



# GLASS DISC SPECIFICATIONS

## METALLIZATION – 99.999% CHROME

Optical density of metallization:  
Standard density:  
Top metallization:  
Minimum feature size:  
Bar / Window Ratio (50/50)  
Maximum OD = 6" (152 mm):  
Pattern to disc ID/OD <.010" TIR  
ID Tolerance: .003" (80um)  
Edge chip specification:  
Flatness over entire substrate:  
Parallelism:

## SUBSTRATE - SODALIME GLASS

Density 1-5  
2.8d or 1000 angstroms  
High, medium or low reflective coating.  
1 Micron  
<5% (45/55)  
Thickness - .012" - .250" (.3 – 6.35 mm)  
Special to <.002" TIR (25 um)  
OD Tolerance: .003" (80um)  
Maximum .010" (250 um) / Special to 50um  
10 Micron  
.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>

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