



Foreword

Raising awareness, exchanging information and discussing issues on ventilative cooling are the major motivations behind venticool. As you will see in this newsletter, sharing positions and views with stakeholders, policy makers and standard writers based on scientific knowledge and feedback is a crucial part in the work. Our position paper (available on the venticool website), our involvement in the ventilative cooling seminar held in Uxbridge (aside from the IEA Annex 62 expert meeting), our contributions to the QUALICheck events, and of course, our annual conferences are interesting illustrations of our achievements and future activities.

We wish you a pleasant reading.

The venticool team

Outcomes of the 35th AIVC & 2nd venticool conference: Summary of the ventilative cooling track

Around 150 participants attended the joint 35th AIVC – 2nd venticool – 4th TightVent conference held in Poznań, Poland September 24-25, 2014. The programme consisted of 3 parallel tracks with contributions from 27 countries and international organisations. Over 100 presentations were given covering topics ranging from ventilative cooling and thermal comfort, air infiltration through leaks in the building envelope and ductwork and ventilation in relation to IAQ and health. It has also been a major discussion place for on-going projects and initiatives such as the IEA EBC annex 62, the QUALICheck project and platform, the venticool and TightVent Europe platforms, the newly formed Indoor Environmental Quality – Global Alliance (IEQ-GA), etc., based on presentations of results and perspectives as well as interactions with the audience. The ventilative cooling track of the conference consisted of 4 sessions with 29 presentations. Specific topical

sessions dealing with ventilative cooling included the following topics:

- Ventilative cooling and Annex 62
- Comfort in sustainable buildings

The paper available at http://venticool.eu/wp-content/uploads/2014/12/AIVC2014_Ventilative-Cooling-Track_Summary.pdf gives an overview of the trends and conclusions based on the presentations and discussions in the ventilative cooling track of the conference.



Photo: 35th AIVC – 2nd venticool – 4th TightVent joint Conference in Poznań, Poland September 24-25, 2014

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Ventilative Cooling Seminar – Uxbridge UK: Summary of the main results

by Maria Kolokotroni, Brunel, UK

A half day seminar was held at Uxbridge UK on 17 September 2014 with a dual purpose: to present work currently undertaken by the IEA EBC Annex 62 and to discuss examples of work on ventilative cooling in the UK. The seminar was organised by CIBSE Natural Ventilation Group and Institute of Energy Futures of Brunel University London and was sponsored by venticool. It was attended by 70 delegates from academia and industry who were welcomed by Professor Geoff Rodgers Deputy Vice-Chancellor (Research) of Brunel University.

In the first session chaired by Ben Jones of Nottingham University and secretary of CIBSE Natural Ventilation Group, Per Heiselberg of Aalborg University Denmark and Operating Agent of EBC Annex 62, gave an overview of the work which has the aim to make ventilative cooling 'an attractive and energy efficient cooling solution to avoid overheating of both new and renovated buildings'. Ventilation is already present in buildings through mechanical and/or natural systems and it can remove excess heat gains as well as increase air velocities and thereby also widen the thermal comfort range. The Annex addresses these challenges and will devise recommendations through development of design methods and compliance tools related to predicting, evaluating and eliminating the cooling need and the risk of overheating in buildings and through the development of new attractive energy efficient ventilative cooling solutions. Flourentzos Flourentzou from ESTIA Switzerland and Leader of Subtask A of Annex 62, presented examples of ventilative cooling of operational non-residential buildings in Switzerland and Cyprus concluding with a list of ten passive techniques to facilitate

ventilative cooling. Anna Mavrogianni of UCL, London presented results from monitoring and modelling summer indoor overheating risk and ventilative cooling behaviour of residential buildings within the Urban Heat Island of London. Karsten Duer of Velux closed the first session with a presentation about venticool, In the second session, chaired by Martin Liddament of VeeTech Ltd and Chairman of CIBSE Natural Ventilation Group, Zsolt Bakó-Biró of Monodraught Ltd, presented work on analytical and experimental modelling of energy storage in phase change materials for natural cooling of buildings, which is realised by the Cool-phase® system, a commercial product from Monodraught Ltd. He presented experimental work on the characterisation of the system, its implementation into Dynamic Simulation Modelling through a commercial software available to designers and monitored results of an existing installation in a classroom. Shaun Fitzgerald of Breathing Buildings presented natural ventilation solutions for thermal comfort in buildings focussing on the environmental design solution of an office building together with monitored results of its thermal performance. He also presented results from a theatre and a school.

