

MATERIAL DATASHEET

GLASS BIOREACTOR VESSELS

Material Specification:

IDENTIFICATION:

Material: DURAN®

Technical Data

Physical data

Medium coefficient of linear expansion

a 20/300 according to DIN 52328..... $3.3 \cdot 10^{-6} \text{K}^{-1}$

Transformation temperature.....525°C

Temperature fixed points at viscosity η in dPa · s:

10^{13} upper annealing point.....560°C

$10^{7.6}$ softening point.....820°C

10^4 working point.....1260°C

Density ρ2.23 g/cm₃

Chemical data

Hydrolytic Class (ISO 719).....1

Acid Class (DIN 12116).....1

Alkali Class (ISO 695).....2

Chemical composition (main components in approx. weight %)

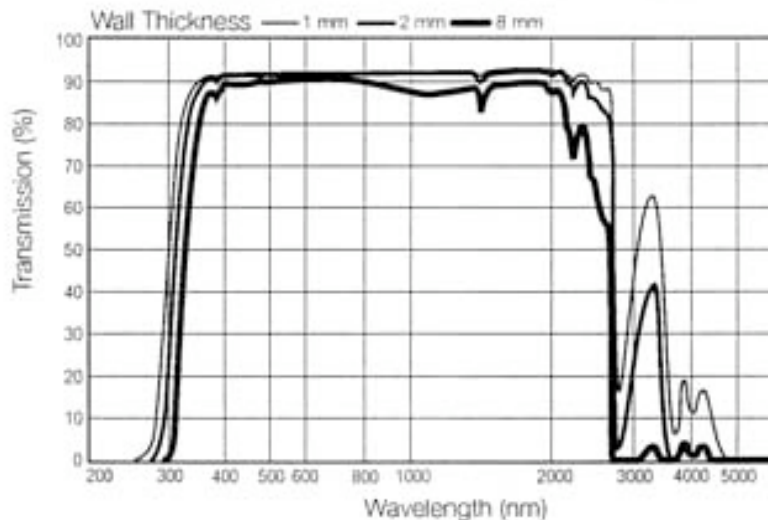
SiO₂81

B₂O₃.....13

Na₂O + K₂O.....4

Al₂O₃.....2

Transmission



Wall thickness tolerance

A wall thickness differential over 12% of the nominal wall thickness is unacceptable.

Polution per kg glass:

Stones

Diameter < 0.3 mm is acceptable

Diameter > 0.3 < 1.0 mm max. 2 is acceptable

Diameter > 1.0 < 2.0 mm max. 1 is acceptable

Diameter > 2.0 mm is not acceptable