



HPFS[®] Fused Silica Wafer

Applications

- Micro-optics and substrates for consumer electronics
- Automobile/Robotic imaging systems
- RF components
- Industrial 3D sensors and optics
- Beam shaping elements
- Homogenizers
- Nanoimprint lithography substrates
- Hard disk masters
- Camera optics
- Molds
- Biomedical
- Refractive Optical Elements (ROEs)/ Diffractive Optical Elements (DOEs)
- Blazed-wavelength and sub-wavelength gratings

Benefits

- Extraordinary low refractive index variations leading to state-of-the-art homogeneity values
- Low birefringence values
- Ultra-high purity
- Exceptional transmittance from the deep ultraviolet through the infrared region
- Ultra-low thermal expansion coefficient

Electrical Properties @ 25 °C (100Hz–10KHz)

Loss Tangent	0.00002
Dielectric Constant	3.79

Thermal Properties

Thermal Expansion (ppm/C)

5 °C to 35 °C	0.52×10^{-6}
0 °C to 200 °C	0.57×10^{-6}
-100 °C to +200 °C	0.48×10^{-6}

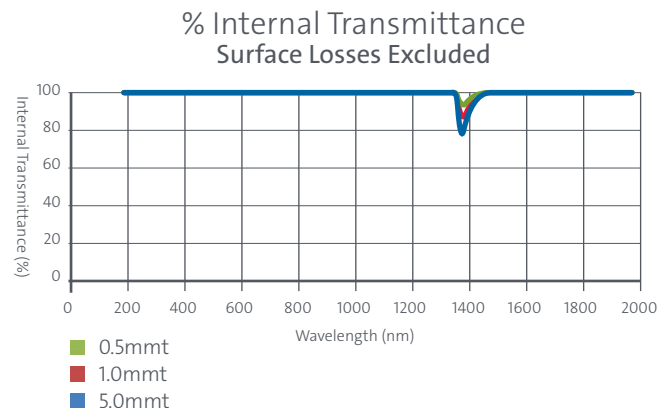
HPFS[®] 7980 Wafer Grade Material Properties

- Ultra-high purity: 100% SiO₂
- No inclusions detected under high-intensity illumination
- OH content: 800–1000ppm
- Typical diameter: 100/150/200/300mmd, Tolerance +/- 20µm, Edge exclusion: ≤ 5mm
- Typical thickness: 0.30-20mmt, Tolerance +/- 25µm
- Available upon request: various sizes, semi notch/flat specifications, laser serialization
- Large volume capacity: up to 60k WPM
- Typical lead-time: 2-12 weeks
- Polish scratch/dig: 20/10 to 80/50
- State-of-the-art data provided: Multi-Surface Profiler (MSP)

TTV	≤ 1 µm to ≤ 5µm
Bow	≤ 5µm to ≤ 30µm
Warp	+/- 20µm to ± 40µm
Roughness	≤ 10Å
SORI	≤ 0.5µm to ≤ 1.5µm

Optical Properties

- Refractive Index Uniformity is 2.5X better than other fused silicas
- No Striae, ISO 10110-4 Class 5
- Abbe Constants @ 632nm: Ve 67.6, Vd 67.8, nF'-nC' 0.006797
- Low birefringence @ 632nm: ≤ 1 nm/cm
- Stress optic coefficient @ 632nm: 35.0 nm/cm MPa
- Exceptional transmittance across a broad range



Precision Glass
Solutions

CORNING

Superior
Standards

HPFS[®] Fused Silica Wafer

Glass with low birefringence and CTE, ultra-high purity with leading optical performance, and excellent RF dielectric properties.

Corning's continuous efforts in research and development along with its ongoing dedication to technology leadership play a major role in Corning's ability to provide qualified, authentic, HPFS[®] Fused Silica Wafer products to its customers. Using world-class metrology capabilities, Corning is able to produce leading edge HPFS[®] Fused Silica wafers with extraordinary characteristics — ultra-pure glass with leading optical performance, low birefringence and CTE, and excellent RF dielectric properties.

Regional Sales Offices

China

Corning China (Shanghai) Regional Headquarters
6F, Li Ming Building, 111 Gui Qing Road
Shanghai, 200233, China
t: 0086 21 3338 4338
f: 0086 21 3338 4300

Europe

Corning GmbH—Corning International
Abraham-Lincoln-Strasse 30
65189 Wiesbaden, Germany
t: +49 611 7366 159
f: +49 611 7366 143

Japan

Corning International K.K.
Akasaka Intercity 7th floor
1-11-44 Akasaka, Minato-ku
Tokyo, 107-0052, Japan
t: +81 3 3586 1052
f: +81 3 3587 0906

Korea

Corning Korea Company Ltd.
6th Fl., Gangnam Finance Center
152, Teheran-ro, Gangnam-gu,
Seoul, 06236, Korea
t: +82 2 796 9500
f: +82 2 796 9300

North America

Corning Incorporated
HP-CB-06
One Museum Way
Corning, NY 14831
United States
t: +607 974 9000

Singapore

Corning Singapore Holdings Pet Ltd.
1, Kim Seng Promenade
Great World City
#9-11/12 West Tower
237994, Singapore
t: +65 65729740
f: +65 67352913

Taiwan

Corning Incorporated-Taiwan
8F, No. 8, Sec.3, Minsheng E. Rd.
Zhongshan Dist., Taipei City 10480
Taiwan, R.O.C
t: +886 2 2716 0338
f: +886 2 2516 7500

Contact us

corning.com/precision-glass-solutions
precisionsg@corning.com