

UNIGLAS®
IT'S CLEAR

UNIGLAS® | **VITAL**
Wellnessglass





UNI GLAS® | VITAL Wellnessglass

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W e l l n e s s g l a s s

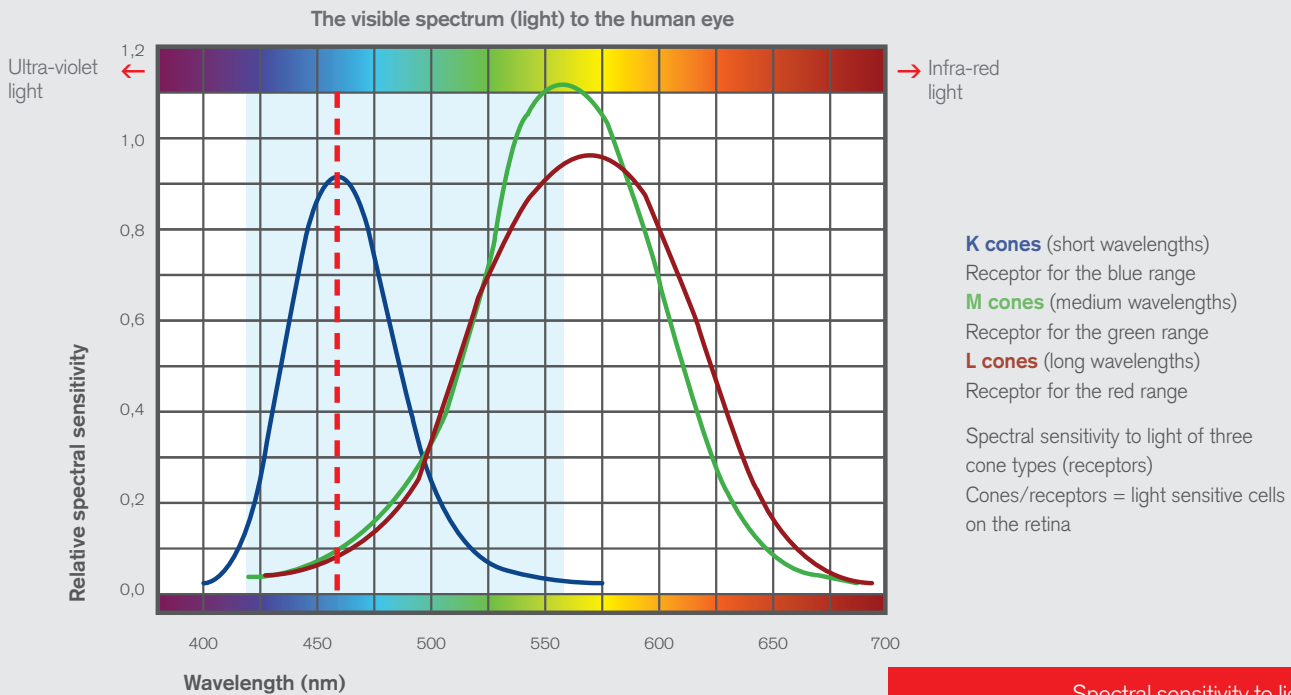
Healthy light with UNI GLAS®

*„Light is energy and information as well – content, form and structure.
It provides the potential for everything.“*

David Bohm, quantum physicist and philosopher

The positive and vital effects of sunlight on humans are very well known. Light is only a small part of the electromagnetic radiation emitted by the sun, which is visible to the human eye. Invisible ultraviolet radiation changes into visible violet radiation at a wavelength of 380 nm and continuously changes through blue, green and orange into red, where it is invisible for humans again from 780 nm (compare graph on page 3).

When solar radiation passes through glazing the light's spectral distribution and intensity is changed. Previously the objective in glass technology was to allow the maximum proportion of light at 555 nm to optimally pass through the glass in order to improve the daylight vision of humans. However, recent investigations show that window glass, which achieves a higher proportion of transmitted light in the area of around 460 nm, has clearly vitalising effects on humans.



Spectral sensitivity to light

Control of human hormone balance

The UNI^{GLAS}® | VITAL - Wellnessglass clearly increases light transmittance in the wave range of 460 nm (compare graph page 5) that is important for humans compared with conventional insulating glass. The daylight that passes through the window can therefore naturally support the control of human hormone balance – namely the reduction of the hormone melatonin responsible for day/night patterns – and the increase in vitalising serotonin.

It has long been scientifically proven that a low level of melatonin has positive effects on the hypothalamus. This region is the switch board of the vegetative nervous system. The knowledge that the blue part in the spectrum of visible light is vitalising and invigorating has been used for years in light therapy as a treatment for seasonal affective disorder, for example. Furthermore, this light area improves 3D vision, hand-eye coordination and increases contrast in vision.



A reduction in the level of melatonin ensures that the person is less tired and more attentive and more focussed as a result.



Healthy light has positive effects

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Light with effect

“Good light” in terms of well-being and human health can therefore not just be based on colour rendering or brightness. By summarising the latest scientific findings about the influence of natural light radiation, the following statements can be made (Mark S. Rea, Ph.D. Lighting Research Center, Rensselaer Polytechnic Institute, Troy, NY, USA 12180):

Light can

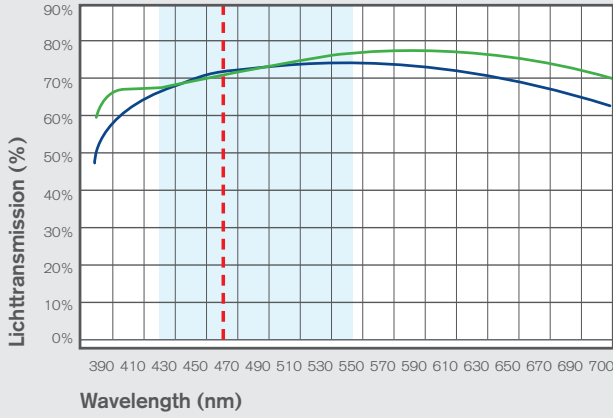
- alleviate seasonal affective disorder,
- increase the quality of sleep,
- increase the performance of night shift workers
- regulate the sleep/wake cycle of Alzheimer's patients and
- improve the weight gain of premature babies.

