



ECLAZ

A work of art hidden in glass

A perfect glazing is unnoticeable, transparent.

But it is a glass provide the meaning to a window,
as it covers as much as 85% of its surface
and has a considerable impact on the quality of our lives.



*The sun is the source of light
for all the living world
and it should be considered
in the design houses.*

Frank Lloyd Wright, architect

Architect of the Guggenheim Museum in New York, creator of
organic architecture,
embedded in nature and blended with it

We believe that the world is more beautiful in natural colours. Therefore, we have created ECLAZ – a glazing with the highest light transmission to your interiors.

Trust the experience of glass experts!

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Luminous health and well-being

In the beginning there was ... daylight.

Without daylight, life would have never evolved on Earth.

Even this simple fact points to the decisive and beneficial influence the sun has on humans. ECLAZ guarantee as much as 10% more daylight in building interiors.

Why does this difference have a positive influence on us?

The phrase 'a radiant smile' hides the truth about **insolation** **creating our good mood and regulating our circadian rhythm** - metabolic processes and ... restful sleep at night depend on our proper contact with daylight.

The meaning of light is confirmed by human body (don't the vitamin D level in blood and blood pressure depend on sunlight?) as well as human mind, for which **the sun is an ally in stress management.**



It is as clear ... and warm as a sunny day!

**It's not about keeping more warmth inside,
it's all about letting it in from the outside.**

ECLAZ allows to achieve it, which is confirmed by

a 20% better energy balance of an ECLAZ window.

Windows with ECLAZ allow to reduce heating costs significantly – thanks to the best thermal insulation in a DGU they keep the inner warmth of the house inside.

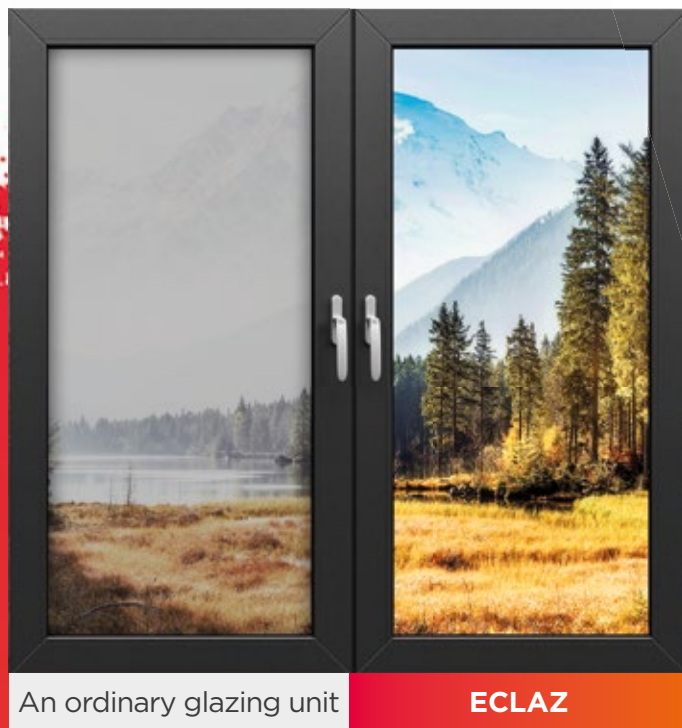
At the same time, the thermal layer of the glazing units is super transparent, which offers

triple benefits from the outside.

Windows let in more natural light, which reduces electricity costs. They also transmit heat energy of the sun, and on frosty days they provide additional insulation, allowing to reduce heat loss and support the home heating system considerably.

A natural colours

A determinant of an ideal glazing in window is the impression that it is not there at all. ECLAZ allows to achieve it also by faithfully rendering colours and contrasts from the outside world.



ECLAZ is the most transparent glazing on the market. It secures neutrality of light transmission and reflection, maintaining natural colours at the same time. ECLAZ is a ground-breaking solution in terms of natural light transmission, and these facts speak for it:

- The use of ECLAZ glass results in an effect comparable with increasing the window surface by 8%
- ECLAZ windows give 15 minutes more natural daylight per day,
- And this in turn gives 100 hours of sunlight more per year!

DID YOU KNOW?

- The higher the light transmission coefficient, **the more daylight will reach your interiors.**
- The lower value of the Ug coefficient, the higher insulation parameters of the glass pane.
- The amount of free heat coming from the sun is defined by the total solar energy transmission coefficient g – the higher it is, the more heat is let in through the window.
- A positive energy balance of the window is a difference between heat losses (Ug) and solar gain (g). Thanks to the ECLAZ low-E coating, panoramic windows have good values of all the parameters.

