

GlassType/Application Laboratory Glass Drainline from Borosilicate glass 3.3
Chemically and thermally high resistant.

Physical Data (approx. value)			
Coefficient of mean linear thermal expansion $\alpha(20^{\circ}\text{C}; 300^{\circ}\text{C})$ (ISO 7991)	3.3	10^{-6}K^{-1}	
Transformation temperature T_g (ISO 7884-8).....	525	$^{\circ}\text{C}$	
Glass temperature at viscosity η in $\text{dPa}\cdot\text{s}$			
10^{13} (annealing point) (ISO 7884-4).....	560	$^{\circ}\text{C}$	
$10^{7.6}$ (softening point) (ISO 7884-3).....	825	$^{\circ}\text{C}$	
10^4 (working point) (ISO 7884-2).....	1260	$^{\circ}\text{C}$	
Stress-optical coefficient K (DIN 52314).....	4.0	$10^{-6}\text{mm}^2\cdot\text{N}^{-1}$	
Density ρ at 25°C	2.23	$\text{g}\cdot\text{cm}^{-3}$	
Modulus of elasticity E (Young's modulus)	63	$10^3\text{N}\cdot\text{mm}^{-2}$	
Poisson's ratio μ	0.2		
Thermal conductivity λ_w at 90°C	1.2	$\text{W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$	
Log of the electric volume resistivity ($\Omega\cdot\text{cm}$)			
at 250°C	8.0		
at 350°C	6.5		
t_{k100}	250	$^{\circ}\text{C}$	
Dielectric constant ϵ for 1 MHz at 25°C	4.6		
Dielectric loss factor $\tan \delta$ for 1 MHz at 25°C	37	10^{-4}	
Refractive index n_d ($\lambda = 587.6 \text{ nm}$)	1.473		

Chemical Resistance			
Hydrolytic resistance (ISO 719)	Class	HGB 1	
Acid resistance (DIN 12116)	Class	S 1	
Alkali resistance (ISO 695)	Class	A 2	

The heavy metal content for the elements lead, cadmium, mercury and hexavalent chromium is below 100 ppm

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Business Unit Tubing / 9/2017