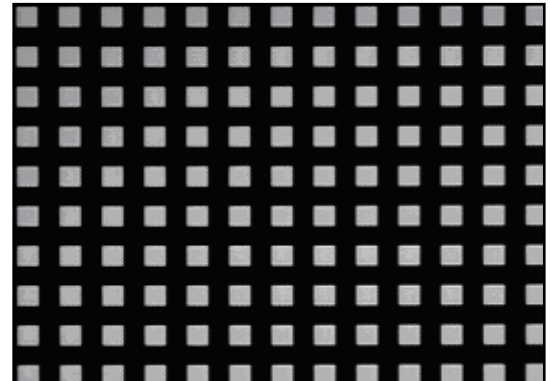
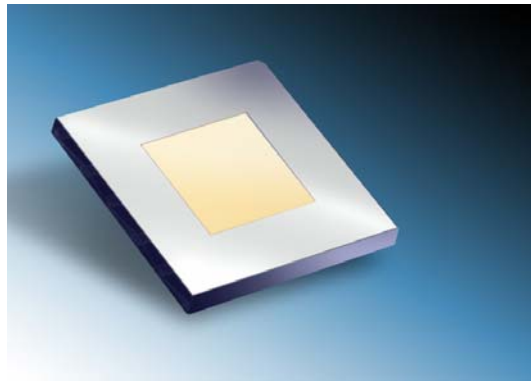


# Surface Topography References

**3D AFM MEASUREMENTS THAT STAND OUT.** The Surface Topography Standard (STR) is designed as an auxiliary aid for the monitoring of sophisticated imaging tools such as Atomic Force Microscopes (AFM). The versatile design incorporates features defined in all three spatial directions, allowing correct imaging and the monitoring of the instrument's linearity and long term stability. It also offers valuable information about the piezoelectric functions, sample alignment as well as stylus integrity and condition.

On the left is the picture of a Surface Topography Reference, model STR10.

The image on the right shows a top-down view of one of the grid clusters taken with an optical microscope.

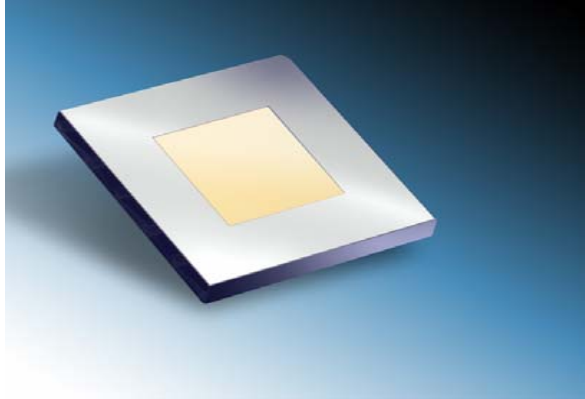


## PRODUCT DESCRIPTION

The Surface Topography Reference consists of an 8 mm x 8 mm silicon die with a precisely fabricated silicon dioxide pitch cluster. The cluster area is located in the center of the die and contains a grid pattern with a 3  $\mu\text{m}$  pitch in a 1.2 mm x 1.2 mm measurement area (STR3), or 10  $\mu\text{m}$  pitch in a 4 mm x 4 mm measurement area (STR10). The grid pattern consists of an array of alternating bars and spaces with extremely uniform pitch in both the x and y directions. The entire top surface of the die is coated with a very uniform (nominally 40 nm) layer of platinum, making it versatile for both conductive and non conductive probing techniques.

## PRODUCT SPECIFICATION

- **Dimensions**  
8 mm x 8 mm silicon die
- **Materials**  
Silicon Dioxide on Silicon coated with Platinum (except 180 nm models)
- **Nominal Pitch Values (X and Y)**  
3  $\mu\text{m}$ , 10  $\mu\text{m}$
- **Nominal Height values (Z)**  
18 nm, 44 nm, 100 nm, 180 nm
- **Traceability**  
Reference only (not traceable)



**STR**

Surface Topography Reference

Application: Routine check of AFM scanner performance  
 Equipment: Atomic Force and Optical Interferometric Microscopes  
 Features: Silicon Dioxide on Silicon substrate  
 Platinum coated (except 1800 Å model)  
 Traceability: Reference only (not traceable)  
 Product Range: Pitch, X and Y: 3 – 10 µm  
 Height, Z: 180 Å– 1800 Å

<u>Feature Dimension</u>		<u>Substrate</u>
Pitch, X and Y (µm)	Height, Z (Å)	12 mm x 8 mm
3	180	STR3-180P
3	440	STR3-440P
3	1,000	STR3-1000P
3	1,800	STR3-1800S
10	180	STR10-180P
10	440	STR10-440P
10	1,000	STR10-1000P
10	1,800	STR10-1800S