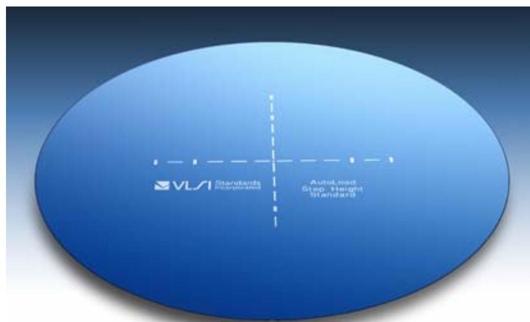
DIMENSIONAL

VLSI Standards

AutoLoad Step Height Standards

TAKING CALIBRATION A STEP FORWARD. The AutoLoad Step Height Standards (ALSHS) are designed for the calibration of surface profilers and Atomic Force Microscopes (AFM) equipped with robotic wafer handling. Intuitive pattern recognition features allow tools to quickly locate the certified feature, measure and acquire step data. When efficiency and performance count, the ALSHS keeps your tool NIST traceable, so you can focus on the measurements that matter.

Pictured is a "Thin" AutoLoad Step Height Standard, etched from a 300 mm Oxide film. The certified area is located at the wafer center.



PRODUCT DESCRIPTION

Specifications for Autoload Standards with Steps Smaller than 1 µm:
The "Thin" standard consists of a silicon wafer with a positive step etched out of an oxide film, accommodating of any tip width. The feature is located at the center of the wafer, along with several identical pattern recognition features that can be used for automatically de-skewing wafer rotation, and locating the step height calibration area.

Specifications for Autoload Standards with Steps Larger than 1 µm
For "Thick" steps, the standard consists of a silicon wafer with a negative step etched into the silicon. The feature is located in the center of the wafer, along with several identical pattern recognition features that can be used for automatically de-skewing wafer rotation, and locating the step height calibration area.

PRODUCT SPECIFICATIONS

- SEMI Specification Silicon Wafers
  200 mm and 300 mm
- Available Nominal Step Heights:
  Thin—8 nm, 18 nm, 44 nm, 88 nm, 180 nm, 450 nm, 940 nm

  Thick—1.8 µm, 4.5 µm, 8.0 µm, 14.5 µm, 19.5 µm, 24 µm, 50 µm, 100 µm
- Certified Area:
  Thin—10 µm and 50 µm width

  Thick—1 mm width
- Traceability
  Traceable through NIST Calibrated Specimens, NVLAP accredited

Revision ALSHS1042607
Specifications subject to change.

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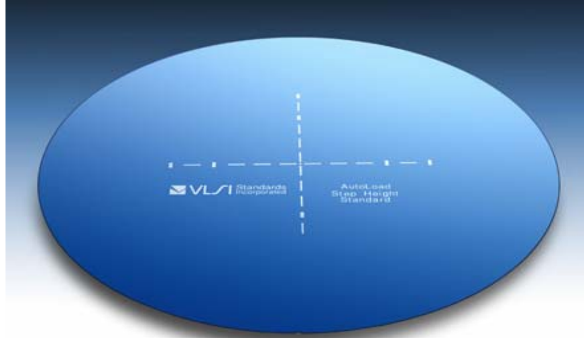

ALSHS AutoLoad Step Height Standard

Application:	Step Height Calibration
Equipment:	Optical and Mechanical Profiler and Atomic Force Micr
Features:	"Thin" Step Height < 1µm: Silicion Dioxide
	"Thick" Step Height > 1 µm: Silicon
Traceability:	NIST
Product Range:	80 Å to 100 µm

		Wafer Diameter	
	Step Height (Å)	200 mm	300 mm
Thin	80	ALSHS8-80	ALSHS12-80
	180	ALSHS8-180	ALSHS12-180
	440	ALSHS8-440	ALSHS12-440
	880	ALSHS8-880	ALSHS12-880
	1,800	ALSHS8-1800	ALSHS12-1800
	4,500	ALSHS8-4500	ALSHS12-4500
	9,400	ALSHS8-9400	ALSHS12-9400
	Step Height (µm)	200 mm	300 mm
Thick	1.8	ALSHS8-1.8	ALSHS12-1.8
	8.0	ALSHS8-8	ALSHS12-8
	24.0	ALSHS8-24	ALSHS12-24
	50.0	ALSHS8-50	ALSHS12-50
	100.0	ALSHS8-100	ALSHS12-100