The final presentation was by Hisashi Kotani of Osaka University who presented examples of natural ventilation of high-rise buildings in Japan. He closed the loop started by Per Heiselberg on the aim of Annex 62 "to make again ventilative cooling an attractive and energy efficient cooling solution to avoid overheating of both new and renovated buildings'.

He began by showing the AIJ (Architectural Institute of Japan) Pamphlet Vol.3, No.7 (1930) entitled "Ventilation and cooling". Interest in natural ventilation still continues and AIJ has recently published in 2013 a design handbook on natural ventilation with 28 non-residential case-studies. He continued by presenting the challenges of naturally ventilating high rise buildings and described two case-studies: a well-documented ten year old building and a complex of four buildings with three different uses and ventilation strategies completed in 2013. Videos of all presentations can be viewed at:

www.youtube.com/channel/UCzRLfi02YgesKTyevtDRweQ

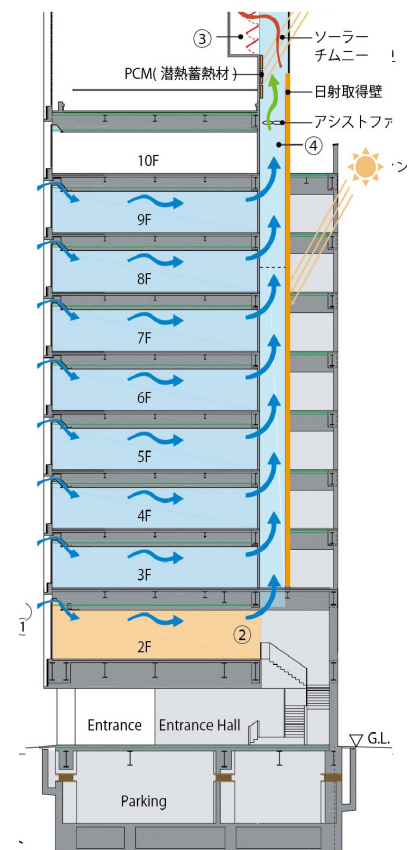


Figure 1: IEA EBC Annex 62 case-study building in Japan (H Kotani)



Photo: IEA-EBC Annex 62 2nd Expert meeting, 16 September, 2014 Uxbridge, UK

IEA EBC Annex 62- Ventilative Cooling- 2nd Expert Meeting, Uxbridge, UK, September 16, 2014

23 delegates from 13 countries attended the meeting attended the 2nd IEA- EBC annex 62 expert meeting in Uxbridge, United Kingdom on September 17-19, 2014. The host of the meeting was Brunel University (Prof. Maria Kolokotroni) who took this opportunity to organize a half-day seminar (see article in this newsletter) in conjunction with the IEA meeting. The main focus of the meeting was to present current work of the annex and more specifically to discuss the "State of the art report". The 3rd annex expert meeting will be held in Changsha, China on April 15-17, 2015. The host of the meeting will be the Hunan University (Prof. Gouqiang Zhang). More information will follow.

venticool position paper

venticool is pleased to announce the release of its position paper with a brief overview of opportunities and challenges for ventilative cooling solutions both:

- To contribute to the 2020 objectives of the EU in the building sector with regard to energy savings and greenhouse gas emissions;

- To contain the overheating risk, which is an increasing concern in low-energy buildings.

venticool's position paper "Developing ventilative cooling for better comfort and energy savings in buildings", is available on the venticool website:
<http://venticool.eu/venticool-position-paper-now-available/>.

September 23-24, 2015: 36th AIVC conference, Madrid, Spain

The 36th AIVC conference: 'Effective ventilation in high performance buildings' will be held in the city of Madrid, Spain together with the 5th TightVent and the 3rd venticool conferences in September 23-24, 2015. It will be a major international event in 2015 focusing on various topics relevant to ventilative cooling, airtightness, IAQ and health, as well as compliance, smart control, and BIMs (see full list of topics on: <http://aivc2015conference.org/home/scope-and-topics>).

This conference is organised by:

- the International Network on Ventilation and Energy Performance (INIVE) on behalf of the Air Infiltration and Ventilation Centre (AIVC), TightVent Europe (the Building and Ductwork Airtightness Platform), venticool (the international platform for ventilative cooling); and

- The Eduardo Torroja Institute for Construction Science – (IETcc-CSIC)

Registration and programme information will follow soon so stay tuned on:
<http://aivc2015conference.org/>.

