TightVent Europe
BUILDING AND DUCTWORK AIRTIGHTNESS PLATFORM

November 2023

Newsletter No 25

Foreword

We are excited to bring you the November 2023 issue of our newsletter!

After a successful annual conference in Copenhagen on October 4-5, 2023, where we had over 200 participants from 33 countries—covering researchers, engineers, architects, policy makers, regulatory bodies, manufacturers, stakeholders, and international organisations—we've gathered the best moments in this edition.

In this issue, we bring you curated highlights from the conference, offering insights into the key trends, ideas, considerations, and conclusions that surfaced during the two days of discussions, with a particular focus on the theme of building and ductwork airtightness. Additionally, we are happy to share a YouTube collection featuring selected recordings from the opening session's keynote speeches and the closing session's noteworthy presentations, including the best paper, best poster, and student competition awards.

Looking ahead, mark your calendars for the 12th TightVent conference: "Retrofitting the Building Stock: Challenges and Opportunities for Indoor Environmental Quality," scheduled to take place in Dublin, Ireland, alongside the 44th AIVC and the 10th venticool conferences on October 9-10, 2024. We look forward to your contributions and participation!

The newsletter also includes information on new publications, news from our partners and more.

Please visit our website, follow us on twitter and LinkedIn and read to our monthly newspaper "Energy Efficiency and Indoor Climate in Buildings" to find out more about our activities. We wish you a pleasant reading!

The TightVent team

Feedback from the 11th TightVent - 43rd AIVC & 9th venticool Conference: Summary of the airtightness track

On 4-5 October 2023, the AIVC – TightVent - venticool 2023 joint Conference "Ventilation, IEQ, and Health in Sustainable Buildings", was organised by the International Network on Ventilation and Energy Performance (INIVE) on behalf of the Air Infiltration and Ventilation Centre (AIVC), the Building and Ductwork Airtightness Platform (TightVent Europe), the international platform for ventilative cooling (venticool), and Aalborg University. It was a successful event, which drew just over 200 participants - researchers, engineers & architects, policy makers or regulatory bodies, manufacturers & stakeholders and international organisations from 33 countries.

The conference programme featured three parallel tracks of structured sessions, with around 150 presentations exploring the main conference themes: Smart Ventilation, Indoor Air Quality (IAQ) and Health, Building & Ductwork Airtightness, and Ventilative Cooling – Resilient Cooling. A special session known as: “90 seconds industry presentations” was specifically organised for the event's sponsors.

Furthermore, the conference served as a major discussion place for ongoing projects, such as the IEA EBC Annex 78 "Supplementing Ventilation with Gas-phase Air Cleaning, Implementation, and Energy Implications", the IEA EBC Annex 80 "Resilient Cooling of Buildings", the IEA EBC Annex 86 "Energy Efficient IAQ Management in Residential Buildings" and the IEA EBC Annex 87 "Energy and Indoor Environmental Quality Performance of Personalized Environmental Control Systems"."

In this article, we present the key trends, ideas, considerations, and conclusions that emerged during the two days of the conference, with a primary focus on the topic of building and ductwork airtightness.

In this issue

TightVent Europe
BUILDING AND DUCTWORK AIRTIGHTNESS PLATFORM

9-10 October 2024 –12th TightVent- 44th AIVC - 10th venticool conference in Dublin, Ireland

The 12th TightVent conference: **"Retrofitting the Building Stock: Challenges and Opportunities for Indoor Environmental Quality"** will be held in Dublin, Ireland together with the 44th AIVC and the 10th venticool conferences on October 9-10, 2024. The conference will take place at Croke Park, Dublin.

Conference Scope

In a world striving to achieve carbon neutrality by 2050, it is imperative to strike a balance that sustains both our environment as well as the health and comfort of the individuals inhabiting buildings. Considering that 90% of the current buildings are projected to remain in the year 2050, retrofitting the existing building stock is paramount to reaching decarbonisation goals.
From the perspective of climate goals, reducing energy use in the built environment via energy retrofit and climate neutral newly constructed buildings are critical. However, it is crucial to prioritise indoor environmental quality when reducing energy usage to meet climate targets. Well-designed and executed retrofits are needed to reduce carbon emissions while ensuring healthy indoor environments. Building retrofit professionals, energy conservation experts, ventilation system designers & installers, and indoor air quality specialists must collaborate on innovative solutions to achieve these multifaceted objectives. AIVC 2024 will serve as a multidisciplinary platform to address the emerging challenges by exchanging cutting-edge ideas, research findings, policies and industrial experiences.
The conference organisers invite contributions centred around the pivotal role of ventilation, airtight building and ductwork designs, and ventilative cooling solutions in enhancing Indoor Environmental Quality (IEQ) and overall health in existing buildings. Case studies demonstrating innovative solutions are also welcome.