More daylight has a positive effect on our well-being and health.

- We are more willing to spend time in well-illuminated rooms, because we have more energy to act and we don't get tired so soon. These are not the only exceptionally high and beneficial parameters of ECLAZ. The table on page 8 lists its advantages in terms of heat and total solar energy transmission.
- Each of the values provided in it exceeds the requirement of our market today.

Since 1 January 2021

Windows and balcony doors	Uw [W/m²K]	0,9*
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*requirements applicable to investors who will be granted building permissions starting from 2021

Umax – the maximum value of the heat transfer coefficient, calculated according to the European standard for the central part of the window.

The values provided are the ones set forth in the Regulation of the Minister of Infrastructure and Construction on technical conditions to be satisfied by buildings and their location.

THERMAL INSULATION

Heat transfer coefficient: Ug value

The lower the Ug value is the better parameters of the glazing. Since 2021, the standard parameter for a whole window is $U_w=0.9 \text{ W/(m}^2\text{K)}$. In order for an insulated glazing unit to satisfy these requirements, it should have the Ug value of at least $0.6 \text{ W/(m}^2\text{K)}$ – these requirements are satisfied by ECLAZ in triple glazing unit.

LIGHT TRANSMISSION

LT is the percentage of visible light directly transmitted through the glass.

The higher LT, the more light reaches the room from the outside. Today's energy-efficient glazing units should have light transmittance of more than 75%. ECLAZ is characterised by the highest light transmittance on the market (77% for a TGU and 83% for a DGU).

Total Solar Energy Transmittance

g-value is the percentage of solar energy transmitted through the glass.

The g-value determines the quantity of solar energy transmitted through the glass and absorbed by the glass in relation to the incident radiation. The lower the g value, the lower total energy transmission. The g value between 20% and 40% is for the solar control glass (COOL-LITE) and between 60% and 71% is for glass absorbing as much heat as possible in winter, such as ECLAZ.



HOW TO BE ON THE PLUS SIDE WITH YOUR WINDOWS

It seems we all know it quite intuitively, but it is always worth confirming it with figures.

Inefficient windows can lose up to 30% energy!

ECLAZ glazing help to prevent it, and even to increase solar gain thanks to the exceptional sunlight transmittance and thermal insulation. This in turn makes ECLAZ provide our interiors with a positive energy balance – also in panoramic windows!

This is thanks to innovative glazing parameters – **an exceptionally low value of the heat transfer coefficient and the low-E coating.**

A well-thought-through orientation of large glazed areas towards the cardinal directions is also important.

	Ug* [W/m²K]	LT** [%]	g**	External reflection [%]
DGU				
6/16/6 (ECLAZ on face #3)	1,1	82	0,69	11
4/16/4 (ECLAZ on face #3)	1,1	83	0,71	12
TGU				
4/16/4/16/4 (ECLAZ on face #2 i #5)	0,6	77	0,60	14
6/16/4/16/44.1 (ECLAZ on face #2 i #5)	0,6	75	0,59	14
6/16/6/16/6 (ECLAZ on face #2 i #5)	0,6	75	0,58	14
8/16/6/16/44.2 (ECLAZ on face #2 i #5)	0,6	74	0,57	14
IGU with a solar control coating				
4/16/4/16/4 (SKN 183 on face #2 ECLAZ on face #5)	0,5	69	0,38	14
4/16/4/16/44.1 (SKN 176 on face #2 ECLAZ on face #5)	0,5	64	0,35	15

***According to EN 673-2011.**

A European standard on the determination of the heat transfer coefficient (U value).

****According to EN 410-2011.**

A European standard determining light and solar parameters of a glazing.

PEACE AND SILENCE... ONLY WITH THE RIGHT GLASS

Noise is one of the biggest stressors in the today's overstimulated world. Not only is it harmful for our mental well-being, but it also affects our physical health – it may lead to damage or irreversible impairment of hearing. Noise cannot be turned down, but you can effectively isolate yourself from it.

