

Description:

The new alkaline-earth aluminosilicate glass AF 37 is characterized by a number of exceptional physical and chemical properties. This specialty glass from Schott is alkali and arsenic free in synthesis, and has a high chemical durability. AF 37 offers a high heat resistivity, resulting from the low coefficient of thermal expansion. It features a low shrinkage which is of great importance to many electronics and display applications. AF 37 thin glass material is made by using advanced float glass technology. It profits from all advantages of this manufacturing process. Therefore even the natural surfaces of AF 37 show good flatness and low micro roughness. Often the material can be utilized without additional mechanical polishing, resulting in significant cost savings to the user. AF 37 glass has a low thickness tolerance, a good TTV (total thickness variation) and is even available in large dimensions. As a result of its low density, AF 37 is relatively light weight, which is an important advantage in display applications.

Available Thicknesses:

Thickness Tolerance 0.70mm ± 0.07mm

Properties:

Refractive Index: $n_d(\lambda=587nm)$ 1.52

Birefringence Constant (588nm, 21°C) 3.18 *10⁻⁶ mm²/N

Thermal:

Thermal Coefficient of Expansion (20-300°C) 3.77 *10⁻⁶ /K

Strain Point (10^{14.5} dPa) 684°C

Annealing Point (10¹³ dPa) 722°C

Chemical:

Solution	5% NaOh	NH ₄ F:HF	HCI	DIH ₂ O
Temp (°C)	95	23	95	95
Reaction Time (hr)	6	.33	24	24
Loss of Weight (mg/cm²)	1.30	0.68	0.44	<0.01

Mechanical:

Density 2.48 g/cm³

Young's Modulus 78 kN/mm²

Poisson Ratio 0.24

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Vickers Hardness (2N, 25sec) 640

Electrical:

Dielectric Constant (1MHz, 25°C) 5.5

Loss Tangent (1MHz, 25°C) 0.19%

Volume Resistivity (250°C) 10^{12.4} Ωcm

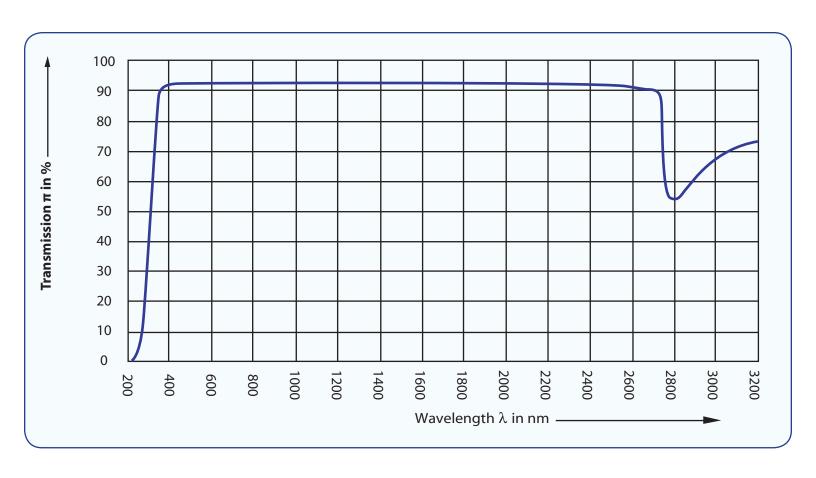
Applications:

AF37 with its specific properties is exceptionally well suited for a number of display technologies and thin film coating applications, especially for liquid crystal displays such as Active Matrix LCD.

Flatness, parallelism, cutting tolerances, roughness, cosmetic defects and visual inspection all conform to the specifications to be agreed upon by Precision Glass & Optics and the customer.



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