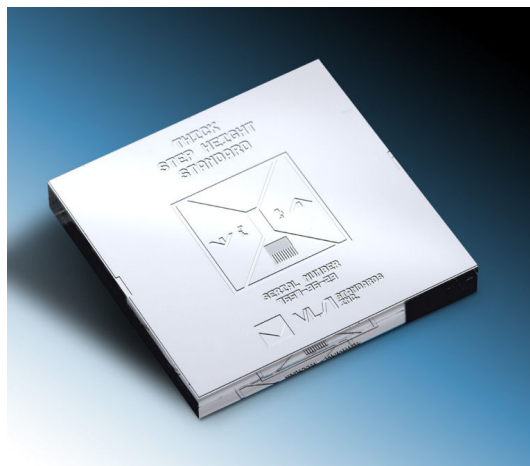


Step Height Standards (Quartz)

TAKING CALIBRATION A STEP FORWARD. Step Height Standards (SHS) are designed to calibrate mechanical or optical surface profilers. These standards consist of a 25 mm x 25 mm x 3 mm quartz block with a precisely etched uniform bar along with various test and diagnostic features. The choice of the material for manufacturing the standard—an ultra smooth quartz photomask blank—assures a very flat and smooth working surface as well as parallelism of the top and bottom surface within a few seconds of arc.

Pictured is a Thick Step Height Standard with chrome coating and showing the step height bar in the center. There are also V-Track and Pitch Array diagnostic tools featured.



PRODUCT DESCRIPTION

Specifications for Step Height Standards with Steps Smaller than 1 μm :

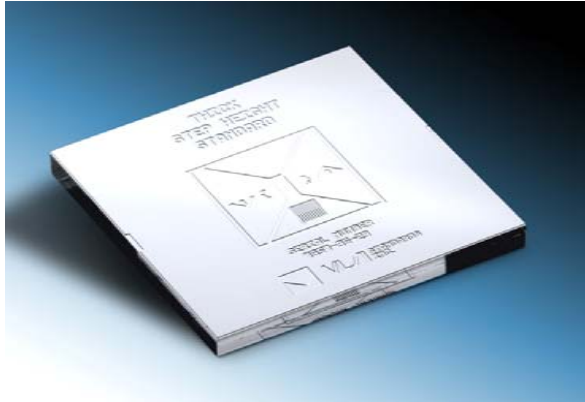
The calibration area of the SHS consists of a positive step 100 μm wide and 750 μm in length and is clearly marked with pointers. The design of this standard incorporates diagnostic features such as incremental pitch for stylus dynamics, size and resolution, a "V" shaped feature for checking stylus integrity, alignment marks, a ruler to facilitate scan length set-up, as well as cross-hair overlay and stylus alignment features. The zoom box and the incremental x, y grid permit determination of the magnification linearity of both optical and mechanical profilers. The standard is coated with a conformal layer of Chromium 90 nm thick to ensure high reflectivity.

Product Description for Step Height Standards larger than 1 μm

The actual calibration area consists of a negative feature (trench) 1 mm wide and 2.5 mm in length and is clearly marked with pointers. Two additional pitch structures form a test track for stylus dynamics and scan speed set-up, while two "V" shaped features can be used to determine the integrity and cleanliness of the stylus. The standard is coated with a conformal layer of Chromium 90 nm thick to ensure high reflectivity.

PRODUCT SPECIFICATIONS

- **Nominal Step Heights:**
8 nm, 18 nm, 44 nm, 88 nm, 180 nm, 450 nm, 940 nm, 1.8 μm , 4.5 μm , 8.0 μm , 14.5 μm , 19.5 μm , 24 μm , 50 μm
- **Substrate Size**
25 mm x 25 mm x 3.0 mm
- **Traceability**
Traceable through NIST
Calibrated Specimens



SHS

Step Height Standard Standard

Application: Step Height Calibration
 Equipment: Optical and Mechanical Profiler
 Features: Step height etched into Quartz, coated with Chromium
 Traceability: NIST
 Product Range: 80 Å to 50 µm

<u>Quartz Substrate</u>	
<u>Step Height (Å)</u>	25 mm x 25 mm x 3 mm
80	SHS-80QC
180	SHS-180QC
440	SHS-440QC
880	SHS-880QC
1,800	SHS-1800QC
4,500	SHS-4500QC
9,400	SHS-9400QC
<u>Step Height (µm)</u>	25 mm x 25 mm x 3 mm
1.8	SHS-1.8QC
4.5	SHS-4.5QC
8.0	SHS-8.0QC
14.5	SHS-14.5QC
19.5	SHS-19.5QC
24.0	SHS-24.0QC
50.0	SHS-50.0QC