It is worth remembering that our auditory perception is not linear, which can be investigated by gradually reducing the volume of sound:

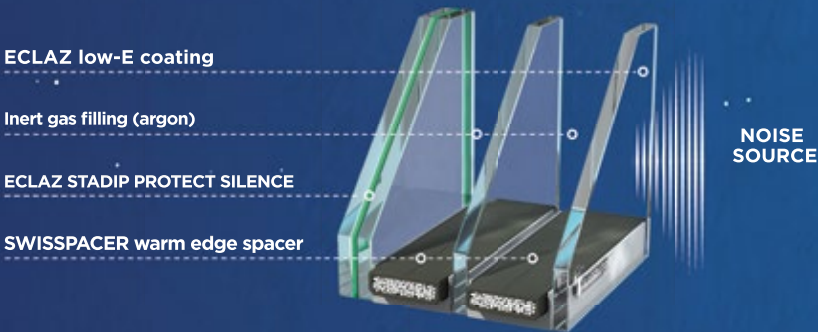
- **By 1dB** – is practically no noticeable for human
- **By 3dB** – is already noticeable
- **By 5dB** – is perceived as a noticeable improvement
- **By 10dB** – is perceived as reducing the noise by half.

What do we face every day?*	dB
Passing bus with a window open, measurement taken 2 m away from the window	57,2
Passing bus with a window closed, measurement taken 2 m away from the window	34,7
Noise in an office with a window open, measurement taken 2 m away from the window	59,3
Noise in an office with a window closed, measurement taken 2 m away from the window	43,6
Car interior on a highway:	
120 km/h	70,4
140 km/h	72,1
140 km/h (open window)	82,1

*based on the report "Poland in decibels".

ECLAZ STADIP SILENCE: More silence and daylight

The insulated glass unit must be assembled in the right type of frame and must be well installed. Windows with STADIP SILENCE glass have optimum acoustic parameters, guaranteeing excellent comfort and well-being. The application of ECLAZ improves thermal insulation and daylight.



Did you know?

Application of a solar control or thermal insulation coating do not have any impact on acoustic insulation of a glazing.

SEPARATE SUNLIGHT FROM HEAT WITH COOL-LITE GLAZING

Is it possible to function without air conditioning during the summer heat?

It is, if we combine appropriate solar control with natural ventilation. COOL-LITE glazing allow to prevent overheating of building interiors thanks to a special silver coating that reflects external heat, at the same time letting in as much daylight as possible.

THE GOLDEN MEAN – MORE SUNLIGHT, LESS HEAT

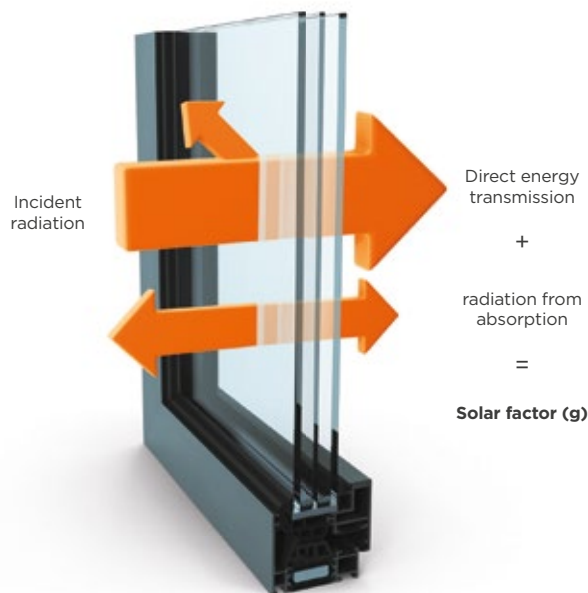
Excessive use of shading or having air conditioning constantly on is not a good option in any respect – for our health, the environment, and our pockets.

A glazing units with solar control coating is a solution securing much more comfort, resulting from an appropriate approach to solar heat.

MEANING OF SOLAR FACTOR

Advanced glazing units allow to separate what is beneficial in solar energy from everything that is redundant for us or for the environment. Solar factor (g) measures how effective in this case is glass.

It is the sum of the solar energy direct transmitted through the glass and the energy absorbed and re-emitted by the glazing to the interior space.



TO HELP REDUCE OVERHEATING

- Choose solar control glass, This glass allows only a specified fraction of solar radiation energy to pass through, providing daylight but helping to prevent overheating.
- Ensure adequate natural ventilation.
- Use external or internal blinds.

COOL-LITE family is an excellent choice of solar control glass guaranteeing thermal comfort in the summer. When applied, they allow to achieve – an optimum temperature inside with no need to use uneconomical and non-ecological air conditioners.

Over 350 years of
experience in creating
masterpieces
of glass technology



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Awards for the ECLAZ glass



TopBuilder 2019
for innovation, aesthetics,
and functionality



**Innovative Joinery
Solutions 2019**
for the best energy efficiency
and access to daylight