

## Real conditions of use of NOVELIO® CleanAir

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Trade mark: Paintable wallcovering NOVELIO® CleanAir

Manufacturer of the product: Saint-Gobain Vertex                      Saint-Gobain Hornstein  
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Summary description: Paintable wall covering made of glass fabric (75%) with organic coating (25%) doped with formaldehyde absorbent agent.

Date of the report :                      October 12th, 2009 this report comprises 6 pages

This report of analysis attests only characteristics of the samples submitted for testing and does not prejudge characteristics of similar products. It thus does not consist a certification of products.

With the collaboration of APAVE Paris.



## Context of the study

Indoor air quality is a major concern. Indeed, the interior air contains a large number of volatile organic compounds (VOCs) of which some are harmful and **develop nuisances** such as headaches, irritations, asthma, nausea, discomforts...

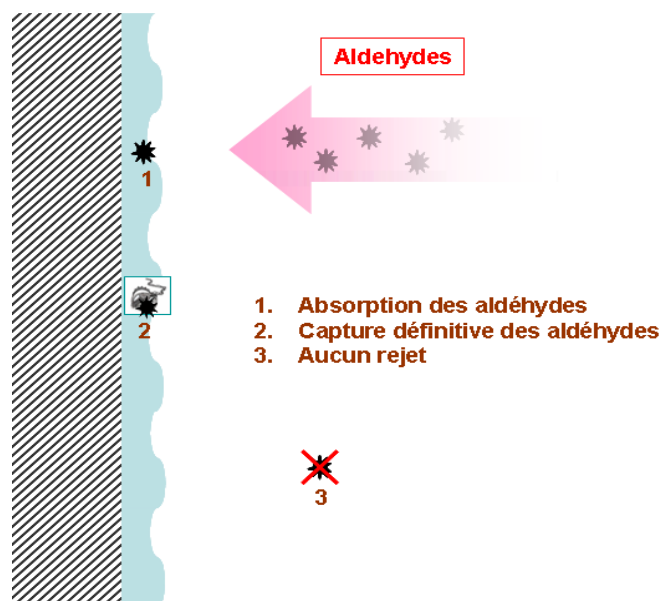
A study showed that we pass more than **90% of our time inside**: room, school, office, car, public building. A collective awakening is being fitted to improve interior air quality.

Among VOCs found in indoor air, the **formaldehydes** hold a very important attention because of their dangerousness and of their presence in a large number of components such as the laminated pieces of furniture, floor coverings, paintings, sticks...

As an indication, the World Health Organization (WHO) fixed a threshold value of recommendation for **formaldehyde at 100 µg/m<sup>3</sup>** in interior spaces.

The coating to paint **NOVELIO® CleanAir** contains an active component. It helps to reduce to a significant degree formaldehyde concentration in the interior air without carrying touched to the health of its occupants.

*Principle of action of the coating to paint Novelio® CleanAir*



The objective of this document is to present the results of a field test starring Novelio CleanAir in real conditions of application and to assess its performances.



## 1- Aims of the study

The objectives of this study in real conditions are the following:

- To determine the impact of the wallcovering Novelio CleanAir when emission peaks of formaldehydes: **immediate impact**.
- To evaluate the efficiency of the wallcovering Novelio CleanAir regarding formaldehyde capture: **durable effect**.

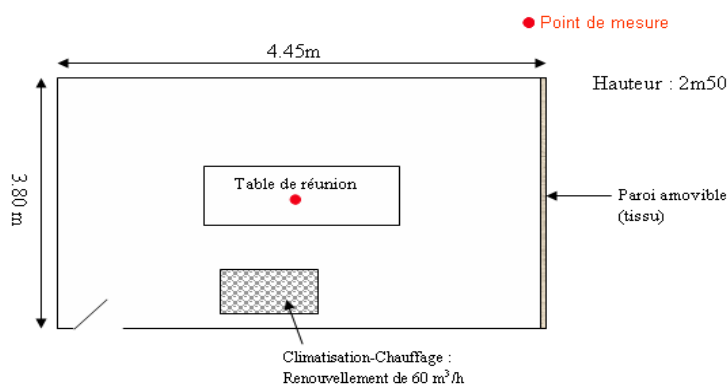
To study the immediate impact, the field test started with a renovation phase.

To study the durable effect, the field test was followed over one 3 months period.

