

Base VYCOR® 7913



CORNING
Discovering Beyond Imagination

Lighting &
Materials



Corning's VYCOR® brand glass is a 96% silica glass that is ideally suited for high temperature applications. VYCOR can be used at continuous temperatures up to 900 °C. Due to its extremely low coefficient of thermal expansion VYCOR also provides excellent thermal shock resistance.

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Mechanical

	Metric
Density	2.18 g/cm ³
Young's Modulus	6.75 x 10 ³ kg/mm ²
Poisson's Ratio	0.19
Shear Modulus	2.85 x 10 ³ kg/mm ²
Knoop Hardness (KHN100)	487

Viscosity

Softening Pt. (10 ^{7.6} poises)	1530°C
Annealing Pt. (10 ¹³ poises)	1020°C
Strain Pt. (10 ¹⁴ poises)	890°C

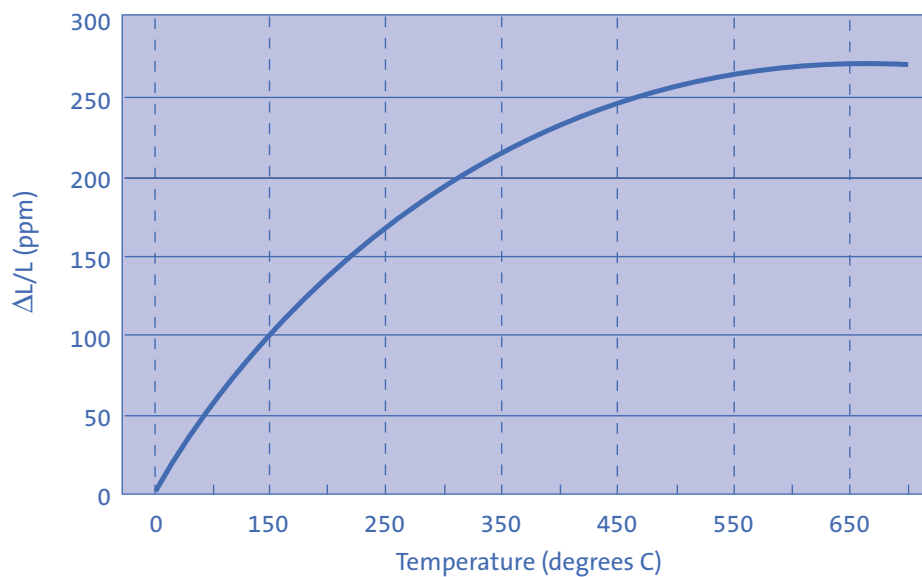
Thermal

Coefficient of Expansion (0 - 300 °C)	7.5 x 10 ⁻⁷ / °C
Specific Heat, 25 °C	0.18 cal/g °C
Thermal Conductivity, 25 °C	0.0033 $\frac{\text{cal cm}}{\text{sec cm}^2 \text{ °C}}$
Thermal Diffusivity, 25 °C	0.0090 $\frac{\text{cm}^2}{\text{sec}}$
Continuous Operating Temperature	900 °C

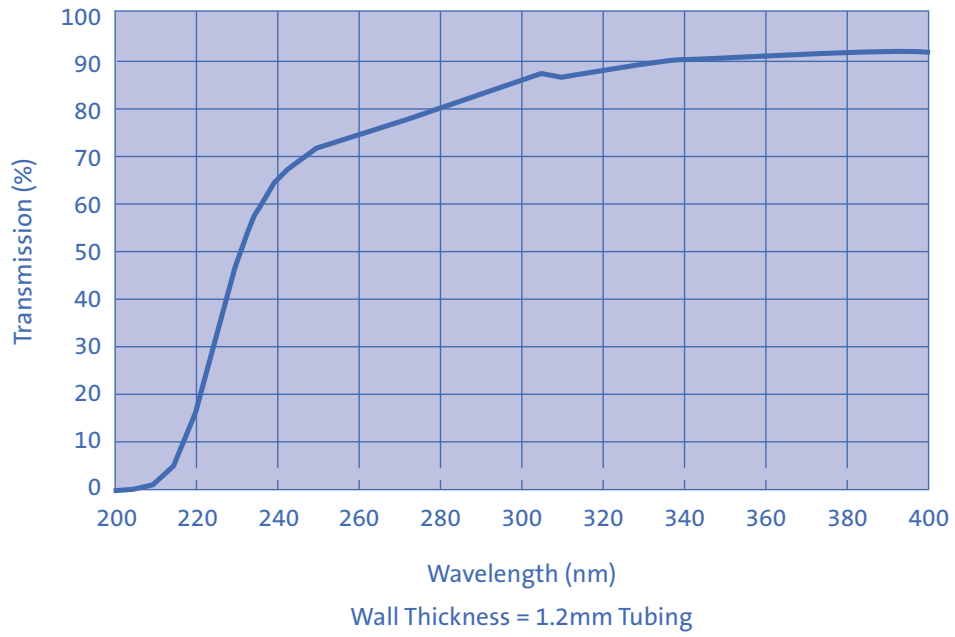
Optical

Refractive Index (589.3 nm)	1.458
Birefringence Constant	360 $\frac{\text{nm/cm}}{\text{kg/mm}^2}$

