>.
- [6] Schild, P., Caillou, S., Millet, J-R., Mattsson, L. Å., Railio, J., Carrié, F.R. 2009. How to improve ductwork airtightness - Ongoing developments and success stories in Europe, Web event, 16th December 2009, <http://www.asiepi.eu/wp-5-airtightness/web-events.html>
- [7] Schild, P.G. and Railio, J. 2011. Airtight ductwork – The Scandinavian success story. REHVA Journal, March 2011, pp. 26-29.
- [8] Schild, P.G., and Mysen, M. 2009. Recommendations on Specific Fan Power and Fan System Efficiency, AIVC Technical Note 65, 42 pp. Available at www.aivc.org.

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The [Buildings Performance Institute Europe \(BPIE\)](#) is an independent, non-profit organisation based in Brussels. BPIE supports the development of ambitious but pragmatic building-related policies and programs at both EU and Member State levels. We timely drive the implementation of these policies by teaming up with relevant stakeholders from the building industry, consumer bodies, policy and research communities. With the TightVent Europe Platform, our ambition is to play a key role in implementing policies on building and ductwork airtightness, bearing in mind ventilation needs.



The [European Climate Foundation](#) aims to promote climate and energy policies that greatly reduce Europe's greenhouse gas emissions and helps Europe play an even stronger international leadership role in mitigating climate change. ECF supports the TightVent platform in its mission to create support for proper implementation of the new Energy Performance of Buildings Directive (EPBD) and to help policy makers, industry, developers and other stakeholders in the deployment of low-energy buildings.



[Eurima](#) is the European Insulation Manufacturers Association. Eurima members manufacture mineral wool insulation products. We actively support TightVent to develop knowledge and application of efficient airtightness solution for a successful implementation of the recast of the EPBD. This requires a good coordination between strong insulation and well-functioning ventilation in order to guarantee both energy efficiency and good indoor air quality.



[INIVE](#) is a registered European Economic Interest Grouping (EEIG) that brings together the best available knowledge from its member organisations in the area of energy efficiency, indoor climate and ventilation. INIVE strongly supports and acts as facilitator of TightVent Europe because it clearly fits within the objectives of our grouping, namely, fostering and structuring RTD and field implementation of energy-efficient solutions and good indoor climate in new and existing buildings.



[Lindab](#) is an international group that develops, manufactures, markets and distributes products and system solutions primarily in steel for buildings and indoor climate. With TightVent Europe, we learn more about the process of building airtight and energy efficient buildings; we fine-tune our product range by networking with suppliers confronted with the same issues. Our ambition is to transfer this knowledge all the way to building owners, architects/consultants, construction companies and workers.



[Soudal](#) NV is Europe's leading independent manufacturer of sealants, PU-Foams and adhesives. The company, established in 1966, proudly remains family owned. Soudal serves professionals in construction, retail channels and industrial assembly and has 45 years of experience with end-users in over 100 countries worldwide. Since sealing, bonding and insulating is our business, we actively support the Tightvent platform. And with 7 manufacturing sites on 4 continents and 35 subsidiaries worldwide, we hope to contribute to a wide-scale implementation of nearly-zero energy buildings



[Tremco illbruck](#) has a leadership position in the sealants and building protection market throughout Europe, Africa and the Middle East. Our efforts are focused on Window, Façade, Coatings, Fire Protection, Insulating Glass and non-construction industries. Through TightVent Europe, we share our experience and expertise in the airtight connection of building components to reach ambitious goals and to improve knowledge of building professionals by implementing training programs in the EU.



[Wienerberger](#) is the world's largest producer of bricks and No. 1 on the clay roof tiles market in Europe with 245 plants in 27 countries. TightVent Europe enables us to further develop and optimize the sustainable building solutions we offer to our customers. Moreover, we want to transfer knowledge to our customers (both builders, renovators and building professionals such as architects, engineering agencies, contractors, etc.) by means of theory- and practice-oriented training courses, seminars, workbooks, etc.



If you are interested to become a partner, please contact us at info@tightvent.eu.