

GLASS PROPERTIES & DATA



MAJOR COMPONENTS OF GLASS		
CLEAR SODA LIME GLASS		%
Silica	SiO ²	70-74
Soda	Na ² O	12-15
Lime	CaO	8-10
Magnesium Oxide	MgO	3.5-4.5
Potassium Oxide	K ² O	0.3-0.8
Alumina	Al ² O ³	0.0-2.0
Iron Oxide	FeO ³	0.08-0.11

GENERAL PROPERTIES OF GLASS	
Refractive Index	1.50-1.58
Surface Reflectance	4% each side (total of 8%)
Softening Point	720-730°C
Specific Heat 0-100°C	0.20
Compressive strength (25mm cube)	248MPa
Tensile Strength - Annealed	19.3-28.4 MPa
Tensile Strength - Toughened	175 MPa
Co-efficient of Linear Expansion (Room to 350°C)	9.0 x 10 ⁻⁶ /°C
Hardness Mohs' Scale	6.0
Density	2500 kg/m ³
Young's Modulus (Elasticity)	69 GPa
Poisson's Ratio	0.23

GLASS WEIGHTS	
MM	kg/m ²
2	5
3	7.5
4	10
5	12.5
6	15
8	20
10	25
12	30
15	37.5
19	47.5
25	62.5

CONVERSIONS AND CALCULATIONS	
Inches to mm	1 inch = 25.4mm
Fahrenheit to Celsius	C = (f - 32) x 5 ÷ 9
Square feet to Square metres	10.764 square foot = 1m ²
$\pi = 3.142857$	
Radius of a circle (r)	Centre to outer edge
Diameter of a circle (D)	D = 2 x r
Circumference of a circle (C)	C = π D
Area of a circle	πr^2
Area of a square/rectangle	Height x Width
Perimeter or lineal measurement of a square/rectangle (Lineal metre)	(Height + Width) x 2