



## TRANSMISSIVE GLASS DISC SPECIFICATIONS

### **METALLIZATION – 99.999% CHROME**

### **SUBSTRATE - SODALIME GLASS**

Optical density of metallization:

Density 1-5+

Standard density:

2.8d or 1000 angstroms

Top metallization:

High or low reflective coating.

Minimum feature size:

5um

Bar / Window Ratio (50/50)

+/- 2um

Maximum OD = 12" (300 mm):

Thickness - .012" - .250" (.3 – 6.35 mm)

Pattern to disc ID/OD <.010" TIR

Special to <.002" TIR (25 um)

ID Tolerance: .003" (80um)

OD Tolerance: .003" (80um)

Edge chip specification:

Maximum .010" (250 um) / Special to 50um

Flatness over entire substrate:

15um, Special to 5um

Parallelism:

.001" over 4"

### **SODA LIME GLASS SUBSTRATE PROPERTIES**

Refractive index-

1.523 (435nm), 1.513 (645 nm)

Thermal Conductivity:

0.937 W.m/m<sup>2</sup> °C

Soda Lime TCE:

(0/300 °C): 8.6 x 10<sup>-6</sup>/°C

Annealing point:

546 C / 1015 F

Strain point:

514 C / 957 F

Softening Point:

726°C/1340°F

Substrate density:

2.44 g/cm<sup>3</sup> @ 20 C / 68 F

Modulus of Elasticity (Young's):

7.2 x 10<sup>10</sup> Pa

Modulus of Rigidity (Shear):

3.0 x 10<sup>10</sup> Pa

Bulk Modulus:

4.3 x 10<sup>10</sup> Pa

Poisson's ratio:

.22

Density (at 20 °C/68 °F):

2.44 g/cm<sup>3</sup>

Hardness (Moh's Scale):

6 - 7

Knoop Hardness:

585 kg/mm<sup>2</sup> ± 20

Specific Gravity:

2.53

Specific Heat:

0.21

Specific Weight:

2,483 g/cm<sup>3</sup>