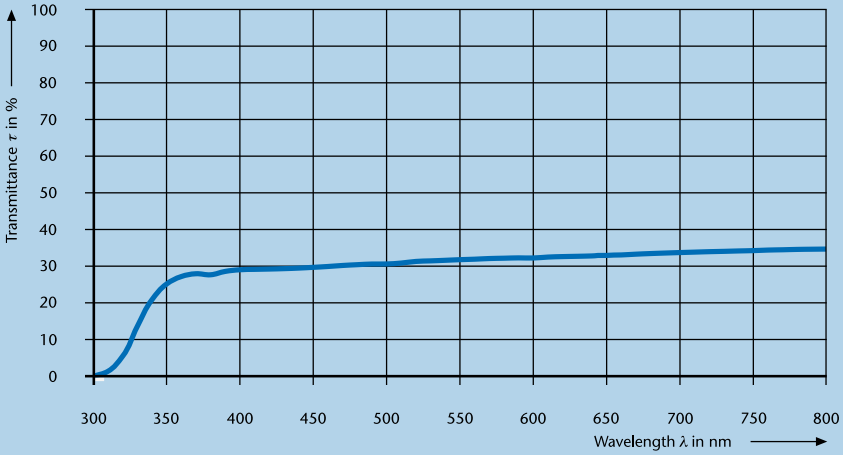
OPALIKA® filterglass consisting of a colourless base glass which serves as a carrier material and a thin white flashed layer for producing a diffuse and shadow reducing light.

OPALIKA® can be used as a cover glass for drafting light boxes, x-ray viewing equipment and other technical measurement and medical equipment. In addition, it is used in illuminated ceilings and walls, decorative glazing in hotel lobbies, shopfitting, offices, banks, museums and the furniture industry. Depending on the required mechanical requirements, OPALIKA® is available in 6 different base glass thicknesses with an almost identical white flashed layer thickness.

Optical Properties

Refractive index (Base glass, annealed at 40 °C/h) — $n_e = 1.525$

Spectral transmittance τ (λ)



Plot of spectral transmittance τ (λ) for (λ = 300 nm to 800 nm) τ_{vA} = 32 %

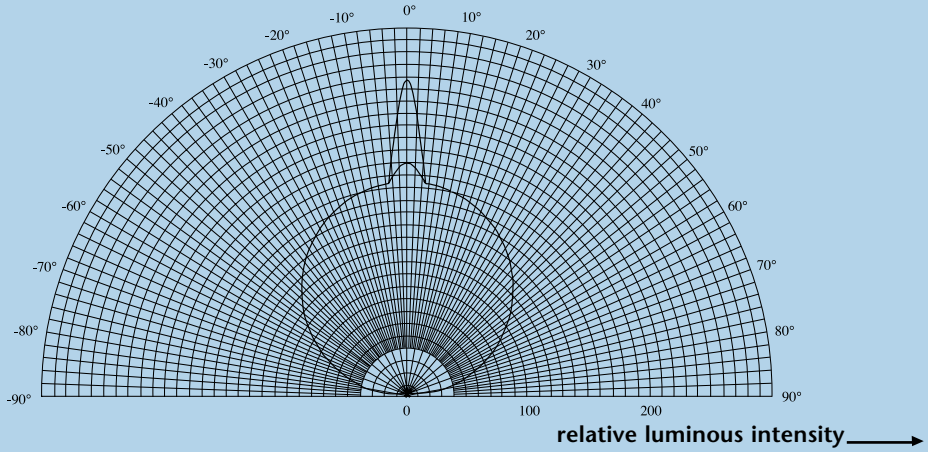
Luminous transmittance τ_v

Luminous transmittance is dependent on the white layer, the thickness of which varies over the manufacturing width and is generally in the order of 0.45 mm + 0.35 mm/-0.2 mm. At the indicated nominal thickness of the white layer of 0.45 mm, the following luminous transmittance τ_{vA} in % is reached. **32 ± 8**

Light diffusion

In the visible range of the optical spectrum, OPALIKA® offers almost ideal diffusion, i.e. when represented graphically, the diffusion depending on an angle (diffusion indicatrix) appears nearly as a circle. The remaining proportion of the direct radiation is superimposed and at the zero axis it appears as a "nose" that is dependent on the wavelength. There is a sharp increase with increasing wavelengths from λ = 800 nm on upwards.

Typical diffusion indicatrix, no specified size
Scattering angle ε



Mechanical Properties

Density ρ in g/cm³	**2.6**
Stress optical coefficient *C* in 1.02 x 10⁻¹² m²/N	**2.7**
Breaking strength Admissible value for the bending strength σ_{zul} of technically annealed glasses as calculation basis (air) in N/mm². Higher mechanical strength is possible by thermal tempering.	**30**
Thermal tempering The different viscosity characteristics of the white flashed layer and the base glass must be considered. Also, there may be a need to verify that the requirements that apply to safety glass have been met. As a result of treatment with heat, transmittance may vary while at the same time the diffusion indicatrix changes accordingly.	

Chemical Properties

Because both types of glass exhibit different behaviour in terms of how they resist water, acids and alkaline solutions, the usual classifaction can not be made. One can say that OPALIKA® is largely resistant to the effects of water, acids, alkalis and salt solutions (with the exception of hydrofluoric acid).

Thermal Properties (Base Glass Only)

Viscosities and corresponding temperatures Softening point in °C ($\eta = 10^{7.6}$ dPas)	**719**
Transformation temperature *Tg* in °C	**533**
Coefficient of mean linear thermal expansion $\alpha_{(20\,°C;\,300\,°C)}$ in 10^{-6} K^{-1} (static measurement)	**9.4**

Technical Properties

Stock dimensions

Nominal thickness in mm	*Tolerance in mm*	*Dimension (lenght x width)[1] in mm x mm*
2.40	± 0.30	1,400 x 1,600
3.00	± 0.30	1,400 x 1,600; 2,000 x 1,600; 2,200 x 1,600
3.85	± 0.35	1,400 x 1,600; 2,000 x 1,600; 2,400 x 1,600
4.65	± 0.35	1,400 x 1,600; 2,000 x 1,600; 2,400 x 1,600
5.50	± 0.50	1,400 x 1,600; 2,000 x 1,600; 2,400 x 1,600
8.00*	± 0.50	2,100 x 1,500; 2,100 x 1,000

Opal glass layer: 0.45 mm $^{+\,0.35}_{-\,0.2}$ mm, *Opal glass layer at this thickness: 0.45 mm $^{+\,0.85}_{-\,0.2}$ mm

1) Due to the production process, the lenghts specified for the panels may vary by +/- 25 mm and the widths by +100 mm/-200 mm

Warp
Despite careful matching of the opal glass and the colorless base glass, the differences in viscosity behaviour in these two glasses may result in variations in flatness in excess of those of well-known flat glasses.
The deviation of the surface of the glass from an ideal flat condition is a maximum of 4.8 mm with reference to a 320 mm x 320 mm surface.

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