

# CHEMIGREEN-TIC

## SOLAR CONTROL TECHNOLOGY

### Nanotechnology for energy efficiency: Nano Glass Coat

With its continuing search for products offering energy efficiency, **CHEMIGREEN-TIC** is promoting the use of an innovative solution in the sector of solar shielding: **CHEMIGREEN-TIC**.

**CHEMIGREEN-TIC** is a special nano-technological fluid based on metal oxides (antimony, indium, tin, tungsten and cesium oxides), which is applied to transparent surfaces, with the use of different techniques, and includes an ultraviolet-ray screening agent and an infrared-ray screening agent.

**CHEMIGREEN-TIC** is a special nanomaterial-based transparent coating that is applied to glass surfaces in order to provide shielding from infrared and ultraviolet rays.

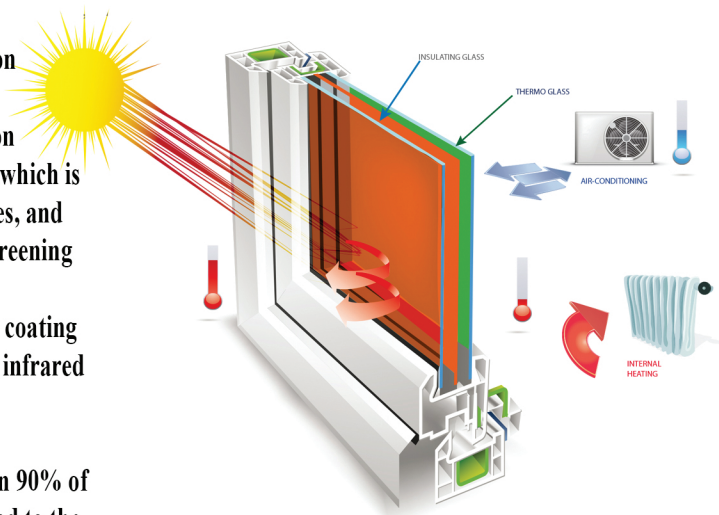
#### **CHEMIGREEN-TIC IS SHIELDING FROM INFRARED RAYS**

The application of Nano Coat Glass blocks from 70% to more than 90% of the infrared rays, and it improves the resilience of windows exposed to the sun by drastically reducing the quantity of heat that normally penetrates glass, thereby keeping the interior temperature more comfortable and reducing the annoying "greenhouse" effect that can be felt during very sunny days.

Aside from a notable improvement in environmental comfort, the application of **CHEMIGREEN-TIC** makes it possible to significantly reduce the energy cost of heating, ventilation and air-conditioning systems.

The cost savings can be up to 30%, thereby allowing for rapid returns on investment, depending on the exposure of the windows, their size in relation to the premises where they are installed, and so forth.

During the winter months, the surfaces treated with **CHEMIGREEN-TIC** reduce the losses of heat that is generated internally and escapes through windows.



**+70%**  
GLASS  
TRANSPARENCY

**90%**  
REDUCTION OF  
IR RAYS

**30%**  
ENERGY  
SAVINGS

#### **CHEMIGREEN-TIC SHIELDING FROM ULTRAVIOLET RAYS**

Nano Coat Glass blocks 99% of the ultraviolet rays and thus supplies a definitive solution against the destructive effects of ultraviolet rays:

- protects art work, expensive floors, antiques and furniture;
- protects products, textiles and colours in store window displays.

Nano Coat Glass can be applied to internal or external surfaces of windows, depending on the specific characteristics of the building, cost optimization, and installation time.

**CHEMIGREEN-TIC** does not change the transparency of the glass, and therefore, it does not entail the need for additional interior artificial lighting. The application of **CHEMIGREEN-TIC** is guaranteed for 10 years (applications to internal surfaces), although it may be effective for up to more than 20 years.



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### ADVANTAGES:

The transparent surfaces of a building and their properties (in terms of their protection and shielding from solar radiation and external temperatures) are elements that significantly affect the energy needs for heating, ventilation and air conditioning.

Among the different technologies for controlling solar effects, **CHEMIGREEN-TIC** represents a developed and tested system that offers several advantages over alternative products:

more than  
20  
years

Product life

10  
years

Product guarantee

top  
performance

In terms of reduction of infra-red and ultraviolet radiation, but with an excellent level of visible light transmission

### EFFECTS:

Solar radiation has three components:

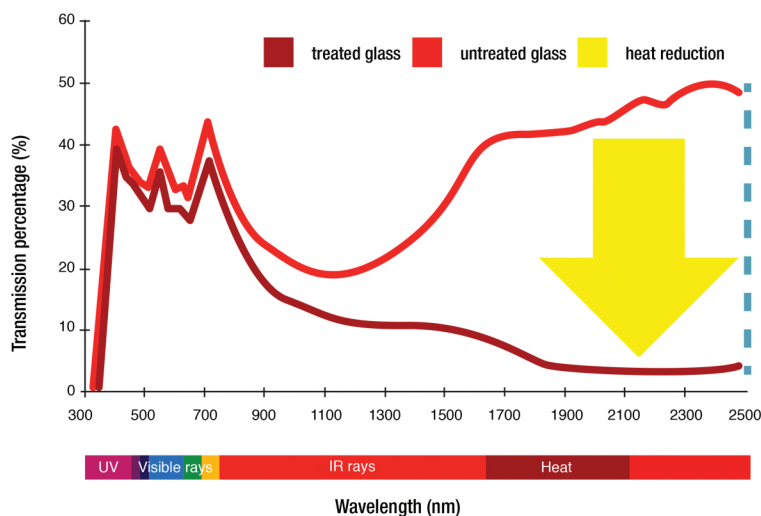
- ultraviolet radiation (approximately 3%)
  - visible light (approximately 44%)
  - infrared radiation (approximately 53%)
- A transparent plate of glass reflects about 6% of solar radiation, while it absorbs about 5% and transmits the remaining 89% (to interior space).

With the application of **CHEMIGREEN-TIC** to the glass surface (which can be done internally or externally), the following effects are obtained, with respect to reflection and absorption:

- The ultraviolet rays are reduced by approximately 99%. The coating allows for cutting around 99.6% of ultraviolet rays, thereby protecting parquet and internal furnishings;
- Some 75%-80% of the visible light is transmitted;
- The infrared rays are reduced by 90%. The coating blocks up to 90% of infrared radiation emitted, thereby reducing the interior temperature.



### REFLECTION / TRANSMISSION PERCENTAGE



**CHEMIGREEN-TIC** allows for savings of up to 30% on the energy used for the heating, ventilation and air conditioning of interior space.

- Reduction of the environmental impact of non-renewable energy, given the use of less energy for heating, ventilation and air conditioning.
- Rapid recovery of the investment for the application of **CHEMIGREEN-TIC**, as a result of energy savings.
- Savings on electricity due to the maximum transparency of the surfaces.
- Reduction of energy used for heating interior space during the winter months, due to less heat loss through windows.

In view of these aspects, the investment made for the application of **CHEMIGREEN-TIC** can be rapidly recovered within 12-24 months.

Unlike other coatings or products dedicated to solar control, **CHEMIGREEN-TIC** Glass is applied with a roller to window surfaces, with lasting effects of more than 15 years.

