

High Hardness Sapphire Optical Components Datasheet

Felix Glass Brand Intro & Document ID

Felix Glass specializes in custom precision optical components for machine vision, laser systems, medical optics, spectroscopy and industrial imaging. OEM & ODM manufacturing services are available worldwide. Document No. : FG-CUSL-001 | Rev. 1.0 | Issue Date:2026

Core Specification Table

Item	Specification
Raw Material	Single crystal synthetic sapphire (Al ₂ O ₃), multiple crystal orientation options
Main Product Types	Sapphire Windows, Sapphire Lenses, Sapphire Domes, Sapphire Rods, Custom Special Sapphire Optics
Size Range	1mm - 500mm custom diameter / length, square, rectangular, hemispherical, cylindrical shapes
Key Material Advantages	Mohs 9 hardness, scratch resistant; wide UV-MIR transmittance; thermal shock resistant; acid & alkali corrosion proof
Surface Precision	Surface flatness up to $\lambda/10$, surface quality Class 00
Coating Options	UV broadband AR, visible AR, infrared high-transmission AR, anti-reflection hard coating
Custom Machining	Hemispherical dome polishing, cylindrical rod grinding, ultra-thin window slicing, chamfer & blackened edge treatment

Product Category Brief

- Sapphire Windows:** High-pressure & high-temperature observation protective optical windows
- Sapphire Lenses:** Wear-resistant imaging lenses for harsh industrial & medical equipment
- Sapphire Domes:** Hemispherical protective cover for airborne infrared tracking systems
- Sapphire Rods:** Laser gain medium, light guide rod for solid-state laser equipment
- Custom Sapphire Optics:** Special curved, ultra-thin, irregular sapphire parts per customer drawing

The information contained in this document is provided for reference only. Final specifications are subject to mutually approved engineering drawings, production capability review, and customer project requirements.