

VYCOR GLASS BALLS

Special glass balls, primarily manufactured for high temperature applications. Excellent resistance to thermal shocks and wear.

Applications

High temperature applications, optical devices.

Chemical composition

%SiO ₂	%B ₂ O ₃	%Al ₂ O ₃	%other	-	-	-	-	-	-	-
~ 96,4	~ 3,0	~ 0,5	~ 0,1	-	-	-	-	-	-	-

Physical / mechanical / thermal / electric / magnetic properties

Property	Symbol	U.o.M.	Type	Notes	Values
Density	δ	g/cm ³	Physical	Room temp.	2,18
Young's modulus	E	GPa	Mechanical	-	66
Refractive index	n	-	Optic	-	1,458
Softening temperature	-	°C/°F	Thermal	Room temp./P.atm.	1530 / 2786
Coefficient of linear thermal expansion	α	10 ⁻⁶ /°C	Thermal	($\Delta T=0-100^{\circ}C$)	0,8
Thermal conductivity	λ	W/(m·K)	Thermal	Room temp.	1,30
Volume resistivity	ρ	$\Omega \cdot m$	Electric	-	> 10 ¹²
Relative magnetic permeability	μ	-	Magnetic	Diamagnetic	<-1

Technical data

Property	Type	U.o.M.	Values	U.o.M.	Values
Hardness	Mechanical	Knoop	460 - 520	-	-
Ultimate compressive strength	Mechanical	MPa	2000 - 2200	psix10 ³	290 - 319
Service temperature	Thermal	°C	0 / 900	°F	32 / 1652

Range

Diameters (min/max)	U.o.M.	Diameters (min/max)	U.o.M.	Precision Grade
1,000 - 100,000	mm	3/64 - 4	"	V100-V200-V500-V1000-V2000

Corrosion Resistance

Excellent corrosion resistance in contact with acids, water and steam, fair resistance with respect to diluted basic solutions, they are not resistant against strong basic solutions.