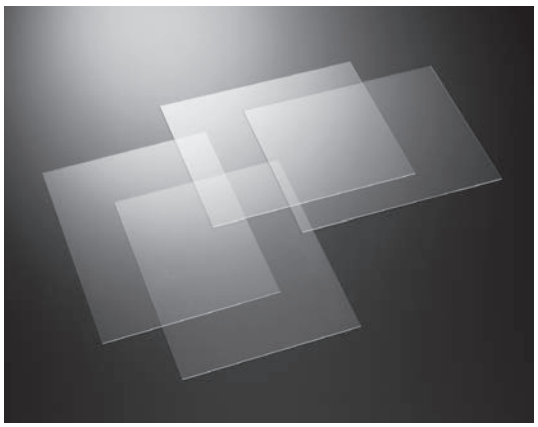
Glass for Chemical Strengthening

Ref. No. 2410-08E

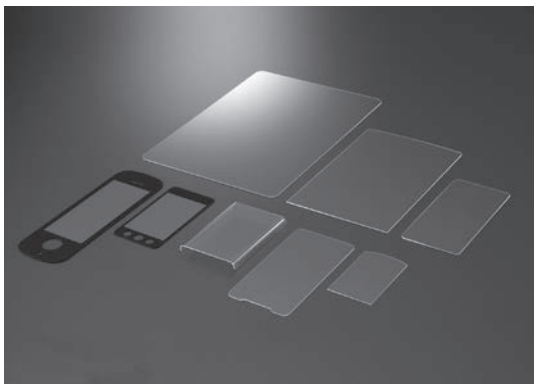
Dinorex™

Dinorex™ is glass for chemical strengthening developed for use as cover glass for mobile handsets such as smartphones and tablets, onboard vehicle displays, and other new applications. Dinorex™ protects such devices from impact shocks and scratches.



Features

- **Dinorex™ T2X-1**
  - · Superior chemical strengthening properties (High CS, Deep DOL)
  - · High productivity
  - · High transmittance
- **Dinorex™ T2X-7**
  - · Original chemical strengthening technology (DIOX)
  - · High drop strength on rough surfaces
  - · Optimized for 3D molding



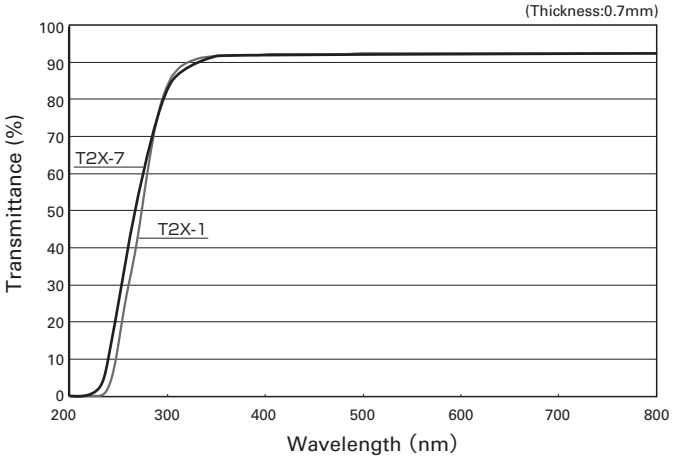
Dinorex™ in various processed forms

Properties

Properties/Glass Code			T2X-1	T2X-7
Density		$\times 10^3$kg/m^3	2.45	2.40
Strain point		°C	560	590
Annealing point		°C	610	640
Softening point		°C	860	910
Coefficient of thermal expansion	30-380°C	$\times 10^{-7}$/K	91	74
Young's modulus		GPa	70	76
Shear modulus		GPa	29	31
Poisson's ratio		—	0.2	0.2
Vickers hardness (unstrengthened)	Hv (0.2)	—	590	590
Vickers hardness (strengthened)	Hv (0.2)	—	670	640
Fracture toughness		MPa・m$^{0.5}$	0.68	0.76
Dielectric constant	1MHz, 25°C	—	7.7	6.7
tan δ	1MHz, 25°C	—	<0.03	0.01
Volume resistivity Log ρ	150°C	Ω・cm	7.1	7.7
Photo-elastic constant		nm/cm/MPa	29.5	29
Light transmittance	t=0.7mm, 550nm	%	>91.5	>91.5
Refractive Index nd	587.6nm	—	1.50	1.50
Specific heat	25°C	J/kg・K	810	820
Thermal conductivity	25°C	W/m・K	1.1	1.1
Alkali elution	JIS R3502	mg	0.1	0.1

us regarding dimensions.

Transmittance



Refractive Index

Optical properties refractive index	T2X-1	T2X-7
n_h (404.7nm)	1.52	1.52
n_g (435.8nm)	1.51	1.51
n_F (486.1nm)	1.51	1.51
n_e (546.1nm)	1.51	1.50
n_d (587.6nm)	1.50	1.50
n_C (656.3nm)	1.50	1.50
n_{785} (λ)	1.50	1.50
n_{1310} (λ)	1.49	1.49
n_{1550} (λ)	1.49	1.49

Dielectric Constant and tan δ

	T2X-1		T2X-7	
Frequency [MHz]	Dielectric constant [–]	tan δ [–]	Dielectric constant [–]	tan δ [–]
1	7.7	<0.03	6.7	0.01
2450	7.3	<0.03	6.6	0.01
6000	7.4	<0.03	6.5	0.01
10000	7.4	<0.03	6.5	0.01
28000	7.2	<0.03	6.4	0.02

Room temperature

Chemical Durability

Reagent	Time	Temperature [°C]	Weight loss[mg/cm^2]	
			T2X-1	T2X-7
5wt% NaOH	6hrs.	80	0.6	1.5
10wt% HF	20min.	20	17	28
110BHF	20min.	20	0.9	0.8
5wt% HCl	24hrs.	80	0.1	20