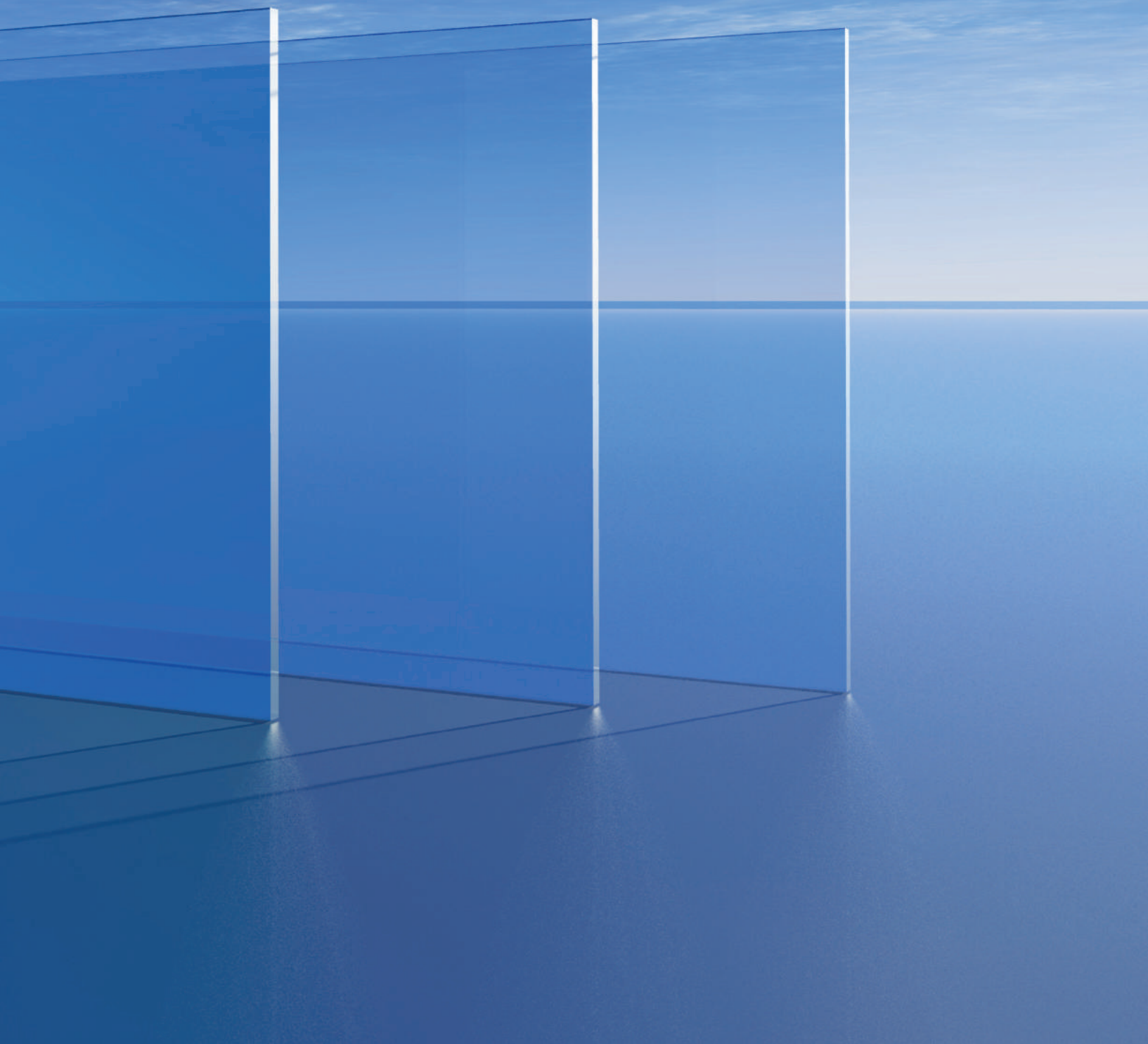


NOWO-GLAS

MULTIPLE-GLAZED UNITS
INNOVATION IN GLASS



If:

- a house or apartment of your dreams is the interior with natural light and space,
 - you want to reduce the barriers separating you from external light,
 - you want to visually enlarge the space of your home or apartment,
 - you are looking for innovative solutions of the highest quality,
- ... the NEW - GLAS panes are made just for you!**



Are all the windows are the same?

