Syringes for Automatic Liquid Handling

PTFE-Seals, Chemically Resistant Heavy Duty Syringes – RQ

Manufactured by ILS

Volume Scale May Vary

Plunger:	Special Stainless Steel Plunger with PTFE-Seal
Glass Barrel:	Borosilicate 3.3
Precision:	< ±1% of the volume

Physical and Chemical Properties of Glass

Coefficient of mean linear thermal expansion **a** (20˚C; 300˚C) acc. to ISO 7991		$3.3 \cdot 10^{-6} K^{-1}$
Transformation temperature T_g		525˚C
Glass temperature at viscosity **η** in dPa · s:	10^{13} (annealing point) $10^{7.6}$ (softening point) 10^{4} (working point)	560˚C 852˚C 1260˚C
Maximum short-time working temperature		500˚C
Density **ρ** at 25˚C		$2.23\ g \cdot cm^{-3}$
Modulus of elasticity E (Young's modulus)		$64 \cdot 10^{3}\ N \cdot mm^{-2}$
Poisson's ratio **μ**		0.20
Thermal conductivity λ_W at 90˚C		$1.2\ W \cdot m^{-1} \cdot K^{-1}$
Temperature for the specific electrical resistance of 10^8 **Ω** · cm (DIN 52326) $t_{k\,100}$		250˚C
Logarithm of the electric volume resistivity (Ω · cm)	at 250˚C at 350˚C	8 6.5
Dielectric properties (1 MHz, 25˚C) Dielectric constant (permittivity) **e** Dielectric loss factor (dissipation factor) tan **δ**		 4.6 $37 \cdot 10^{-4}$
Refractive index (**λ = 587.6** nm) n_d		1.473
Stress-optical coefficient (DIN 52314) k		$4.0 \cdot 10^{-6}\ mm^2 \cdot N^{-1}$

Reference: Schott Duran®

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