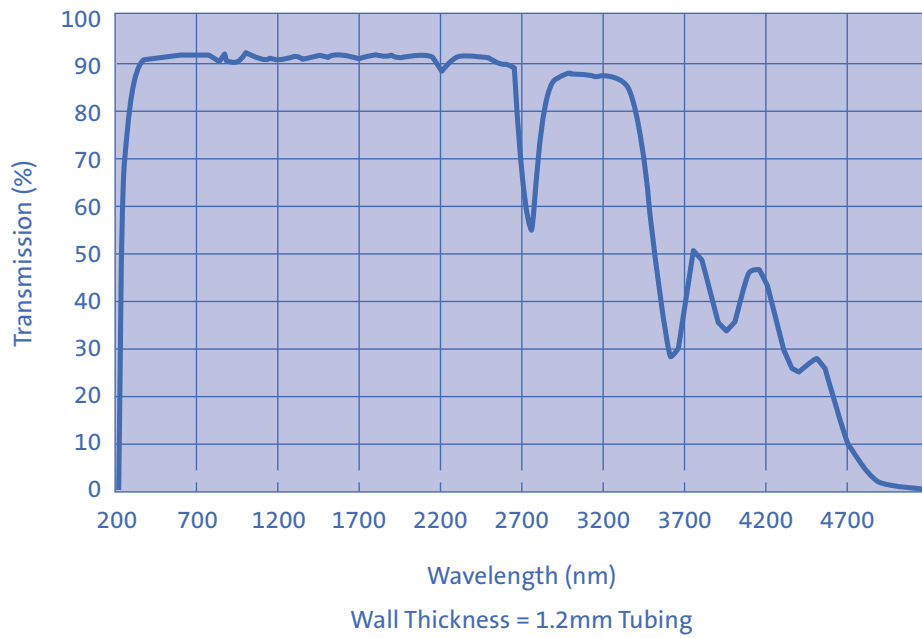
Thermal Expansion



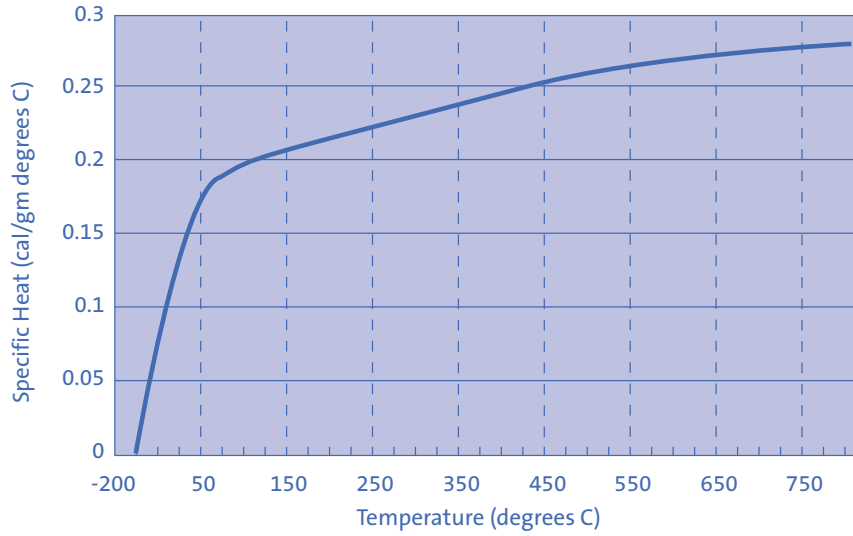
7913 VYCOR® Glass Transmittance



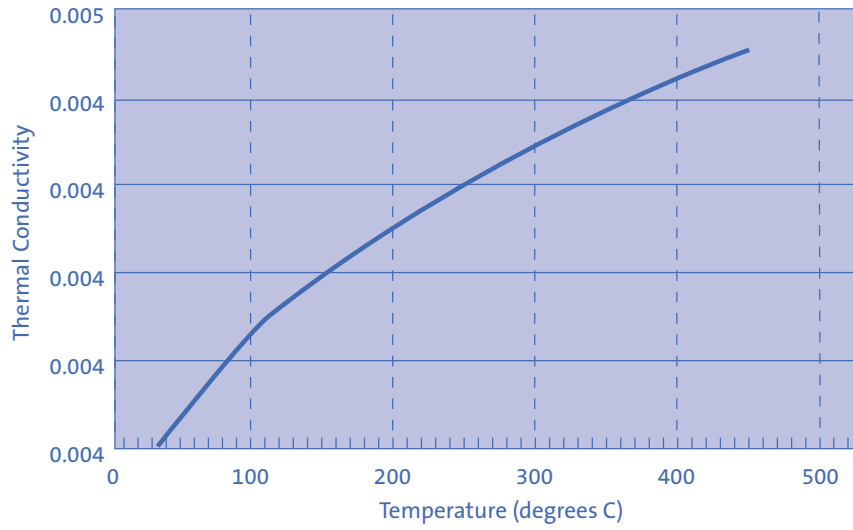
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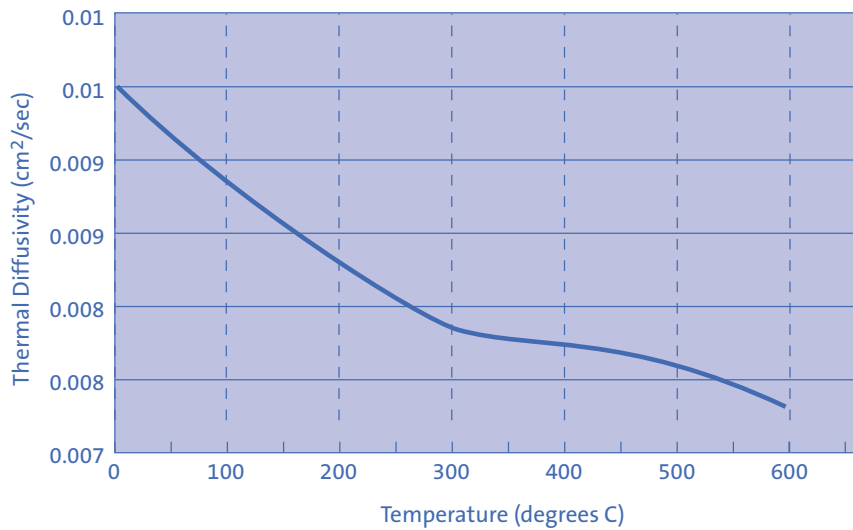
Specific Heat



Thermal Conductivity



Thermal Diffusivity



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Base VYCOR® 7913 Sheet - Standard Sizes

Rolled Surface

Code	Thickness In.	Sheet Size In.	Sheets Per Case
744800	1/8 (.160 - .190)	12 1/4 x 12 1/4	5
748801	1/4 (.250 - .315)	12 1/4 x 12 1/4	5
744802	3/8 (.375 - .445)	12 1/4 x 12 1/4	5
744814	1/2 (.500 - .625)	12 1/4 x 12 1/4	3
744815	5/8 (.625 - .700)	12 1/4 x 12 1/4	2
741276	.156 (.140 - .172)	13 x 19	5
740286	.185 (.170 - .200)	13 x 19	5
740675	.230 (.210 - .250)	13 x 19	5
740071	1/4 (.250 - .315)	12 1/4 x 18 1/4	5
740069	3/8 (.375 - .445)	12 1/4 x 15 1/4	5
740072	1/2 (.500 - .625)	12 1/4 x 15 1/4	3
740581	7/8	12 1/4 x 12 1/4	1
740315	1	12 1/4 x 12 1/4	1

Flatness - .003" per lineal inch

Other sizes available upon request.

Base VYCOR® 7913 Tubing - Standard Sizes

