



Architects Newsletter

January 2008



Send our newsletter to your colleagues

hansen exploiting the safe limits of fenestration

MagHansen

Happy New Year

Welcome to 2008.

The climate is high on the political agenda, and as 40 % of the total energy consumption in Europe is spent in our buildings and, a lot of this energy disappears out of windows, fenestration is at the centre of the debate.

A lot of new initiatives are set into motion, such as passive house and energy neutral projects.

Energy Neutral project

HansenGroup, participated in a conference at the Danish Parliament on the 27th of November, arranged by BOLIG+ (housing+).

Behind BOLIG+ is a number of institutes and companies, e.g. Danish Technological Institute, Danish Building Research Institute and The Danish Society of Engineers. BOLIG+ has a heavy political influence and is observed very closely by the Danish politicians, who also participated in the conference with constructive and visionary advice regarding the future process.

Where the passive house concept focuses on limiting the energy consumption in the form of low u-values, the BOLIG+ concept has a more radical and alternative approach:

1. Energy neutral on a yearly basis
2. Intelligent and user friendly houses
3. Flexible in use and in time
4. Houses with a good and healthy indoor climate
5. Houses adapted to local context

This is a more free way of thinking to reach the goal and at the same time it is a more ambitious concept than that of the passive house concept.

The first project using the BOLIG+ concept will be a high-rise building in the city of Aalborg (northern part of Jutland, Denmark).

New building regulations

BOLIG+ is consistent with the new national building regulation where the keywords are low energy consumption and a good healthy indoor climate. The regulations will come into force in 2008, and apply to all building types.

It is not only in Denmark that energy consumption is high on the agenda. The vision of French president, Nicolas Sarkozy, is that all new buildings in France are energy positive by 2020, i.e. they should produce more energy than they consume.

In Norway the u-values of windows must not exceed 1.2 by August 2009!

The Climate Summit in 2009

The Climate Summit in Copenhagen in 2009 has already had a lot of coverage in the Danish press. **HansenGroup** follows this closely to stay in front with new products taking things a step further in regards of low u-values and a good, healthy indoor climate.

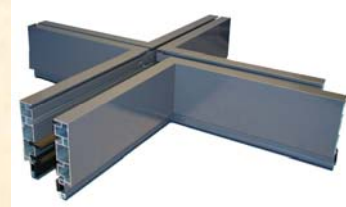
R&D at HansenGroup

Research & development has worked on three major systems in 2007:

1. **Hansen UnitAl** - unitised system for minimising installation time on site
2. **Xframe™** - new window system with frames/vents made 100 % of composites
3. **Hansen 3G** - prefabricated window elements with comfort and wellbeing at no extra costs

Hansen UnitAl: Project started in 2006 in Malmö where our Swedish sister

company **PreconalHansen** won a large contract on a high-rise building.



Hansen UnitAl reduces installation time by 70 %.

In 2007 further projects were using **Hansen UnitAl** in Denmark and Norway. The Norway project has 5,500 m² of facades on a 18 storey building.

Xframe™: A complete new system for window, frames and vents made completely from composites. Composites offer extremely low u-values and several optional face caps in aluminium allow you to personalise your project. The first buildings using **Xframe™** are currently being erected, and the final launching of the product will take place in 2008.

Hansen 3G: This system (or concept) has been further developed in 2007. Currently **HansenGroup** offers a free analysis together with COWI (consulting engineers working world-wide) of projects on how to obtain the best result with **Hansen 3G**. This includes energy consumption, principles of ventilation and economy.

As an architect, consulting engineer or contractor you can gain instant access to our R&D department when working with **MagHansen**.

You are also welcome to make contact if you need information on any of the **Hansen** profile systems.

Newsletters from 2007

All previously published newsletters are available on our website - [link](#).

