

Solutions for upgrading glass in buildings

ARCHITECTURAL WINDOW FILM ENERGY SAVING, THERMAL COMFORT, SECURITY & ENVIRONMENT



SOLAR GARD IN NUMBERS



The window film improves your comfort and keeps your building cool.

ENERGY SAVINGS Solutions that reduce the consumption of your cooling system.

UV-REDUCTION

Solar Gard window film

protects you and your interior.

GLARE REDUCTION

Window films can block light thus providing more visual comfort

LEED & BREEAM CREDITS

Global assessment- and rating methods for sustainability of buildings

Building owners can earn a higher rating with the use of Solar Gard window film in following categories,:







High quality



CERTIFIED



of our products may be eligible for LEED credit.

ENERGY SAVINGS, SOLAR HEAT REDUCTION AND SECURITY



Solar Gard® solutions help you to:

- Reduce energy consumption with a payback time of up to 3 years.
- Make the indoor climate much more pleasant.
- Introduce a sustainable solution in the context of LEED/BREEAM or HQE label.
- Increase a company's wellbeing and productivity.
- Protect people from broken glass in the event of an accident, explosion or aggression.
- Securing a building against burglary/intrusion.
- To protect an interior, museum or shop against fading.

Solutions that make a difference

As a global player in vacuum sputtering and coating technology, Solar Gard improves the performance of existing glazing with window film. The effects of our solutions is the result of more than 40 years of knowledge and development:

- Advanced technology and specialized production; the window film contains up to 14 layers of precious metals such as titanium, copper, gold, silver, aluminum and other alloys.
- Durability, optical clarity, firm adhesion to glass, resistant to UV radiation and weather conditions.
- Extensive manufacturer's guarantees on the quality of the film.
- Unique solution for improving the insulation Ug value with test certification.
- A range of certifications on the operation of the security films.

Attention to the environment and climate change

Solar Gard's solar control window films drastically reduce the consumption of cooling systems in offices, hotels and other buildings. This reduces emissions and reduces the ecological footprint; an important challenge for companies, real estate managers and facility managers.

CONSTRUCTION OF THE WINDOW FILM



Glass Clear UV absorbing adhesive layer 1 or more polyester foils with sputtered metals

Protective and weatherproof anti-scratch coating



THERMAL AND VISUAL COMFORT

In buildings like offices, schools, public buildings or hospitals, the temperature is influenced by many factors. The insulation on the glass ensures that a lot of heat enters the room. The insulating glass ensures that the excessive heat cannot escape, resulting in an unpleasant indoor climate and overheating. Too high an indoor temperature and too negative impact on the productivity, well-being and health of employees, visitors and residents.

(For example: indoor temperatures from 26°C already lead to a 5% reduction in productivity; excessive fatigue occurs from 30°C)₂

MORE COMFORT and a better quality of life

Comfortable temperature and natural daylight

- Up to 84% resistant to solar energy: the window film blocks infrared heat radiation to keep the building cool.
- Depending on the wishes of the customer, window film can block between 5% and 95% of daylight.
- 99% of UV radiation will be blocked reducing decolourisation of interiors and premature aging of the skin



Comfortable indoor temperature

Office building in Deinze, Belgium:

- Comparison between 2 identical rooms with double glazing and facing south
- Temperature measured over a period of 15 days in the month of September
- The solar control film lowers the temperature by an average of 2.3°C





Visual comfort

Comparison between a window with / without film; An adapted window film can dampen the bright light and still retain the view to the outside. In this way, it increases visual comfort and improves the view of screens.

Visible light transmission 70%



PROTECTION of people and buildings

Holding glass shards together in case of breakage Stopping shock waves in the event of an explosion

Armorcoat security films have a thickness of 50 to 350 microns. They prevent flying shards of glass when broken and stop the shock wave in the event of an explosion. The film has exceptional properties:

- Tensile strength and very strong adhesion
- Breaking strength, tear resistance
- Various certifications:
 - EN 12600 (1B1)
 - EN 356 (P1A up to P4A)
 - INERIS : industrial explosion (20 50 mBar)
 - EN 13541 SHOCK TUBE (ER1 (NS))
 - ISO 16993 en GSA explosion certificates



Graffitigard': protecting facades and surfaces

Graffitigard^{*} is a fully transparent film specifically designed to protect glazing against graffiti, acid etching, scratches, stone chips,... The special adhesive layer allows efficient replacement of the film when necessary. In addition, UV rays are blocked without altering the appearance of the surface.



