

HEALTHIER LIVING WITH »WELLNESS GLASS«

At the Fraunhofer Institute for Silicate Research a coating for window glass has been developed which ensures that more light can enter the room. The coating is mainly permeable for the light components that control the human hormone balance and has a positive effect on the circadian rhythm.

Light controls biological clock

The eye is not only responsible for vision, but also controls the biological clock of the body with specific receptors that send signals for light or dark to the brain. So the incidence of light affects numerous vegetative and hormonal functions as well as the melatonin level which is important for the sleep-wake-cycle of humans. The receptors respond to the particular spectral light range of 380 nm to 580 nm. If they don't receive enough light in this wavelength range, the lack can lead to a disruption of the melatonin level. This has an unfavorable effect on a person's well-being.

Possible consequence of insufficient supply with light

- Insomnia
- Depression
- Other psychological diseases
- »Winter blues« especially during the dark winter months

Benefits of ISC's »wellness glass«

As the blue components of the light which develop their greatest efficiency at around 460 nm, are responsible for the optimal melatonin level window glass should be ideally permeable in this range. Fraunhofer ISC has developed such glass. The special coating allows maximum transparency associated with optimum adaptation to the psychologically effective wavelength range, in particular the blue portion of the incident light. Windows equipped with the coating give the impression of a permanently open window concerning the control of the melatonin level.

- Increase of well-being
- Increase of efficiency
- Less downtime due to illness or depression
- Faster recovery
- Higher efficiency of radio- and light therapy devices

Fields of application

- Residential buildings
- Office buildings
- Hospitals
- Retirement homes
- Additional glazing for more efficient radio- and light therapy devices or wellness lighting



Fraunhofer Institute for Silicate Research ISC

Neunerplatz 2
97082 Würzburg
Germany

Walther Glaubitt
Phone: +49 931 4100-406
Email: walther.glaubitt@isc.fraunhofer.de

www.isc.fraunhofer.de