Seemingly it may seem so. It should, however, be realized that in the entire window it is the pane which is the most technologically advanced element of the construction. This is the heart of the whole window. Just as the processor is the heart of every computer, and the engine - the heart of the car. The process of manufacturing the glass of adequate quality, or sputtering the appropriate number of layers of silver particles with the magnetron method requires almost space technology.

Do you want to have good windows? **Look at the panes...**

When choosing windows the most attention is paid to the framework, fittings and profile.

Perhaps, it is because they are best seen. Hardly anyone is looking at the panes, and after, all they are the essence of every window. They are taking up all most, because almost 80% of the area of the window. And it's the windows that decide whether the house is quiet, warm and welcoming, and not the color or the frames or the shape of the handle. It is therefore important to invest in high-quality windowpanes, guaranteeing the best factors of the UV-transmission, thermal insulation, sound insulation, additional lighting and security.

NOWO - GLAS

synonymous with the highest quality



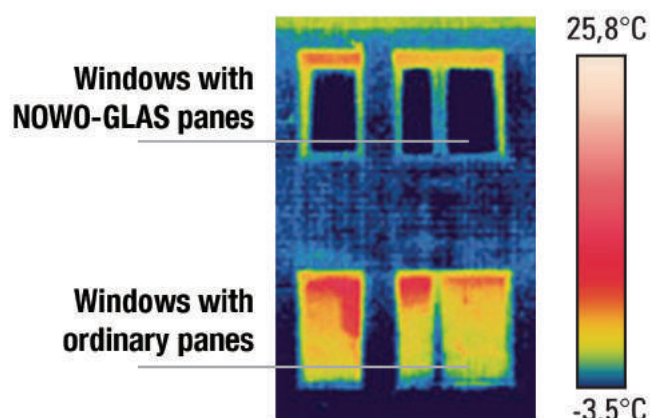
NOWO – GLAS means innovative insulating, multi-functional systems multi-glazed units. The quality of NOWO-GLAS panes have been confirmed with the quality „ISIC” mark of the Institute of Glass and Ceramics in Warsaw.



Behind the NOWO – GLAS company stand the world's largest glass works, which are suppliers of high quality base glass, including the glass coated by magnetron sputtering.

What does the term „multiple-glazed unit” mean?

A multiple glazed unit is constructed with two or more panes. The space between them is filled with noble gases, mostly argon. Thanks to, the multiple glazed unit is an excellent insulator - it allows to minimize the heat loss. The systems of multiple-glazed units with thermal insulation properties are the main product offered by NEW - GLAS. In addition, these systems can have the following functions: sun-protective, sound-absorbing, anti-burglary, with increased security or combinations thereof.

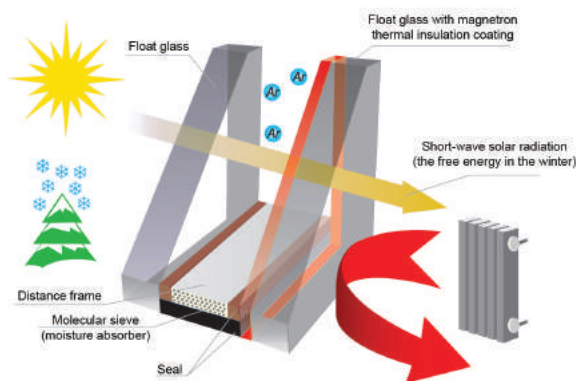


Higher temperatures of the outer panes indicate a higher heat loss

Thermo insulated panes

- high energy saving
- minimizing heat loss
- lower heating costs

Thermo insulated NOWO - GLAS panes are obtained by magnetron sputtering using many thin layers of metals and oxides (mainly silver) on the surface of the glass. The coating reflects the thermal radiation from the inside (e.g. the radiators heat) back to the center, and freely passes the solar radiation from the outside.

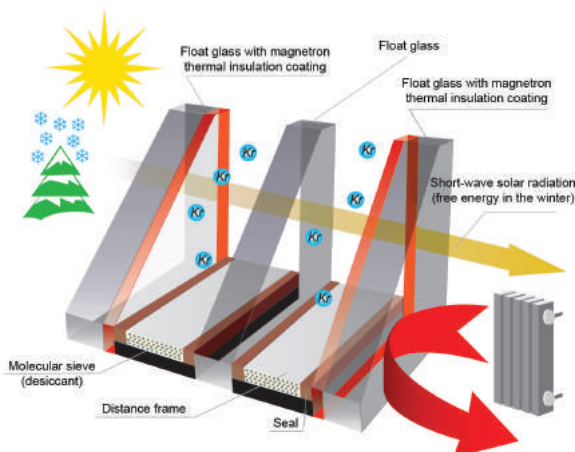


Functional diagram of a thermo insulation pane

SuperThermo insulated panes

- thermal energy savings of up to 60% compared with the single chamber system
- maximum saving on heating costs
- a possibility of combination with other functions

Branded double-glazed panes are one of the most energy-efficient solutions on the market. Two chambers filled with argon or krypton and low-emissivity coating provides a reduction in heat loss similar to the level of a well-insulated wall! It is a solution for the most demanding customers.

