



## Press release

### 'Daylight in buildings': Plenty of light and flexible shading

Sun shading expert Warema assesses the standard

**We can't live without daylight: it boosts our well-being and health and quite literally brightens our mood. Since many people spend most of their time inside, it is particularly important to ensure a sufficient amount and quality of daylight inside buildings as well. The DIN EN 17037 standard 'Daylight in buildings' provides recommendations on this subject that can be applied all over Europe. Ulrich Lang, Business Development Architect at Warema and an expert in sunlight management, takes a closer look at this standard and assesses its four main aspects.**

#### Recommendations for daylight provision

'The most important thing that architects and planners can learn from the new standard is the importance of daylight for the people inside a room', says Ulrich Lang. 'In very simple terms, I would say that good building planning should try to let in as much daylight as possible.' The positive impact of daylight on humans is undisputed. Daylight is flicker-free and is the best support even for difficult visual tasks; it also offers the highest possible colour rendering. Recent studies show that a sufficient amount of daylight can prevent eye diseases.

However, daylight doesn't just benefit your vision. The proportion of blue, for instance, suppresses the release of the sleep hormone melatonin, makes you feel more awake and increases concentration. The blue light controls your biological clock, ensuring a natural day-night rhythm resulting in restful sleep and days full of energy. The sun's UV radiation also offers health benefits and sunlight encourages the body to produce vitamin D. And, last but not least, the utilisation of daylight reduces energy consumption and CO<sub>2</sub> emissions as less artificial lighting is required.

'The standard distinguishes between three types of daylight provision – from low to high. In my opinion, we should generally strive to achieve a high amount of daylight, provided it is architecturally feasible. Neutral glazing is recommended, which allows almost the entire solar spectrum to pass through. After all, what use would a high daylight factor be if certain wavelength ranges were missing?' This in turn requires a functional and flexible sun shading



system that can prevent glare and overheating. Lang sees many advantages to modern external venetian blinds with smart control. These blinds always let in the right amount of daylight, ensuring that the people inside a room feel entirely comfortable in a pleasant room climate with optimal lighting.

### **Assessing the view**

The standard specifies complex procedures for assessing a workplace with regard to its view. In practice, however, workplace positions within a room have often not been established when window positions and sizes are determined. 'For this reason, the best approach is to plan large window surfaces into the facade to ensure the best possible view.' However, a good view of the outside usually also means that people outside the building can look in. Adjustable blinds can stop people from looking in and protect the occupants' privacy.

### **Recommended daylight exposure**

The standard stipulates that, ideally, hospital rooms, playrooms in nursery schools and at least one room in an apartment should always be exposed to a minimum amount of daylight. 'This requirement makes a lot of sense to me', says Ulrich Lang. 'Architects often try to achieve sun shading by incorporating protruding building elements, rigid cover panels or sun shading glazing. However, these solutions reduce the incidence of light even when daylight would be desirable due to the lack of brightness in the room or the outside temperature. Rooms in cleverly planned buildings should be exposed to daylight for as many hours as possible and the user should be able to limit the amount of daylight entering the room as required with the help of an efficient and flexible sun shading system.

The greater the daylight exposure, the bigger the energy savings. Automated sun shading systems can sustainably reduce the heating required and the cooling load by letting in the sun's heat radiation during the day in winter. At night, the sun shading system provides additional heat insulation. In summer, the sun shading system prevents the rooms from heating up during the day and, thanks to external shading, allows the user to air the rooms at night while safeguarding their privacy. Automated control systems such as open bus systems or radio systems are key to harnessing the full potential of solar energy. They react much faster to changing room temperatures, long before the human body even notices.



## **Recommendations for glare control**

It is extremely difficult to make recommendations for glare control because everyone reacts to glare differently depending on what they are doing and other factors. This means that people might feel a certain amount of glare even if the planner adheres to the recommendations in the standard. 'It is advisable to always aim for the lowest value as this will please the most people. To be on the safe side, however, plans should include glare control that allows light transmission to be adjusted. External venetian blinds and venetian blinds are a suitable option. With these blinds, the user can choose the ideal brightness for any situation.' Intelligently controlled external venetian blinds and venetian blinds adjust the slat angle automatically to prevent glare while also allowing enough daylight into the room without heating it up.

Ultimately, planners should remember that the more daylight enters a building, the better – provided the sun shading system is flexible and allows the incidence of light to be controlled depending on the situation.

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