

Bioni Nature

Intelligent Interior Coating based
on **Nanotechnology**



Characteristics

- Prevention of thermal bridges and hot spots
- Maximum Protection against fungus & mildew
- Guarantees an anti-bacteria surface
- Improves the atmosphere in the room
- Regulates the room climate (heat & humidity)
- Non-flammable (building material class A2)
- Crack-bridging abilities
- Free of solvents, softeners and plasticizers
- Superior washability and very good hiding
- Tested by independent institutes




Fraunhofer Institut
Chemische Technologie

- Freiwillige Prüfung
- Emissionsgeprüft



Bioni Nature Intelligent Interior Coating !

Prevention of Thermal Bridges, Hot Spots Condensation and Fungus

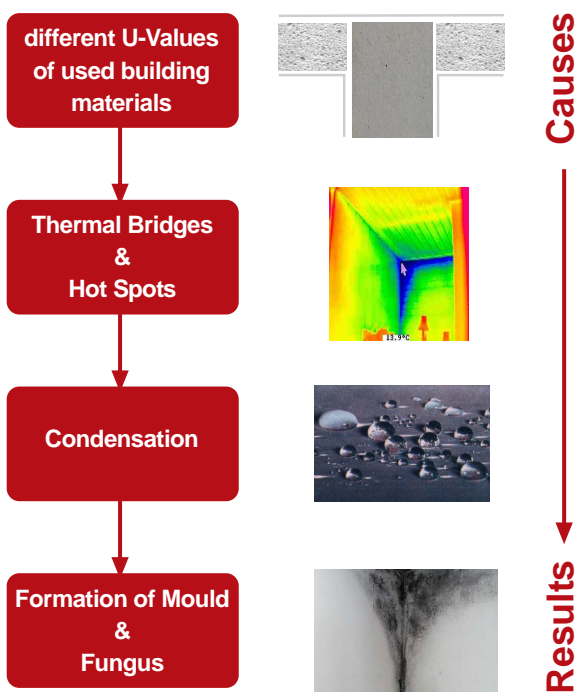


The formation of mould in buildings is a huge problem throughout the world. Walls covered with fungus not only look unpleasant; the micro-organisms which are present also put the health of the occupants at risk and can cause chronic illnesses such as asthma or allergies.

The formation of mildew - Physical causes and results

Thermal bridges and hot spots are the result of different thermal conductivity values of the used building materials, like concrete beams and blockwork. Under certain room climate conditions (high relative humidity, low wall surface temperature due to air-conditioning) at these (cooler) spots atmospheric humidity condensates. This condensation delivers optimum conditions for the growth of micro-organism and mould.

The Problems

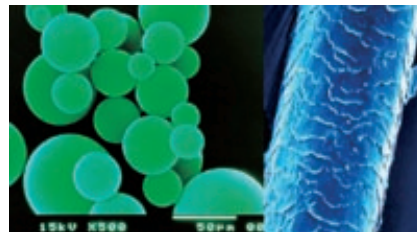


Bioni Nature Intelligent Interior Coating !



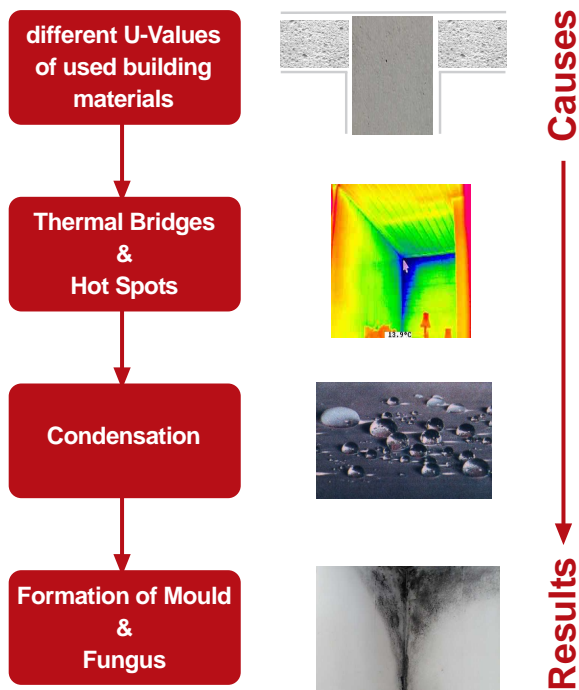
Prevention of Thermal Bridges, Hot Spots Condensation and Fungus

Bioni Nature is the first paint for interiors with effects that you can actually feel. Millions of microscopically small, hollow glass spheres in every litre confer the coating with characteristics which regulate heat and moisture and ensure a noticeable improvement in room climate as well as a physical protection against thermal bridges and hot spots.