Therefore, the performance of people who reside behind UNI GLAS® | **VITAL - Wellnessglass** is increased.

UNI GLAS® | **VITAL - Wellnessglass** is particularly suitable for the renovation as well as new builds of residential buildings, schools, nurseries, offices, clinics and hospitals.

Comparison:

Light transmittance UNI^{GLAS}® | TOP Pure 0.5 to standard float glass 4 mm

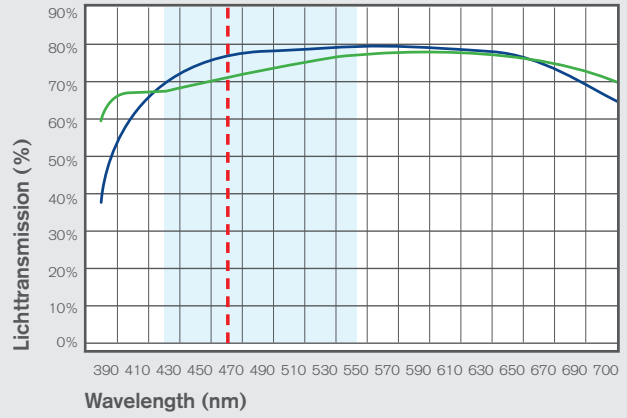


— Typical 4 mm float glass in accordance with table B.1 EN 410
 — UNI^{GLAS}® | TOP Pure 0.5 - Energy-saving glass

$U_g =$ 0.5 W/m²K heat transmittance coefficient according to EN 673
 $\tau_v =$ 74% light transmittance coefficient according to EN 410, with regard to max. brightness sensitivity
 $\tau_{cv(460)} =$ 72% light heat transmittance according to EN 410, with regard to circadian
 $g =$ 53% total energy transmittance according to EN 410

Comparison:

Light transmittance UNI^{GLAS}® | VITAL Wellnessglas to standard float glass 4 mm



— Typical 4 mm float glass in accordance with table B.1 EN 410
 — UNI^{GLAS}® | VITAL - Wellnessglas

$U_g =$ 0.5 W/m²K heat transmittance coefficient according to EN 673
 $\tau_v =$ 79% light transmittance coefficient according to EN 410, with regard to max. brightness sensitivity
 $\tau_{cv(460)} =$ 78% light transmittance coefficient according to EN 410, with regard to max. circadian (K cones)
 $g =$ 55% total energy transmittance according to EN 410

Light transmittance by comparison

Live like in nature

With UNI^{GLAS}® | VITAL - Wellnessglass, UNI^{GLAS} GmbH & Co. KG has developed a special triple insulated glass, where the spectral light transmittance is significantly raised over the entire range from 380 to 570 nm. The light transmittance already achieves a sensational 78% at 460 nm with this glass. There are no concessions made here with the heat transmittance coefficient or to the maximum brightness for daylight vision.

The heat transmittance coefficient is $U_g = 0.5 \text{ W/m}^2\text{K}$ for the construction 4: - 14 - 4 - 14 - :4 mm. The g value corresponds to 55 % about the UNI^{GLAS}® | TOP Pure with 53%. With UNI^{GLAS}® | VITAL - Wellnessglass lighting conditions with triple glazing can therefore be created, which correspond with that of single glazing (compare graph above).



Get the positive effect of sunlight come rain or shine within your own four walls and enjoy unrestricted living comfort.



Improved plant growth with UNI GLAS® | VITAL

UNI GLAS® | **VITAL**
W e l l n e s s g l a s s

Promotion of plant growth

Even plants in living areas and in the conservatory can profit from circadian light transmittance. The leaves become stronger and impervious to insect infestation. The increase in the proportion of short wave light radiation of glazing works favourably for photosynthesis. The thickness of the leaves in relation to their surface increases and the formation of the vital substance chlorophyll is enhanced.

The special coating on the glass on the UNI GLAS® | **VITAL - Wellnessglass** shifts the maximum light transmittance clearly to the blue light area, without reducing the total light transmittance. Therefore, UNI GLAS® | **VITAL - Wellnessglass** also presents an optimised glazing for conservatories and guarantees strong plant growth.



Positive effect of light

Effect of UNIGLAS® | VITAL - Wellnessglass

UNIGLAS® | VITAL - Wellnessglass is glass that can create considerable physiological, therapeutic and performance increasing effects and can increase general well-being, for example.

Psychological effect

- Reduces tiredness and improves sleep pattern
- Improves nerve functions
- Increases feeling of well-being
- Improves hand-eye coordination

Therapeutic effect

- Reduces seasonal affective disorder
- Reduces hyperactivity

Performance increasing effect

- Increases of attention
- Improves 3D and contrast vision

With UNIGLAS® | VITAL - Wellnessglass you are protected against wind and rain, but it acts like an open window in terms of transparency and positive effects to the human well-being. An insulating glass, which increases the quality of light, enhances living comfort and at the same time soothingly influences body and mind.



Our proximity: your advantage

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