Spectraglass
SPECIALIST GLASS SOLUTIONS

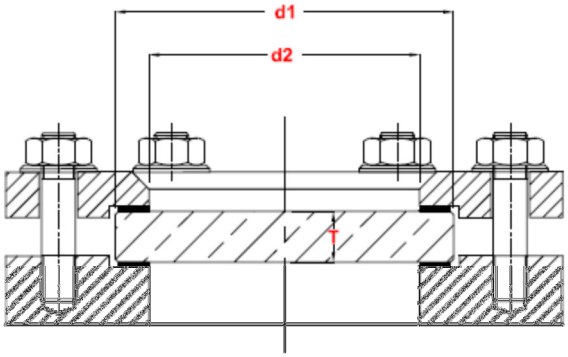
SPECTRAGLASS Limited
Unit 2, Inveralmond Close,
Inveralmond Industrial
Estate, Perth PH1 3TT

Tel: 01738 638358
Fax: 01738 634744

info@spectraglass.com
www.spectraglass.com

BOROSILICATE CIRCULAR SIGHT GLASSES DIN 7080

		Maximum Pressure Rating	
d1xT	d2Ø	bar	psi
30 x 15	20	200	2900
35 x 7	25	25	363
40 x 10	30	40	580
40 x 12	30	50	725
45 x 10	32	40	580
45 x 12	32	50	725
50 x 10	35	25	363
50 x 12	35	40	580
55 x 10	40	25	363
60 x 10	45	16	232
60 x 12	45	25	363
60 x 15	45	40	580
60 x 20	45	95	1377
63 x 8	48	8	116
63 x 10	48	16	232
63 x 12	48	25	363
63 x 15	48	40	580
65 x 10	50	12	174
65 x 15	50	40	580
70 x 12	55	16	232
70 x 15	55	25	363
75 x 12	60	16	232
80 x 10	65	10	145
80 x 12	65	16	232
80 x 15	65	25	363
80 x 20	65	40	580
90 x 10	70	8	116
92 x 10	72	8	116
95 x 10	75	6	87
95 x 15	75	16	232
100 x 10	80	7	101
100 x 12	80	10	145
100 x 15	80	16	232
100 x 20	80	25	363
100 x 25	80	40	580
113 x 15	88	10	145
115 x 15	90	10	145
120 x 15	95	10	145
125 x 15	100	10	145
125 x 20	100	16	232
125 x 25	100	25	363
125 x 30	100	40	580
130 x 15	105	10	145
135 x 25	110	25	363
150 x 10	125	2	29
150 x 15	125	8	116
150 x 20	125	10	145
150 x 25	125	16	232
150 x 30	125	25	363
175 x 20	150	10	145
175 x 25	150	16	232
175 x 30	150	25	363
200 x 20	175	8	116
200 x 25	175	10	145
200 x 30	175	16	232
250 x 20	225	4	58
250 x 25	225	8	116
250 x 30	225	10	145
265 x 30	240	8	116



$$T = 0.55 * dm \sqrt{\frac{p * s}{10 * \sigma bB}}$$

T = Theoretical Minimum glass thickness

$dm = \frac{d1+d2}{2}$ Mean sealing diameter

d1 = Maximum sealing diameter

d2 = Minimum sealing diameter (unsupported dia.)

p = Maximum permitted pressure in bar

σbB = Minimum value of bending strength N/mm²

S = Safety factor

Tolerances

Diameter
up to 135 mm± 0.5 mm
150 to 200 mm± 0.8 mm
above 200 mm± 1.0 mm

Thickness
up to 20 mm+ 0.50 – 0.25 mm
above 20 mm+ 0.80 – 0.40 mm

Parallelism
≤□0.20 mm 0.008 inches

Flatness
Diameter: up to 100 mm ≤□0.05
above 100 up to 150 mm ≤□0.08
above 150 up to 200 mm ≤□0.12
above 200 mm ≤□0.15

Application values for Toughened product
Bending strength ≥□160 N/mm2
(23,000 psi)
Surface compressive stress ≥□100–140 N/mm2
(14,500–20,000 psi)
Thermal shock resistanceΔ265 K
Max. permissible temperature300 ℃
Protected with mica 320 ℃

Material Properties
Thermal expansion (20-300℃)α = 4.3x10-6 K
Transformation TemperatureTg = 540℃
Annealing TemperatureTu = 560℃
Softening TemperatureMg = 800℃
Working Temperature10-4 = 1200℃

Approximate Composition (wt%)
SiO2~78.0
Al2O3~3.0
B2O3~10.0
Na2O~7.0
ZrO2~2.0

Density2,3 1 g/cm3
Modulus of elasticity67000N/mm2
Poisson's ratio m0.20
Specific thermal stress w0.36 N mm-2 K-1
Thermal conductivity l at 90℃1.20 W m-1 K-1
Refractive index nd 1.484
Stress-optical co-efficient3l2.10-6

Hydrolytic Resistance(DIN ISO 719)Class 1
Acid Resistance(DIN 12116)Class 1
Alkali Resistance (DIN ISO 695) Class 2