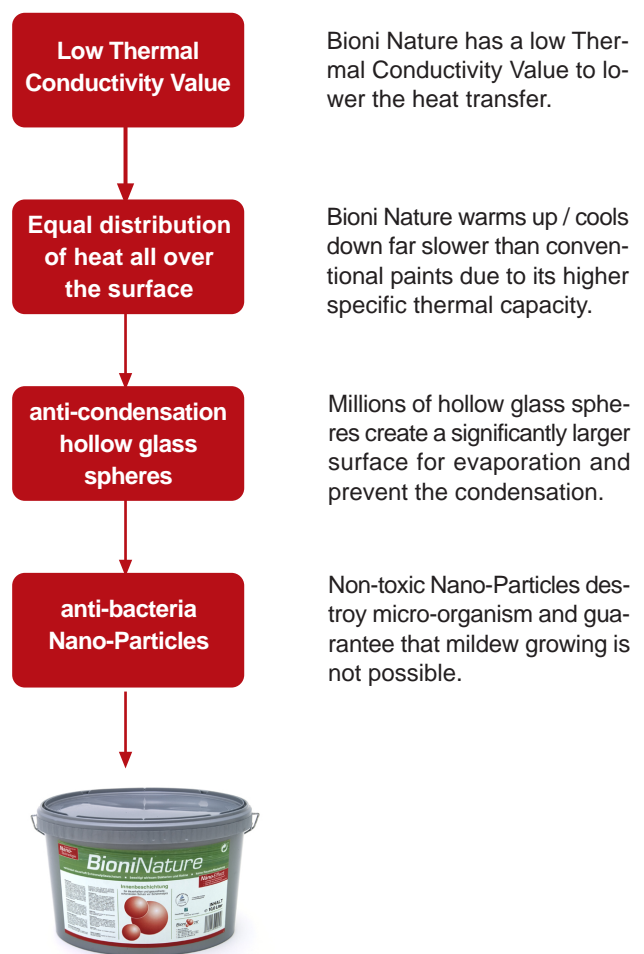


*Hollow glass spehres in Bioni Nature (left)
and a human hair (right)*

The Problems



The Solution with Bioni Nature



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Prevention of Thermal Bridges, Hot Spots Condensation and Fungus

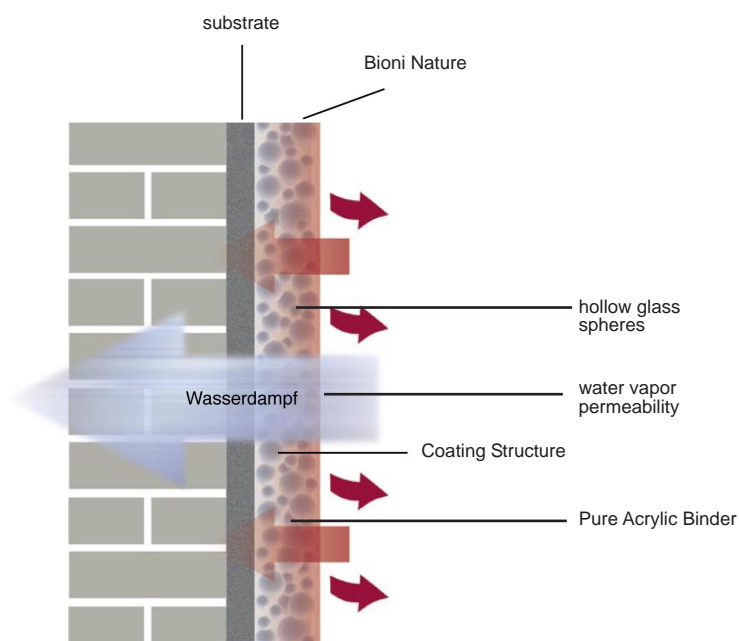
Prevention of Thermal Bridges and Hot Spots

Due to the use of Millions of hollow glass spheres, Bioni Nature provides an even distribution of heat all over the surface and acts to **prevent thermal bridges and hot spots**. This property has been proofed in a test, which has be done by the German RW-TÜV:

Enlarged Coating Surface for evaporation

In addition to its heat distribution properties Millions of hollow glass spheres in Bioni Nature create a significantly larger surface for evaporation and support the **prevention of condensation**.

