



## Corning 7056 Alkali Borosilicate Glass

Color	White
Glass Type	Hard Crown
Application	Optical, electronic, and Kovar sealing

### Mechanical Properties

	Metric	English
Density	2.29 g/cm <sup>3</sup>	143 lb/ft <sup>3</sup>
Young's Modulus	6.4 x 10 <sup>3</sup> kg/mm <sup>2</sup>	9.2 x 10 <sup>6</sup> psi
Poisson's Ratio	0.21	
Shear Modulus	2.7 x 10 <sup>3</sup> kg/mm <sup>2</sup>	3.8 x 10 <sup>6</sup> psi

### Viscosity

Working Point (10 <sup>4</sup> poise)	1058 °C	1936 °F
Softening Point (10 <sup>7.6</sup> poise)	718 °C	1324 °F
Annealing Point (10 <sup>13</sup> poise)	512 °C	954 °F
Strain Point (10 <sup>14</sup> poise)	472 °C	882 °F

### Thermal

Linear Expansion Coefficient (0 - 300 °C)	51.5 x 10 <sup>-7</sup> / °C	28.5 x 10 <sup>-7</sup> / °F
Linear Expansion Coefficient (25 °C to set point 477 °C)	54.5 x 10 <sup>-7</sup> / °C	30.0 x 10 <sup>-7</sup> / °F

### Optical

Refractive Index			
Line		λ (nm)	Value
F'	Cadmium	480.0	1.49300
F	Hydrogen	486.1	1.49200
e	Mercury	546.1	1.48900
D	Sodium	589.3	1.48700
d	Helium	587.6	1.48640
C'	Cadmium	643.8	1.48550
C	Hydrogen	656.3	1.48500
Abbe Number		ve	65.4
		vd	65.4

## Electrical

Log <sub>10</sub> Volume Resistivity at 250 °C	10.3 ohm-cm
Log <sub>10</sub> Volume Resistivity at 250 °C	8.4 ohm-cm
Dielectric Constant at 20 °C, 1 MHz	5.7
Loss Tangent at 20 °C, 1 MHz	0.27%

## Transmission

Visible	380 - 780 nm
Luminous Transmission Factor (10 mm thickness)	91%
Color- Minimum R Value (T <sub>400</sub> /T <sub>650</sub> ) 5.5 mm thickness	0.90
Light Absorption or Beta Value	Maximum 1.5% / cm

$$\text{Beta Value} = \frac{((1 - r)^2 - T) / ((1 - r)^2 \cdot t)}{r: \frac{(nd - 1) / (nd + 1)^2}$$

t: length of the sample in cm

T: Average transmission at 450, 507.7, 529.8, 543.7, 550, 555.4, 566.3, 576.9, 587.9, 600.1, 615.2, 639.7, 650 nm

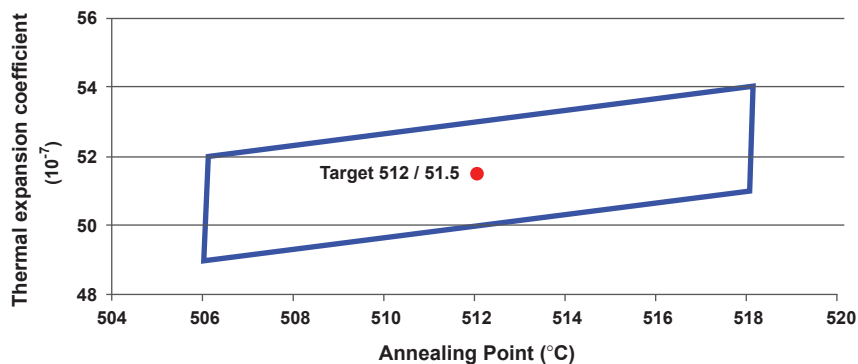
## Coating and Tempering

Vacuum Coating	YES
Chemical Tempering	N/A
Air Tempering	N/A

## Chemical Durability (class)

To Water; NF ISO 719	N/A
To Acid; DIN 12-116	N/A
To Alkalis; ISO 695	N/A

**7056 Glass Strips Specification**  
Annealing Point and Thermal Expansion Coefficient



# CORNING

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