Optical Sapphire

High-end Solutions for Optical Applications

High Vacuum Ultraviolet Transmittance

With 100 years of optical material development, Nikon's new VUV (vacuum ultraviolet) sapphire material sets a new standard for high transmittance. By utilizing our proprietary state-of-the-art coating technologies to reduce surface reflectance further increases the total optical performance and opens up many new potential applications. Material is available in standard (c plane) and custom crystal orientations (a and r planes).

High Laser Durability

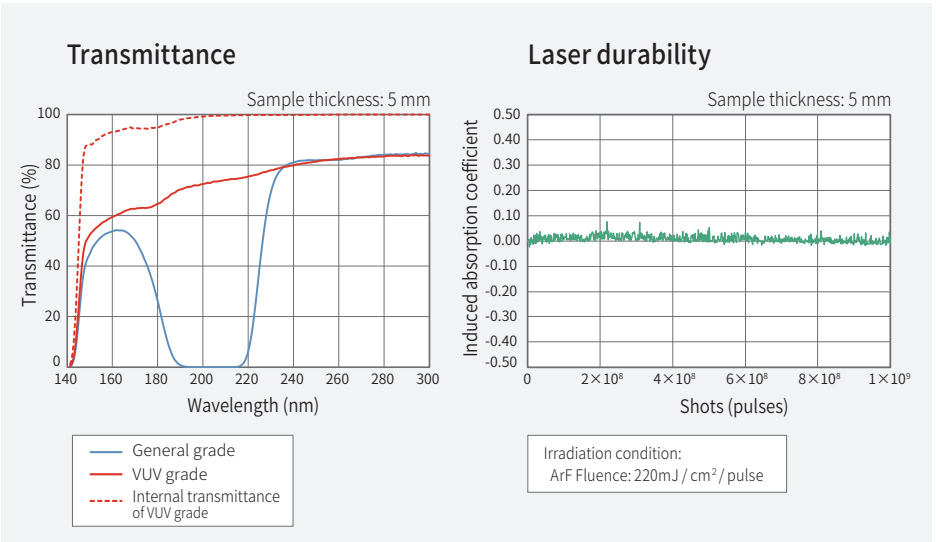
Sapphire optical components can be produced with superior surface flatness, low surface roughness and high laser durability. Due to its mechanical strength and high thermal conductivity, this material is the ideal solution for demanding industrial applications. Finish optics can be produced in a wide range of geometries from prototype to full production quantities.

Properties

Density	3.97 g/cm^3
Vickers hardness	2186 HV 0.2 (c plane) 2334 HV 0.2 (a plane)
Refractive index	n_o = 1.768 n_e = 1.760 (@589 nm)
Melting point	2053 ℃
Thermal conductivity	42 W/m · K (20 ℃)

*All properties are shown as representative value.

Transmittance and laser durability



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*Products: Hardware and its technical information (including software)

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