Conference concept

- The conference will consist of 3 parallel sessions largely devoted to:
- Smart ventilation, Indoor Air Quality and health
- Building and ductwork airtightness
- Ventilative cooling – Resilient cooling

The conference will consist of a mixture of invited presentations and presentations in response to a call for papers, organised in structured sessions focused on the conference topics. Some sessions will consist of presentations from the call for papers only, while other sessions will be topical sessions with presentations proposed by a session organiser or by the organising committee. The conference is combined with an exhibition by industry partners.

Conference topics

Smart ventilation, IAQ and health

- Integration of ventilation in building energy retrofits
- Associated health benefits of energy retrofits
- Strategies to reduce exposure to outdoor and indoor air pollutants (filtration, air cleaning, source control)
- Resilient approaches in IAQ management (infection control, hazardous events, etc.)
- Inspection, monitoring, maintenance, reliability and durability of ventilation systems
- Model based data analytics and control strategies for smart ventilation, including the role of consumer-grade IAQ sensors
- Building Information Modelling (BIM), Life Cycle Assessment (LCA) and ventilation systems
- Standards, policies and legislation

Building and ductwork airtightness

- Role of airtightness in building energy retrofits
- Energy and IAQ impact of envelope and ductwork leakage
- Innovative measurement and airtightening techniques
- Compliance schemes for airtightness
- Long-term performance: durability of airtightness

Ventilative cooling – Resilient cooling

- Role of ventilative and resilient cooling in building energy retrofits
- Occupant IEQ perception and satisfaction
- Resilient approaches to extreme heat events and climate change
- Control strategies and personal comfort control
- Standards, legislation and compliance tools

Conference Organisers

The conference is an initiative from:

- the International Network on Ventilation and Energy Performance (INIVE) on behalf of the Air Infiltration and Ventilation Centre (AIVC), the Building and Ductwork Airtightness Platform (TightVent Europe), and the platform for resilient ventilative cooling (venticool);
- the University of Galway;
- the Maynooth University; and
- the Sustainable Energy Authority of Ireland (SEAI)

There will be 2 separate calls for abstracts & papers depending on whether the authors are interested in the peer review of their papers; a call for topical sessions; and a students' competition.
Detailed information & important deadlines for the 2 calls for abstracts can be found at: https://aivc2024conference.org/call-for-abstracts-papers/
Detailed information & important deadlines for the call for topical sessions can be found at: https://aivc2024conference.org/call-for-topical-sessions/
Detailed information for the students' competition can be found at: https://aivc2024conference.org/students-competition/
For more information, please visit the conference website at: https://aivc2024conference.org/

TightVent Europe

BUILDING AND DUCTWORK AIRTIGHTNESS PLATFORM

TightVent – AIVC - venticool 2023 Conference highlights!

We are pleased to announce the release of a YouTube collection including some of the highlights of the TightVent – AIVC - venticool joint conference: “Ventilation, IEQ & health in sustainable buildings” held on October 4-5, 2023, in Copenhagen, Denmark. The playlist includes a selection of recorded presentations from the opening session’s keynote speeches as well as the recordings of the closing session’s best paper, best poster and student competition awards:

- **Keynote speech**: “Users and practices in heating and ventilating homes – why do they behave different than we think?”, Kirsten Gram-Hanssen, Aalborg University, Denmark
- **Keynote speech**: “What we know about smart ventilation”, Gaëlle Guyot, Cerema, France
- **Keynote speech**: “Dallying with DALYs: Why acceptable IAQ should consider harm”, Benjamin Jones, University of Nottingham, United Kingdom
- **Best paper award**: “Can naturally ventilated office buildings cope with dusty outdoor air?”, Evangelos Belias, EPFL, Switzerland
- **Best poster award**: “Energy implications of increased ventilation in commercial buildings to mitigate airborne pathogen transmission”, David Artigas, Simpson Gumpertz & Heger Inc., USA
- **Student Competition award**: “Long-term energy performance of dew-point indirect evaporative cooler under the climate change world scenario”, María Jesús Romero-Lara, University of Cordoba, Spain

The recorded presentations can be found here.

More recordings will be released at a later date so stay tuned.

New publications

The AIVC has recently released 3 publications in collaboration with TightVent & TAAC.

AIVC’s Ventilation Information Paper no 45.8: Trends in building and ductwork airtightness in China (June 2023).
This paper summarises current knowledge on trends in building and ductwork airtightness in China.

AIVC’s Ventilation Information Paper no 46: Building airtightness impact on Energy Performance (EP) calculations (September 2023).
This paper aims to explain these simplified models and give some examples of methodologies applied in various countries.

