Quartz/Fused Silica
GE 124 Fused Quartz

Description:
GE 124 is a very pure fused quartz, made from crystalline silica. GE 124 is very similar to fused silica, with the exception of less transmission in the UV spectrum and much lower OH content. Other features besides its purity include excellent thermal properties and high resistance to chemicals.

Features:
- Excellent Thermal Properties
- Stain (chemical) Resistant
- Very Good Optical Transmission

Applications:
- Water Carriers
- Flanges
- Optical Plates
- Test Plates
- Pressure Windows

Physical Properties:

Mechanical:
- Density (25°C) \( \rho \) 2.21 g/cm\(^3\) 38.0 lb/ft\(^3\)
- Young’s Modulus \( \varepsilon \) 70 kN/mm\(^2\) 10.5 Mpsi
- Poisson’s Ratio \( \mu \) 0.17 0.17
- Knoop Hardness HK\(_{0.1/20}\) 600 kg/mm\(^2\) 600 kg/mm\(^2\)

Viscosity:
- Softening Point (10\(^{7.6}\) poises) 1683°C 3061°F
- Annealing Point (10\(^{13}\) poises) 1214°C 2217°F
- Strain Point (10\(^{14.5}\) poises) 1122°C 2052°F

Thermal Expansion:
- 0 – 300°C (32 – 572°F) 5.5 x 10\(^{-7}\)/°C

Optical:
- Index of Refraction 1.4585

Electrical:
- Log10 Volume Resistivity:
  - (250°C, 482°F) 7 x 10\(^7\)
  - (350°C, 662°F) 7 x 10\(^7\)

Dimensions:
- Thicknesses: Up to 4” thick (101.6mm)
- Sizes: Up to 36” (914.4mm) diameter

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