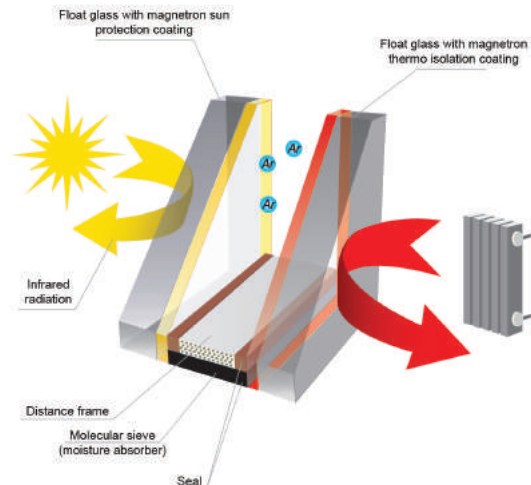


Functional diagram of the thermo insulation pane

SunStop solar control panes

- no „greenhouse effect“ in the summer
- reduced costs of air conditioning
- preservation of thermal insulation values

These are panes, which are designed so as to prevent overheating of rooms in summer, while maintaining their thermal insulation values. This effect is achieved by magnetron sputtering of the glass with a suitable combination of microfilms.



Functional diagram of a sun protection pane

The use of NOWO - GLAS

You can use the appropriate NEW - GLAS pane in the architecture of your home.

In particular, they include:

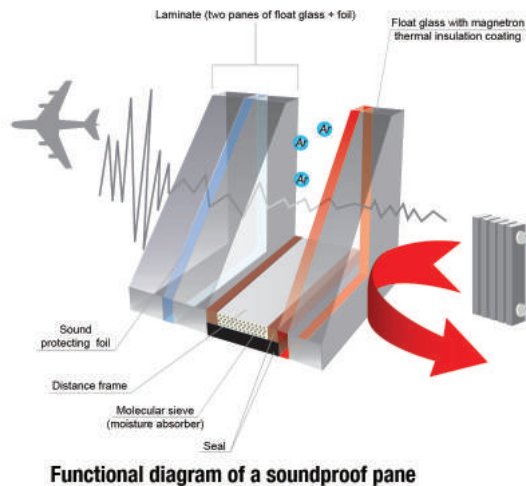
- exterior and interior windows in houses
- windows in flats
- roof windows
- large glass surfaces
- glass facades and walls and other architectural elements
- skylights
- home gardens
- roofings

NOWO – GLAS offers
So you

The Silent sound-proof panes

- a significant reduction of the noise level in the room,
- improvement in the quality of life for residents,
- a possibility of combination with other functions (thermal insulation, safety, sun protection).

These panes are designed to protect the houses and flats against noise from the outside. Their construction involves the use of specialized PVC film and sound-absorbing film and a the glass with the so-called high surface weight.

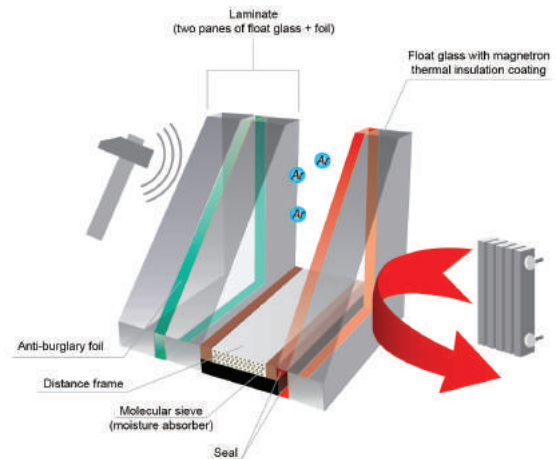


Functional diagram of a soundproof pane

Securit safety anti-burglary panes

- house security against burglary
- preserving the aesthetics of the facade
- a lower contribution for home insurance in most insurance companies

The windows, whose job is to protect your home from a burglary. They can successfully replace the bars, shutters or blinds, so the aesthetics of the facade is maintained. The construction of such panes is based on the application of respective layers of glass and foil.

