

Borosilicate Glass

Data Sheet

Overview:

Borosilicate glass has silica and boron trioxide as the main glass-forming constituents. Borosilicate is known for having a very low coefficient of thermal expansion, making it resistant to thermal shock, more so than any other common glass. Even over long periods of time and at high temperatures, Borosilicate exceeds the chemical resistance of most metals and other materials.

Features and Benefits:

- Borosilicate is highly resistant to neutral, acidic and saline solutions; as well as to chlorine, bromine, iodine and organic substances.
- Borosilicate is resistant to temperature change because it does not expand like ordinary glass.
- Borosilicate is best used in high heat applications or when chemical resistance is needed.

Material Properties:

Modulus of Elasticity (Young's)	9.1 x 10 ⁶ psi	63 GPa
Modulus of Rigidity (Shear)	3916.02 psi	27 MPa
Poisson's Ratio	0.20	0.20
Refractive Index	1.473	1.473
Knoop Hardness	480	480
Density	139.2 lb/ft ³	2.23 g•cm ³
Dispersion (n _F - n _C)	0.00719	0.00719
Thermal Conductivity at (90°C)	0.69 Btu • hr-1 • ft-1 • °F-1	1.2 W / m • K
Specific Heat at (75° F)	0.22 Btu/lbm. °F	780 J/(kg• °K)
Transformation Temperature T _g	977°F	525°C
Maximum Service Temperature	707°F	375°C
Stress-optical Coefficient	4.0 • 10-6 mm ² • N-1	4.0 • 10-6 mm ² • N-1
Softening Point (ASTM C 338)	1508°F	820°C
Annealing Point (ASTM C 336)	1040°F	560°C
Working Point (ASTM C 336)	2318°F	1270°C
Maximum Operating Temperature	932°F	500°C

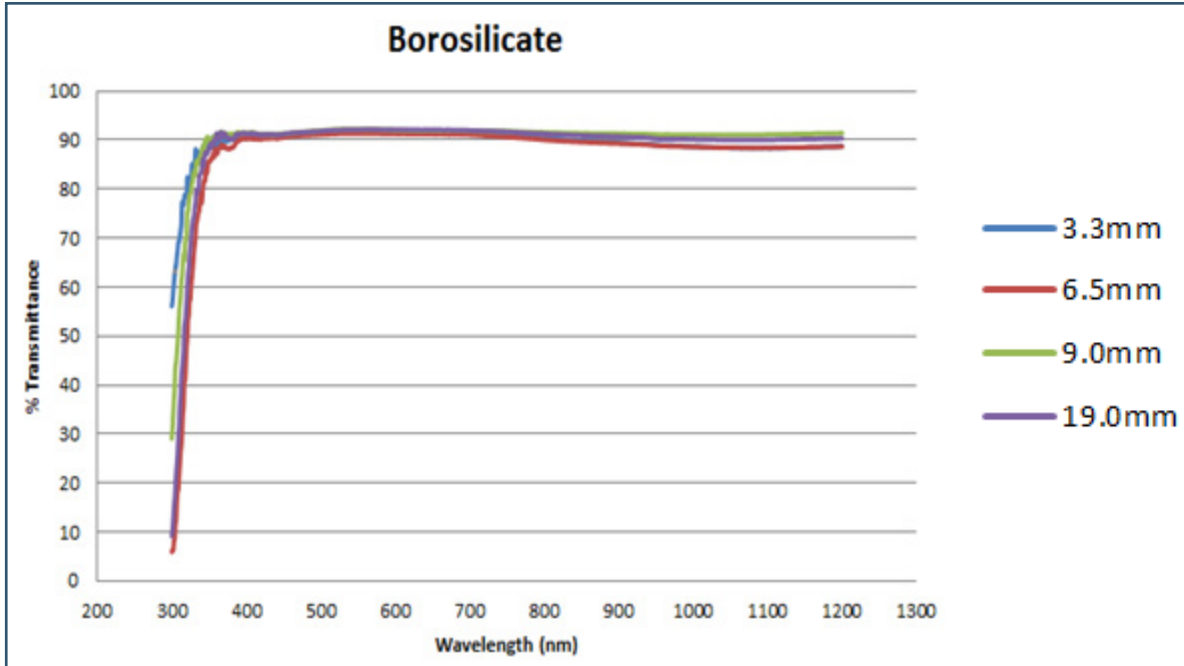
Dimensions of Standard Products

Thickness	0.004" to 1"	0.1 mm to 25.4 mm
Stock Sizes	90" x 66"	2286 mm x 1676 mm

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Performance Data:

Transmission Curve



Reflectance Curve

