

# ENGLISH SUMMARY OF CONTENTS

CVC N°877 JANVIER/FÉVRIER 2013

## PROFESSION

### Technical and energy management of building

The Louvre des Entreprises/Louvre des Antiquaires is a building spread over 11 floors (ground floor + 6 floors and 4 levels of basement including two parking levels) and combining various activities. The Société Foncière Lyonnaise, owner of the entire building, set up a monitoring performance system in order to operate in a better way the 37,000 m<sup>2</sup> available.

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## ROUNDTABLE

### Air quality : in search of solutions

This first roundtable (read CVC No. 876) treated air pollutants to consider and changes in French regulations. In this second part, devoted to R & D and strategies to improve IAQ, we reproduce the main part of the exchanges between Alain Ginestet, Cetiat, Étienne de Vanssay, Cap Environment, Virginia Lori, and Pierre-Jean Vialle, CIAT. Expertise from Francis Allard, leader of the axis Efficiency and Indoor Environmental Quality in the building, LabSIE (University of La Rochelle), and Chairman of the Scientific Committee QQAI, Dr. Fabien Squinazi, director of the Laboratory of Hygiene of the City of Paris, and Martial Archenault, research center Synergie for Cofely Services are added.

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## FILE I

### Design and implementation of the building envelope

> File coordinated by Didier Glatigny (AICVF)

#### Wall insulation and airtightness

> By Jacques Daliphard, administrator and member of the Technical Committee AICVF  
There are many ways to design and implement thermal and acoustic insulation for facades of new buildings; a list of the selection criteria for good design to allow a homogeneous and continuous insulation leaving only the minimum of thermal bridges is included. This new building envelope, consistent with the RT 2012, must also be slightly permeable to air and include a continuous moisture barrier to limit air infiltration.

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#### The bioclimatic revisited

> By Thierry Duforestel, Lou Chesné EDF R & D  
Since the first oil shock, finding technical solutions to reduce the energy needs of buildings has opened the way to design methods and technologies to exploit the valuable resources of the environment. This approach, called bioclimatic, gave birth to some concepts and

some projects, but has never known a great development in the field. We propose here to revisit these concepts with new tools and new methods to put into perspective the field of performance which could be exploited for the design of high performance buildings of tomorrow.

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#### Growth prospects of vacuum insulation panels

> By Luc Heymans, R & D Manager, Microtherm NV

Today, energy savings strongly influence the field of building and construction. Therefore, great opportunities for more efficient insulation and occupying less space than traditional insulation materials are existing. The VIP - vacuum insulation panel - is both old and new technology. For over 20 years, they have been used in various applications in the field of refrigeration, but also in building.

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#### SIPA current and future

> By Pierre-André Marchal, Enersens

Since the first oil shock, the thermal conductivity of the best insulators has been almost halved, from about 45 mW/(m.K) to about 25 mW/(m.K). Super insulation under atmospheric pressure (SIPA), materials that can be punctured or cut at will and without harmful emissions in case of fire, can now reduce the conductivity to less than 14 mW/(m.K). These materials become competitive for many applications.

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#### External insulation techniques with coating

> By Pierre Mazeret, marketing director facade, France Saint-Gobain Weber France

Carried by the thermal regulation and the Grenelle de l'Environnement, the external thermal insulation market has increased in recent years, registering a steady growth from 30 to 40% per year since 2008. Moved from a produced area around 2,5. 10<sup>6</sup> m<sup>2</sup> to over 8,5.10<sup>6</sup> m<sup>2</sup> in just three years, this insulation technique is obviously adapted for renovation projects (more than 80% of external thermal insulation dedicated to the renovation in 2011), thus allowing to increase thermal comfort and reduce energy costs while maintaining the same internal surface area. Discovery of this small market revolution in the heart of the news...

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#### The treatment of thermal bridges

> By David Lebamier, BET Pouget Consultants

Effects of thermal bridges on a new well insulated construction become more important than before, even preventing to meet the new legal requirements. In addition thermal bridges are often at the basis of major disorders related to the transfer of moisture and condensation. Treatment solutions of thermal bridges provide an improved durability of the building itself.

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## FILE II

### Ventilation and IAQ

> File coordinated by Pierre Bardou

#### VMC : from design to maintenance

> By Nicolas Dufour, Head of Marketing, ANJOS  
Bring closer a good indoor air quality and a low energy consumption related to ventilation is a challenge when reducing energy consumption in new and existing buildings is a must. To succeed, ventilation systems become increasingly complex and it is therefore fundamental to take care of it from design till use and maintenance.

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#### Ventilation, heating, domestic hot water and cooling

> By Francis Chardon, Head of Marketing, Aldes BBC, Effinergie, Green Building, Minergie, Passive Haus, etc... : Worldwide, buildings develop according to environmental and energy savings concerns. In France, thermal regulation and certifications stimulate the sector to build low-energy buildings with a long term orientation towards positive-energy buildings.

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#### Indoor air quality and regulations

> By André Chouquais, Marketing Manager Habitat Alexander Sonet, R & D engineer, Jean-Luc Alzonne, Marketing and Bénédicte Margrita, Communication, Air France

Buildings are more and more airtight in a context of increasing urban air pollution. The harmfulness of indoor pollutant is increasingly known and measured (furniture, paint, coating...) Therefore discussion about air quality is paramount because it has health consequences proved.

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#### Ventilation in refurbished dwellings

> By Patrick Jaillet, CEO and Monica Brot, operational marketing, Acthys

Ventilation in refurbished dwellings is part of a triple aim : to ensure the comfort and health of occupants, to keep up the building and to be part of the building's energy performance.

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#### Airtightness of ductwork systems : A bridge between energy efficiency and building comfort

> By Michael Blazy, Sales & Marketing Director France and Benoît Golaz, Product Manager ADS, Lindab France

Buildings must be airtight and equipped with efficient ventilation systems. Improved airtightness of ductwork systems is essential to master heat loss and obtain a good indoor air quality.

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