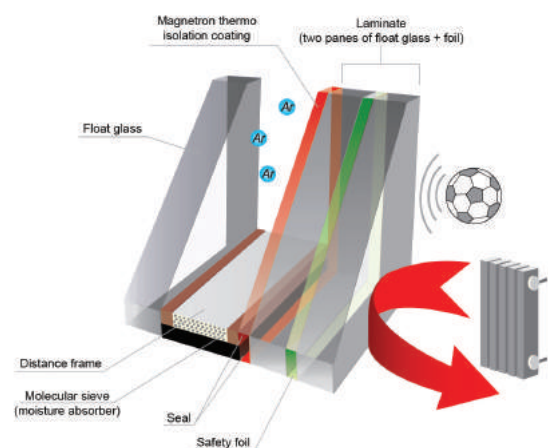


Functional diagram of an anti-burglary windowpane

Safe Safety panes

- protection against injury in the event of glass breakage
- increased resistance to strikes
- a possibility of combination with other functions

Panes that are characterized by a protection against injury in case of breakage. Such panes in the event of breakage always remain in the window frame. They are particularly recommended for doors, partition walls large glazed areas, balconies, patios, railings or roof windows.



Functional diagram of a safety windowpane

S panes

panes for glazing virtually every element of the

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function windowpanes

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ou can closely match their kind to your liking.



Recommended by the best architects

Glass is light, dynamics, life, space.

It is important that thanks to access to the highest quality glass architectural designs are not only aesthetic and fun but also completely safe in terms of strength, burglary and thermal insulation.

Large glazed areas and varied functionality of the applied panes are the hallmarks of modern architecture. By the selection of panes we can independently create a home's climate irrespective of the environment. This approach is in line with international standards, which is why I encourage my customers to use them.

UV **protection**

The difference between a NEW - GLAS glazed unit and an ordinary system of glazed unit consists in, among other things, the use of sunscreen glass, so that windows retain 99% of harmful UV radiation from the outside. This allows you to protect your furniture, textiles and other interior components before fading and destruction.

What are one and **double-glazed units?**

That's just the way a pane is constructed. If it consists of two panes of glass and one inter chamber filled with noble gas, it is called a single chamber unit. In contrast, a unit composed of three panes of glass, and thus comprising two chambers filled with noble gas, is a two-chamber unit.

CAUTION! In the spaces of glass units decorative window bars can be installed in different colors or with veneer, for instance imitating wood.



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Noise suppression

Reducing the noise reaching a man is extremely important for health. Too much or too long the noise on the level of 50 dB can lead to all sorts of problems - from problems with sleep disruption to the operation of the nervous system. Good windowpanes are characterized by a high level of the WSR index, which means that they retain a correspondingly large number of decibels.

The multi-glazed units reach the WSR index from 29 to 53 dB.

Anti-burglary and safety properties. These properties are determined by the classification of panes in the appropriate class.

Ultra-modern technology

A pane is the most advanced part of the window. In addition to the process of manufacturing and cooling the glass, the process which requires the use of ultra-modern technology is called the magnetron sputtering method, or the creation of specialized microfilms on the glass surface.

What is a magnetron coating?

It is a low-emission or sun protection coating sprayed on the glass. Glass is passed through vacuum chambers, where the ionized gas hits with huge acceleration in the material that we want to dust.

As a result of the process atoms are punched out of the material which then falls on the surface of the base glass to form a uniform thin film.

Sunscreen properties

The sunlight, though we live thanks to it, is destructive to colors. The upholstery of sofas and armchairs fade, the furniture go pale, the curtains turn yellow. The more UV rays the pane stops, the lower the hazard to the colors. It is best to choose windows with minimal solar energy transmittance g (the so called Solar factor). For example $g_6=60$ means that 60% of UV rays falling on the glass will get inside, and 40% will be stopped against it.

How to measure the functional characteristics of the glass?

Thermal insulation

The measure of thermal insulation properties of the glass is the (U-factor) the heat transfer coefficient. It shows how much heat „escapes” through the glass surface. The lower the value of the U factor, the better the thermal insulation properties of the glass. The U factor can be simply thought of as of the fuel in the car: it is the best when it consumes the least of it.

CAUTION! Remember that the window will have a different „U” factor than the whole window, into which it is framed. It is always worth asking the seller which value it is all about.

For Thermo single-glazed units „U” factor is from 1.0 to 1.6, and for the Suoer Thermo double-glazed units from 0.5 to 0.7.



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