Saint-Gobain La Défence, Solution: GraffitiGard

SECURE GLAZING

Glass is the weakest point in the building envelope: easy access in case of burglary and vulnerable in the event of project impact filth and explosion - of any kind. In addition, for a lot of buildings there are requirements related to the safety.

Broken glass - for whatever reason poses a risk of injury.



SOLUTION

Energy & Environment

Specific Energy Saving alculatio



Reduce energy consumption and protect the environment

Part of the Saint-Gobain group, a leader in sustainable solutions, Solar Gard offers several products that reduce the energy consumption of a building.

- Significant reduction in electricity consumption and CO2 emissions of the building throughout its life cycle through greatly reduced air conditioning consumption.
- The ability to improve the insulation value (Ug value) of glass by u



Improve insulation up to 40%

DURING THE SUMMER

On hot days, the heat from the sun is blocked. This creates a comfortable living environment and saves energy on the cooling system.





DURING THE WINTER

During the winter, the heat is reflected back inside. This way less heating is needed to create a comfortable living environment and save energy.

A return on investment of less than 5 years

Modeling of an office building in Paris: 500 m² glass surface - double glazing 4/16/4 on which Sentinel Plus Silver 20 solar control film has been applied.

Product and installation costs €	27 500
Reduction in energy consumption (kWh/year)	79 504
Reduction in energy costs (1kWh = 0.15 €)	8 745
Return on investment	32%
Recovery period (ROI)	3,1 years

The Capshot energy performance calculator integrates the climate zone, the type of glazing with orientation and solar irradiation, the efficiency of the cooling system and the energy costs.

Solar Gard Environmental Statement, UL Environment, 2014 Réseau de Transport de l'Electricité" Breakdown of tertiary electricity consumption, by use in 2009 MEDDTL: Report on the production of greenhouse gases by air conditioning systems and their impact on the environment, pecially in overseas communities, 2011

ECOLUX® is the registered name outside Germany; in Germany the product is registered as ENVIROLUX®

Thermal comfort and energy savings

- Stable and pleasant indoor temperatures
- Reducing peak consumption
- Optimizing the air conditioning system
- Reduced energy costs up to 30%.,

Energy costs for cooling in buildings are often underestimated but represent 11% of total energy consumption, compared to 14% for heating., An increasing number of office buildings, especially in metropolitan and multi-storey buildings, are being equipped with air conditioning (40% of the current office stock).























Norway Sentinel Plus Silver 20





B

Estonia Sentinel Plus SX 50















SOLUTIONS AND REFERENCE CASES





Benelux Graffitigard/Sentinel Plus SX 50



Benelux Sentinel Plus SX 50



SAINT-GOBAIN

Saint-Gobain Innovative Materials Belgium SA/NV - Solar Gard HQ : Avenue Einstein 6 1300 Wavre, Belgium Offices : Karreweg 18 9870 Zulte, Belgium Tel: +32 (0)9 240 95 66 E-mail: solargard.eu@saint-gobain.com

SKEX0141SSARCH-INT 06/22 © Copyright 2022, Saint-Gobain Performance Plastics and/or its affiliates. All rights reserved • www.solargard.com

Please recycle.

www.solargard.eu



About Saint-Gobain Solar Gard®

Solar Gard is a world leader in patented technologies for solar control and protective window film; for both residential and commercial buildings and vehicles. As the "Thin Films" division of the global glass and building technology group Saint-Gobain – a company that originated more than 350 years ago with the Hall of Mirrors in the Palace of Versailles – Solar Gard builds on decades of experience in the development and production of window film. The Solar Gard product range provides solutions for upgrading and improving glass in vehicles, homes and large buildings for the comfort and protection of passengers, residents, visitors and employees. Follow Solar Gard on Facebook, Twitter and Instagram. #SolarGard

