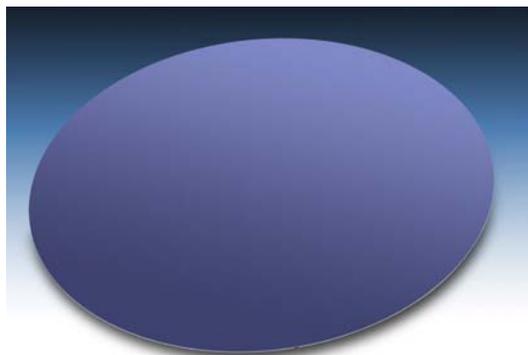


# Silicon Nitride Film Thickness Standards

**NOURISH YOUR THIN FILM MEASUREMENT.** Use the Silicon Nitride Film Thickness Standard (NFTS) to verify the accuracy of single wavelength or spectroscopic ellipsometers (SWE or SE) and reflectometers. Monitor long term tool stability in support of ISO and TS accreditation programs, and eliminate the unwanted effects of airborne molecular contamination (AMC) on your metrology.

Pictured is a 200 mm Silicon Nitride Film Thickness Standard. The certified area at its center is an ample 10 mm in diameter.



## PRODUCT DESCRIPTION

The Nitride Film Thickness Standard from VLSI Standards consists of a silicon wafer which has a uniform, PECVD deposited silicon nitride film on the polished surface. The silicon wafer meets all SEMI Standard specifications according to M1 – 9X for Polished Monocrystalline Silicon Wafers. The certified area of the standard is located within a 10 mm diameter from the center of the wafer. Available wafer sizes include, 100 mm, 125 mm, 150 mm, 200 mm and 300 mm.

The certified and traceable to SI units through NIST value is the thickness of the silicon nitride film. This value is determined with spectroscopic ellipsometry (SE) over the wavelength range of 400 nm through 700 nm using a single layer film model with the refractive index and extinction coefficient of the silicon substrate chosen to match the values stated by NIST.

The spectroscopic ellipsometry instrument used for such certifications is calibrated using NIST Standard Reference Materials 2532 and 2533.

## PRODUCT SPECIFICATIONS

- **SEMI Specification Silicon Wafers**  
100, 125, 150, 200, and 300 mm diameter wafers
- **Available Silicon Nitride Thicknesses**  
20, 90, 120 and 200 nm
- **Traceability**  
Traceable to SI units through NIST