Standard Wall

Code	Nominal Size O.D. mm.	O.D. Limit In.	Nominal Wall mm.	Wall Limit In.
743170	6	.230 - .242	1.0	.036 - .042
743172	7	.269 - .283	1.0	.036 - .042
740346	9	.344 - .364	1.0	.035 - .043
742572	10.5	.402 - .424	1.0	.035 - .043
740639	10.75	.412 - .434	1.0	.035 - .043
742566	13	.496 - .528	1.2	.041 - .053
740034	15	.575 - .607	1.2	.041 - .053
743190	19	.726 - .770	1.2	.041 - .053
744380	25	.956 - 1.012	1.5	.052 - .066
744381	30	1.150 - 1.212	1.8	.070 - .088
742571	35	1.378 - 1.437	1.75	.059 - .079
744383	45	1.729 - 1.815	2.4	.083 - .105
744384	51	1.960 - 2.056	2.4	.083 - .105
744385	57	2.188 - 2.300	3.0	.099 - .137
744386	64	2.456 - 2.550	3.0	.099 - .137
744377	75	2.882 - 3.024	3.0	.099 - .137

Length varies 11" - 53.5" (279 mm - 1359 mm).

Other sizes available upon request.

Base VYCOR® 7913 Rod

Code	Nominal Size O.D. mm.	O.D. Variation
741176	3 mm.	.111" - .124"
741179	6 mm.	.220" - .273"
741382	2.5 mm.	.094" - .102"
743130	12.7 mm.	.475" - .529"

Length - 36" ± approximately 1/4", ends cut.

Other sizes available upon request.

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