

Syringes for Automatic Liquid Handling

PTFE-Seals, Chemically Resistant Heavy Duty Syringes – DX

Manufactured by ILS



Volume Scale May Vary

Plunger: Special Stainless Steel Plunger with PTFE-Seal
 Glass Barrel: Borosilicate 3.3
 Precision: $\pm 1\%$ of the volume

Physical and Chemical Properties of Glass

Coefficient of mean linear thermal expansion α (20°C; 300°C) acc. to ISO 7991		$3.3 \cdot 10^{-6} \text{ K}^{-1}$
Transformation temperature T_g		525°C
Glass temperature at viscosity η in dPa · s:	10 ¹³ (annealing point)	560°C
	10 ^{7.6} (softening point)	852°C
	10 ⁴ (working point)	1260°C
Maximum short-time working temperature		500°C
Density ρ at 25°C		2.23 g · cm ⁻³
Modulus of elasticity E (Young's modulus)		64 · 10 ³ N · mm ⁻²
Poisson's ratio μ		0.20
Thermal conductivity λ_w at 90°C		1.2 W · m ⁻¹ · K ⁻¹
Temperature for the specific electrical resistance of 10 ⁸ Ω · cm (DIN 52326) t_{k100}		250°C
Logarithm of the electric volume resistivity (Ω · cm)	at 250°C	8
	at 350°C	6.5
Dielectric properties (1 MHz, 25°C)		
Dielectric constant (permittivity) ϵ		4.6
Dielectric loss factor (dissipation factor) $\tan \delta$		37 · 10 ⁻⁴
Refractive index ($\lambda = 587.6$ nm) n_d		1.473
Stress-optical coefficient (DIN 52314) k		4.0 · 10 ⁻⁶ mm ² · N ⁻¹

Reference: Schott Duran®