AIVC’s Ventilation Information Paper no 47: High-rise buildings airtightness – error due to stack effect on point measurements (October 2023).
This paper gives guidance to perform a pressurization test in high-rise buildings and suggests new criteria to replace standard requirements when they cannot be met.

All documents are freely accessible at: https://www.aivc.org/resources/collection-papers/volume/ventilation-information-papers-0

Buildings Special Issue on “Research on the Airtightness of Buildings” open for submission

A special issue of Buildings (ISSN 2075-5309) is now open for submission.

This Special Issue is motivated by the importance of the airtightness of buildings in terms of indoor air quality and the energy implications of heat transfer. Currently, it is not possible to design and construct nZEB buildings without taking this parameter into account, and it is essential that we can determine this parameter in buildings to be renovated in order to achieve a significant improvement in their final energy consumption.

The aim of this Special Issue is to present the most recent studies addressing airtightness and infiltration in buildings. Topics of interest include the following:

- Experimental tests in constructed buildings;
- Effects on the comfort and health of building occupants;
- Methods for testing individual zones within multi-zone complexes;
- Alternative methods of pressurization for calculating airtightness;
- Effects on the performance of heat recovery systems;
- Impact of infiltrations on the energy consumption of buildings.

Research papers, analytical reviews, case studies, conceptual frameworks and policy-relevant articles are welcome. All papers will be published as open access after a rigorous peer-review process.

Deadline for manuscript submissions: **15 March 2024**

For further information please click here.

TightVent Europe

BUILDING AND DUCTWORK AIRTIGHTNESS PLATFORM

Partners

Product news as provided by our partners

Retrotec's DM32X Gauge Officially Released

Meet Retrotec's DM32X gauge, the next generation in airtightness testing. This refreshing new testing experience will open new doors and extend your diagnostic abilities.

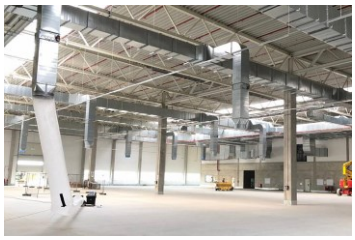
New Features

- ✓ Beautiful large 1080P HD OLED Display with Gorilla Glass capacitive multi-touch.
- ✓ A thinner, more ergonomic shell design.
- ✓ Built-in testing and training apps.
- ✓ Embedded & online manuals, videos, & resources.
- ✓ Real-time graphic display of pressure readings over time. Taking pressure points is one thing, being able to see what's happening tells you a more accurate story.
- ✓ Multiple datalogging options.
- ✓ Digital Signal Processing (DSP) improves pressure reading stability.
- ✓ Fast 3A charging & data transfer on USB-C Bluetooth® connectivity.
- ✓ Photorealistic images of all devices and ranges.

For more information, please visit: www.retrotec.com

Setting New Standards: How Birkenstock Achieves High Standards by Using AEROSEAL in the Planning Phase

Birkenstock's new facility in Pasewalk, Germany, a 36,000 m² complex, demonstrates the positive impact of integrating AEROSEAL directly into the construction planning phase. By incorporating AEROSEAL early in the project, the aim was to achieve air tightness class C (ATC 3).



The strategy involved initially installing ductwork of class B (ATC 4) and then sealing it to class C (ATC 3) or higher with AEROSEAL after construction. This approach enabled the project to even achieve air tightness class D (ATC 2) overall. This underscores the benefits of early incorporation of AEROSEAL into the project, ultimately setting the standard for good energy efficiency in modern buildings.

Learn more about this pioneering project at https://bit.ly/aeroseal-birkenstock

Lindab launches ventilation products in recycled steel, cutting climate impact by 62%

In a move towards decarbonised products, Lindab has expanded its standard product range with ventilation ducts manufactured from recycled steel, provided by Arcelor. This new offering lowers climate impact by 62% compared to duct systems made from traditional steel. As part of Lindab's ongoing commitment to sustainability, the company plans to include products made from fossil-free steel provided by SSAB from 2026 onwards to further decrease CO2 emissions. This initiative positions Lindab as the first company in the ventilation industry to offer products made from recycled and fossil-free steel.

Learn more about Lindab's sustainability efforts and the journey towards decarbonised steel at https://www.lindab.com/sustainability/for-a-better-climate/decarbonised-steel/

DIAMOND PARTNERS

Lindab

meztechnik AIR SYSTEM PRODUCTS

retrotec airflow systems since 1980 www.retrotec.com

GOLD PARTNERS

ACIN instrumenten

BCCA

BlowerDoor GmbH MessSysteme für Luftdichtheit

dooApp

SOUDAL

SILVER PARTNERS

eurima European Insulation Manufacturers Association

gonal driving air

SIGA 1966

ASSOCIATE PARTNERS

BPIE

PLATFORM FACILITATOR

INIVE