



## Daylighting

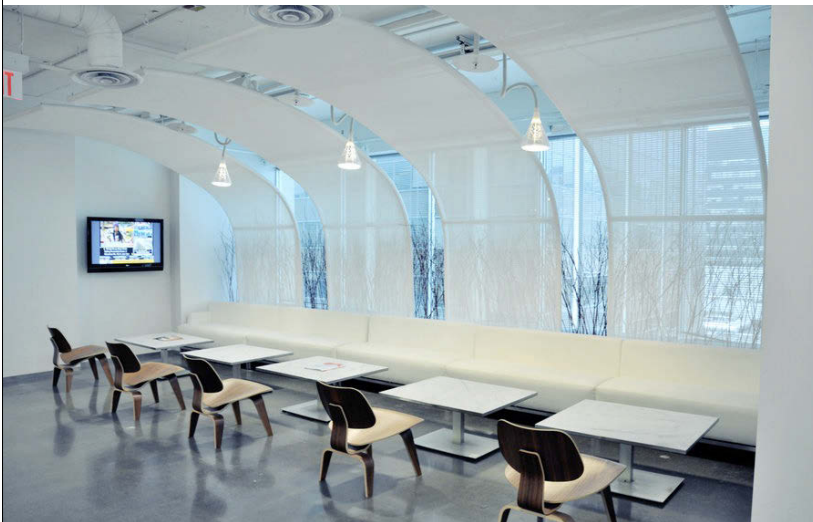
### Shading Devices

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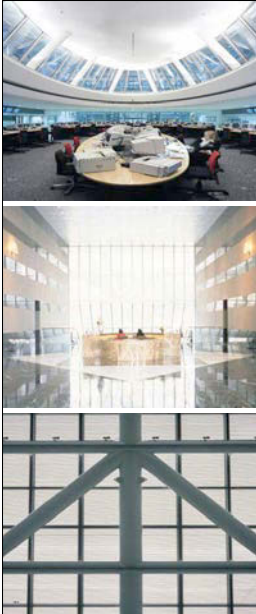
## Shading Devices



## Openings and Shading Devices

The **amount of daylight** entering the interior **changes constantly**, the transparency of shading devices must adopt to this:

- **dark** exterior (night)
- **adequate** amount of daylight is present (eq. cloudy sky)
- **intolerable** amount of daylight is present (eq. clear sky)



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## Openings and Shading Devices

Openings - equipped with internal or external shading devices - must also ensure **visual connection** with the exterior, possibly at all times!

## Dark exterior

Glazed surfaces become “**black holes**” on the building envelope

It is recommended to add “**curtains**” for the **internal** surfaces of the openings at night!



4.6. ábra. Az oldalvilágító szerepe éjjel

## Adequate amount of daylight is present



Sun (2k million cd/m<sup>2</sup>)

Sky (40k cd/m<sup>2</sup>)

Exterior surfaces (few thousands cd/m<sup>2</sup>)

## Intolerable amount of daylight is present



- External or internal shading device must be applied

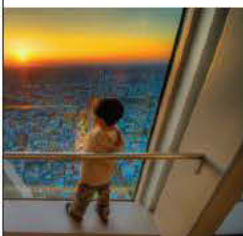
- This might also cause disturbance in the visual connection with the exterior

## Shading devices



The available amount of **daylight constantly changes**, the required amount of shading changes accordingly:

- external shading is required only **during the days**
- the amount of shade must be **adjustable**
- internal shading might also be required **during the night**



## Shading devices



## Shading devices

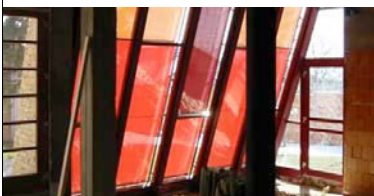


The available amount of **daylight constantly changes**, the required amount of shading must be changed accordingly:

- manual control
- central - automated - control



## Shading devices



The structure of the material of shading devices can be:

- **homogeneous**





## Shading devices



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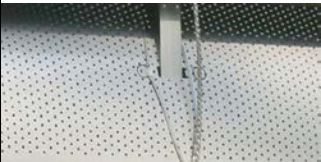
- **inhomogeneous**



Such materials might cause **visual discomfort, glare** in the interior!



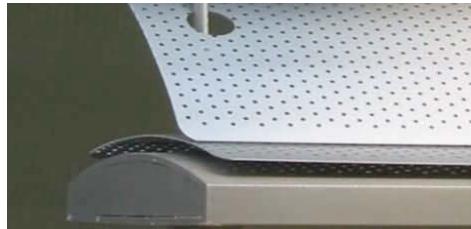
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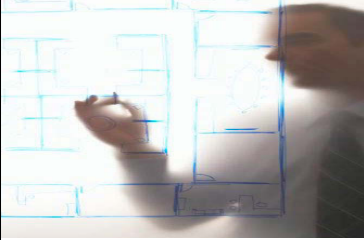
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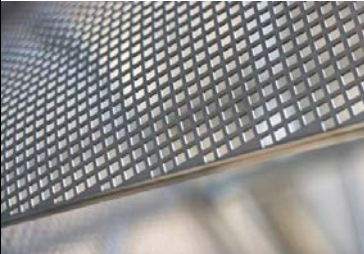
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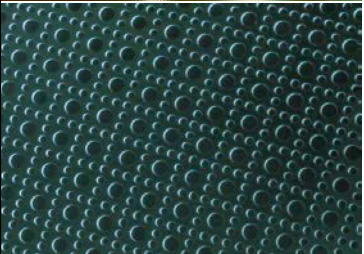
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## Shading devices



4.10. ábra. Inhomogén bevilágításkorlátozás

## Shading devices



### Color:

it is recommended to use **white** or **light gray** colors to achieve maximal light reflectance



### Light Diffusion:

**shiny** materials ensure better light **reflectance**, but could also create **glare** (visual discomfort)

it's easier to **clean** the shiny surfaces



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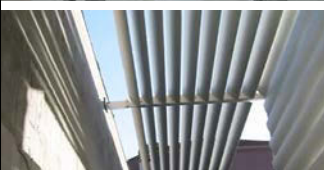


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