March 16-17, 2015: QUALICHeCK workshop, Lund, Sweden

The international workshop on "Ventilation and Airtightness in Buildings: Voluntary and Regulatory Frameworks to Improve Quality and Compliance" will be held in Lund, Sweden on March 16-17, 2015. One topic of specific attention will be how to handle innovation in compliance frameworks, which is a specific concern for ventilative cooling solutions.

This workshop is a joint initiative from: the QUALICHeCK consortium (www.qualicheck-platform.eu), AIVC (Air Infiltration and Ventilation Centre, www.aivc.org), TightVent (Building and Ductwork Airtightness Platform, www.tightvent.eu) and venticool (the international platform for ventilative cooling, www.venticool.eu). Visit the QUALICHeCK website at www.qualicheck-platform.eu for further information.

**23 - 24 September 2015
Madrid, Spain**

36th AIVC Conference
5th TightVent Conference
3rd venticool Conference

Effective ventilation in high
performance buildings



What is ventilative cooling?

Ventilative cooling refers to the use of natural or mechanical ventilation strategies to cool indoor spaces. This effective use of outside air reduces the energy consumption of cooling systems while maintaining thermal comfort. The most common technique is the use of increased ventilation airflow rates and night ventilation, but other technologies may be considered as well. Ventilative cooling is relevant in a wide range of buildings and may even be critical to realize renovated or new NZEB.

What is venticool?

venticool is the international ventilative cooling platform launched in October 2012 to accelerate the uptake of ventilative cooling by raising awareness, sharing experience and steering research and development efforts in the field of ventilative cooling.

Disclaimer

Conclusions and opinions expressed in contributions to the venticool Newsletter represent the author(s)' own views and not necessarily those of venticool partners.

- AGORIA-Naventa is the Belgian association of manufacturers of natural ventilation in residential and non-residential buildings. This group was founded within Agoria, the federation of the Belgian technological industry. As Naventa, we give special consideration to health-related issues when developing new natural ventilation, solar shading and night cooling systems. By supporting the venticool platform, Naventa wants to increase her knowhow and raise awareness that there is a huge need for CEN standards to calculate the influence of ventilative cooling on the energy performance of buildings..
- ES-SO, the European Solar-Shading Organization (ES-SO) is the umbrella body representing the European solar shading and roller shutter industry. Its objectives are to provide a permanent point of contact between its members (mainly the national professional trade associations) and the European authorities, and to demonstrate that solar shading can make a substantial contribution to energy savings and indoor comfort. By joining the ventilative cooling platform ES-SO underlines the importance of different technologies and strategies to be used in a multidisciplinary and integrated conceptual way to reach the target of low energy buildings' thermal comfort criteria as well as maintaining a good indoor climate and visual comfort .
- The VELUX Group offers a wide range of solutions for daylight and fresh air through the roof – regardless of roof pitch, size and purpose of the building. The VELUX Group considers ventilative cooling to be a sustainable technology. A technology which today is not at all used to its full potential. The mission of venticool is therefore crucial. It supports the effective and knowledge-based promotion of the use of ventilative cooling, it fills in the gaps in the value chain of ventilative cooling that exist in calculation methods, standards and regulations, and it promotes the communication and awareness of ventilative cooling that could act as a catalyst in the development of the right solutions for the market when they are most needed.



- Wienerberger is the world's largest producer of clay blocks and number one in facing bricks in Europe and the USA as well as the market leader for clay roof tiles in Europe with 214 plants in 30 countries. In an ever-evolving construction market with stricter energy, insulation and sustainability requirements for homes and buildings, Wienerberger is constantly striving towards innovation with intelligent building concepts and total solutions, attaching great importance to the aspect of sustainability in green manufacturing, construction and living.



Our partnership with Venticool 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.

- WindowMaster A/S is founded on a vision to create better buildings that have plenty of fresh air and excellent and safe indoor climates. We supply sustainable indoor climate solutions for all types of buildings and our solutions are based on natural and hybrid ventilation. Also natural smoke ventilation is a part of our offerings. Our expertise is built on our knowledge of regulatory standards and project development, and our experience from thousands of completed projects across Europe.



PLATFORM FACILITATOR

- 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.



venticool
the international platform for ventilative cooling