## 2- Presentation of the field test and protocol of measurement

To carry out this field test, two identical meeting rooms were used. *The air renewal was approximately 60 m<sup>3</sup>/h.*

The picture below represents one of the studied rooms.



One of the rooms was equipped with a standard wallcovering and the second was equipped with Novelio CleanAir product.

### *Scenario of the field test*

The field test proceeded in two stages.

The first stage, known as “renovation phase”, was spread out over one 7 days period, during which:

- fabric of glass was removed and replaced;
- walls were painted;
- floor lining was changed;
- door was changed;
- new furniture was installed.

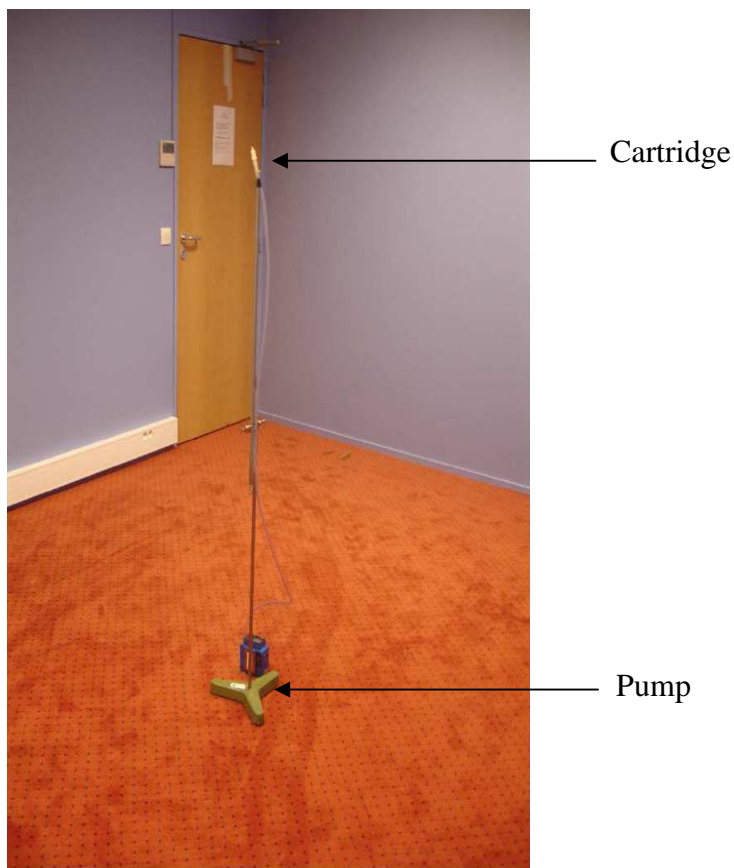


After each stage of this phase, a measurement of the formaldehyde concentration was taken (description hereafter).

The second stage, known as “phase of normal use”, was spread out over 3 months and half during which measurements of formaldehyde concentration were done. For this period, the rooms were available and normally used.