Articles from 2007 includes:

- New improved website and a short description of **Hansen Millennium™** - one of the world's largest collections of slim profiles in one system (February edition)
- The SaieDue exhibition in Bologna, Italy. Visiting one of the largest exhibition in Europe displaying architecture,

interior finish, building renewal and technologies (March edition)

- Professional project management within **HansenGroup** (April edition)
- **Hansen OvAl** - the oval roof vent, **Hansen Fasad™** Fire - hidden fire protection (May edition)
- **Hansen** systems and u-values, new projects and Multi - functions in facades and windows (June / July edition)
- New technical download area on our

website (August edition)

- A guide in choosing the right profile system and **Hansen 3G** - solving all your problems (September / October edition)

Please feel free to contact **MagHansen** if you want more information or have comments to any of our newsletters.



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How to use Hansen 3G?

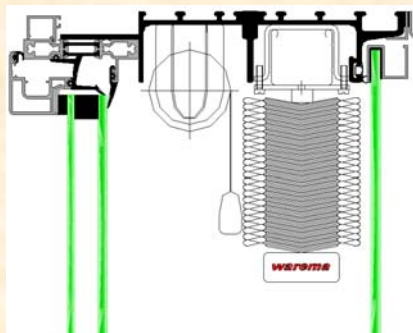
Together with COWI (consulting engineers world-wide) we offer a free analysis to architects, consultants and developers of projects where you might consider using natural ventilation with Hansen 3G elements.

The product and its features

The product is produced as prefabricated elements for facades, for single installation or unitised curtain walling.

With regards to choice of glass, elements are offered as a 1+2 or 2+2 solution, i.e. either a single layer glass on the outside and two-layer glass pane inside, or two times two-layer glass panes.

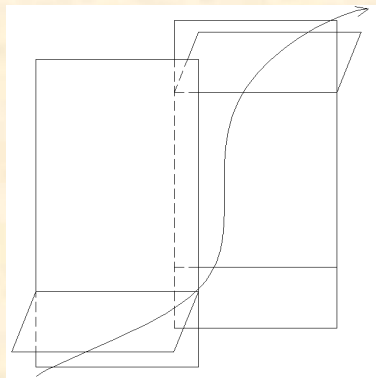
In the cavity between the glasses optional blinds or curtains may be installed.



Example of a section in a Hansen 3G element. This shows a 1+2 solution with both blinds and roll down curtain

Hansen 3G works with the simple principles of thermal currents. Preheated air is driven through the element and blown in under the ceiling. This is simple and effective, with a minimum of energy consumption and fresh air 24-7.

The design of each element varies according to your project, with only a few requirements: at least one vent outside at the bottom and one inside at the top. Furthermore a vent inside in the middle, allows access to any products which needs servicing.



The principles of ventilation in a Hansen 3G element. Fresh air is preheated and drifts through the element

One major benefit of this construction is the noise reduction, even when vents are open for ventilation. Independent tests on a project showed a reduction of 32 dB with 45° open vents.

The size of the element is also project specific, typically with storey high elements.

Profile systems for Hansen 3G are based on our slim profiles, with sight-lines of 50 mm (frame and vent together), to allow as much sunlight as possible into the building.

Economy = total economy

One of the biggest challenges in the promotion of Hansen 3G is to convince the parties to look at the total economy of the projects.

Hansen 3G is a product which might solve all problems in a project with a large percentage of glass, but it always comes down to the same question: "What's the price?".

COWI recalculated a project already finished as a traditional building with many facades and a standard air conditioning system to ensure a good healthy indoor climate with sufficient airflow.

The investment in facades and air conditioning of € 2.68 million was more or less the same (€ 2.61 million), using Hansen 3G elements and a reduced system for air conditioning (hybrid solution).

At the same time the energy consumption could have been reduced from 89.5 to 61,3 kWh/m², an annual saving of € 40,000 with current prices.

Comfort and wellbeing

Fresh air, preheated with reduced risk of problems with draught and reduced noise pollution may not be features you can measure directly in money. However users will feel more comfortable and with a greater sense of wellbeing. A reduced absence through sickness is always a benefit for all.

Help us to help you

We seek finished projects we can use as examples of how a change to natural ventilation with Hansen 3G would have effected the entire project in regards of investment and energy consumption.

If you have a project where you are willing to share some inputs with us, we would be happy to hear from you.

Please contact Søren Sørensen in our R&D department by mail: shs@hansenprofile.dk, and he will let you know what kind of information we require.

All results of each project will be presented to you before any further use.



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