Bioni Nature Coating Structure



Thermogramm:

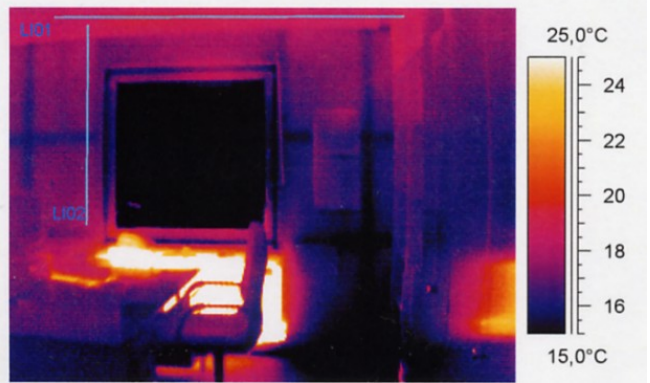


Photo 1: Conventional Interior Paint

Thermogramm:

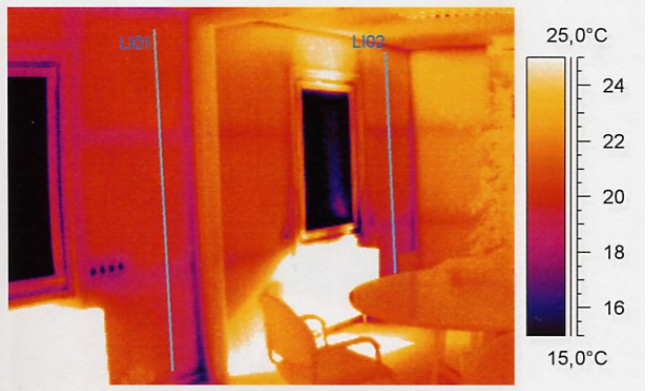


Photo 2: Bioni Interior Coating

The Infrared-photos show the weak points and thermal bridges in the room which has been coated with conventional interior paint (Photo 1). The wall surface temperatures are between 16°C and 18°C. The risk of condensation and mildew is high.

In Photo 2 (walls coated with Bioni Nature) thermal bridges and hot spots are not existing. The wall surface temperatures are 20°C, even in the exterior corner. Bioni Nature distributes the heat equal all over the surface.

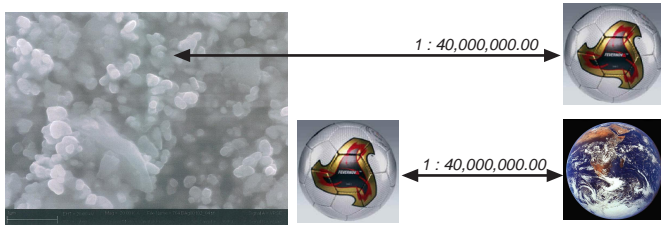
Bioni Nature Intelligent Interior Coating !



Prevention of Thermal Bridges, Hot Spots, Condensation and Fungus

Prevents the formation of fungus and mould by means of NANOTECHNOLOGY

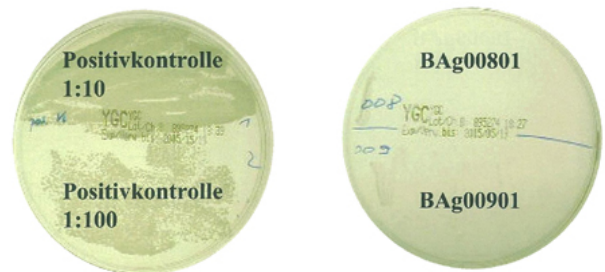
Bioni-Shield Inside is the first paint in the world which prevents the formation of mould on walls by means of nanotechnology. The key benefit offered by Bioni-Shield Inside is that the mould is defeated by tiny, highly effective nano-particles which, in strong contrast to conventional anti-fungus paints using toxic additives, are entirely non-toxic and are effective indefinitely.



The Billions of Nano-Particles in Bioni Nature have the same size compared to a football like a football to the world (1:40 000 000)

5 year warranty for mildew-protection

Bioni Nature is the first coating which is able to guarantee, that fungus growing is not possible. Because of the fixed implementation of the highly effective and microorganism-destroying nano-particles, they do not disappear and the mildew protection reaches a maximum efficiency over years.



Mildew growing on surface without Nano-Particles (left), no mildew growing on Bioni Nature surface with Nano-Particles (right).

Benefits Summary

Due to the used technologies Bioni Nature will

avoid thermal bridges and hot spots due to the ability to dis-tribute heat very equal all over the surface

avoid condensation by millions of hollow glass sphere which enlarge the surface for a efficient and quick vaporization

avoid fungus and mildew due to the usage of non-toxic Nano-Particles which destroy bacteria and micro-organism

achieve a noticeable improvement of the room climate condi-tions due to the optimum moisture and heat regulating properties of the coating

Characteristics

- water vapor permeable
- regulates heat and humidity
- non-flammable (Class A2)
- crack-bridging abilities
- excellent flow and hiding
- very good adhesion
- environmentally friendly
- excellent washability
- free of plasticizers and softeners
- free of solvents



Bioni CS GmbH | Lessingstraße 21
D-46149 Oberhausen | Germany
Tel: +49 (0) 208 / 621 75-53 | Fax: +49 (0) 208 / 621 75-55
E-Mail: info@bioni.de | Internet: <http://www.bioni.de>