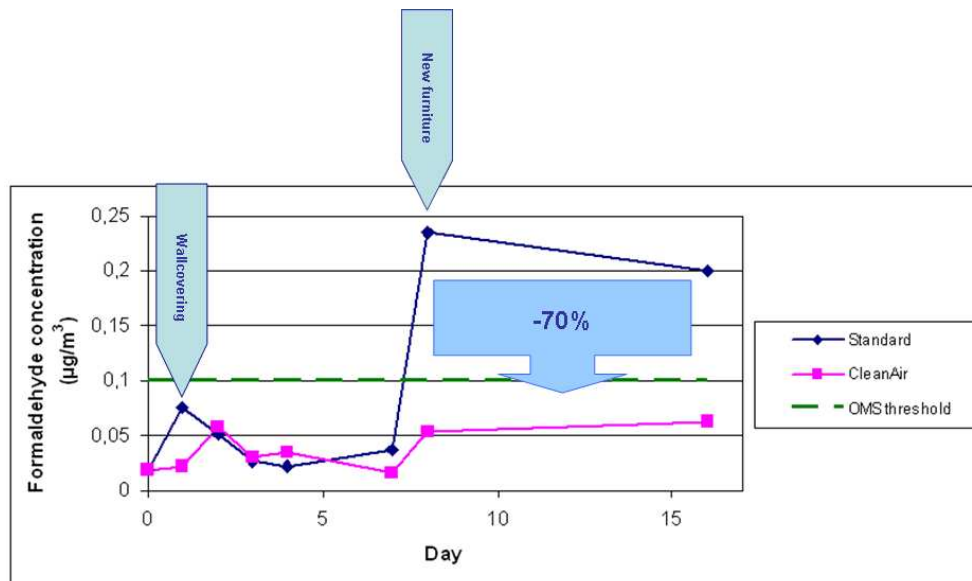
#### *Protocol of measurement*

Measurements were carried out according to standard AFNOR NF X 43-264 (Quality of air in working places - formaldehyde measurement) in the centre of the room after each stage of renovation and then regularly during the phase of normal use.



### 3- Measurements during renovation week

Measurements of formaldehyde concentration in the two rooms are presented in the figure below. The report of analysis is presented attached.



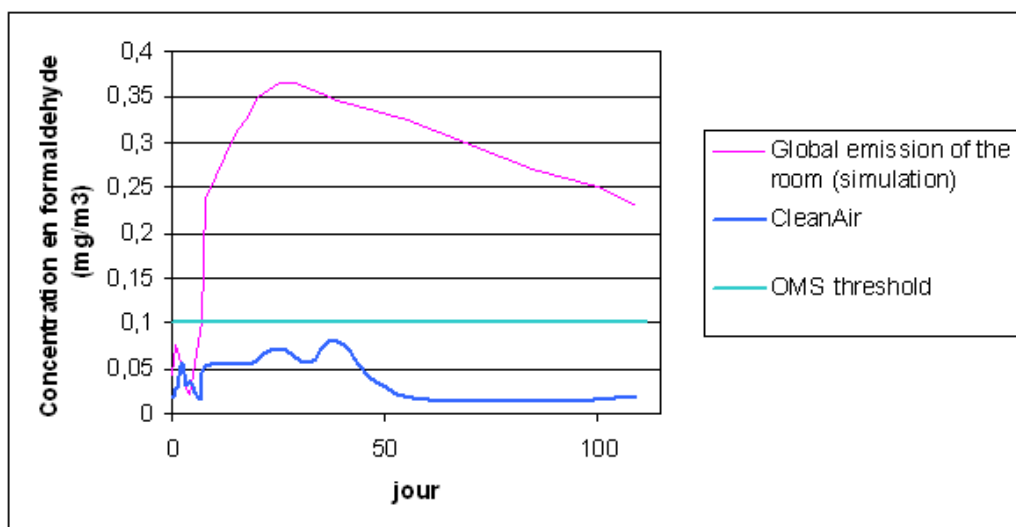
In the room where the wallcovering Novelio CleanAir was applied, the formaldehyde concentration remained constant and moderate throughout the renovation period (median value lower than 50 µg/m<sup>3</sup>). At the opposite, a clear increase in the formaldehyde concentration was observed in the room equipped with a standard wallcovering when strongly emissive elements were introduced (furniture). **The efficiency for the critical phase (installation of furniture) was of approximately 70%.**

**The paintable wallcovering Novelio CleanAir enables a real reduction of the formaldehyde concentration during emission peaks (here due to a renovation) in real conditions of use.**

### 4- Effectiveness of the coating Novelio CleanAir over 3 months

After the renovation phase, measurements of formaldehyde concentration were regularly made in the room equipped with Novelio CleanAir. A follow-up of occupation of the room was also carried out to make sure of the relevance of measurements (presented attached).





In a renovated room, the formaldehyde concentration increases very quickly and exceeds in less than 10 days the threshold value of sensitivity recommended by WHO (the World Health Organization). If the room is not ventilated, then the concentration still increases, and this during several weeks (total Emission of the part obtained by simulation). The concentration after 3 months then remains very largely higher with the threshold value fixed by WHO. On the other hand, the formaldehyde concentration in the room equipped with the wallcovering **CleanAir** remains moderate and well below threshold fixed by WHO.

**The glass fabric Novelio CleanAir enables the durable maintenance of a healthy environment of work (concentration largely lower than the limit recommended by WHO).**

## Conclusion

In real conditions of use, the coating Novelio CleanAir is **active after the installation** and allows to prevent from formaldehyde peaks of emissions (study carried out during the restoration of the parts).

The study over 3 months enabled to show in an obvious way that the action of Novelio CleanAir allowed maintaining in a **durable** way a healthy environment.

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