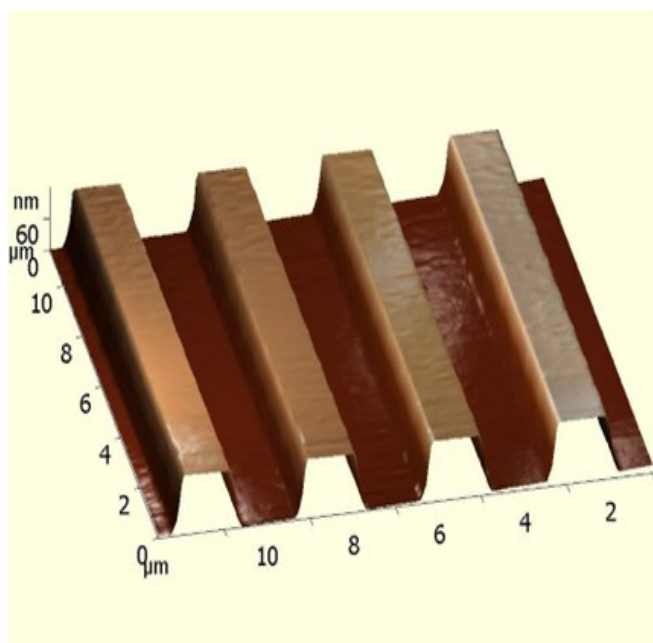
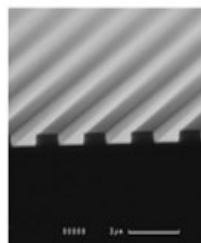


TNTGZ1,2,3,4
Gratings

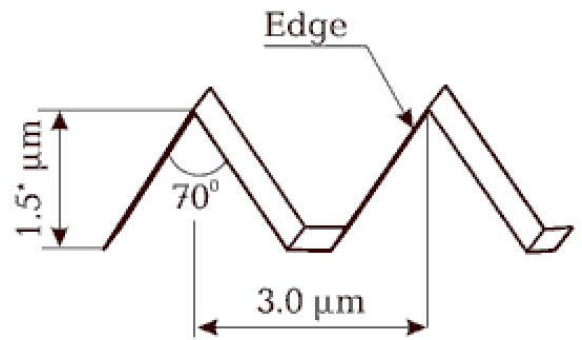
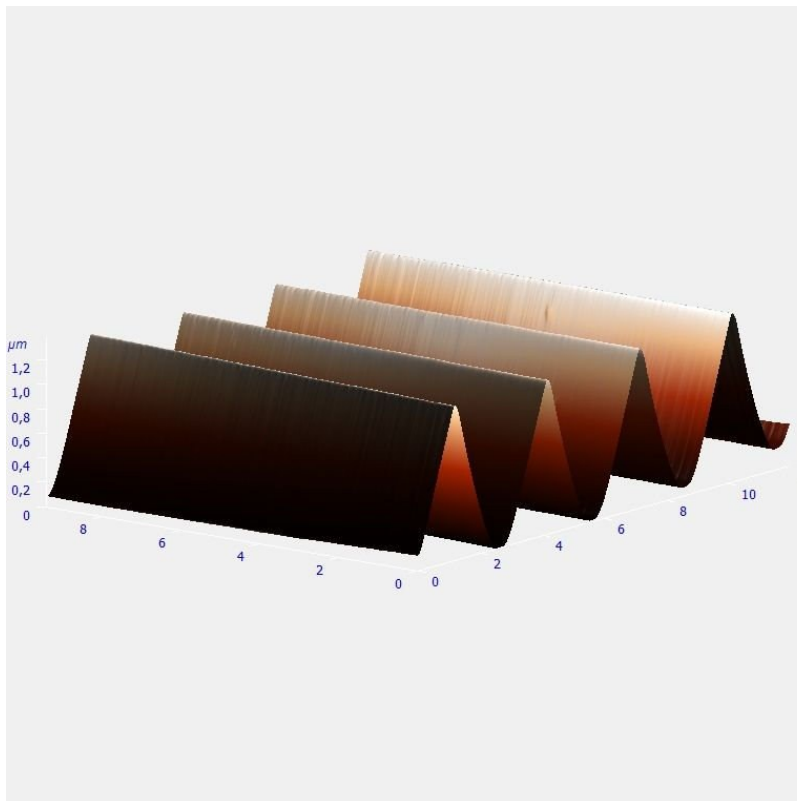


Product Description

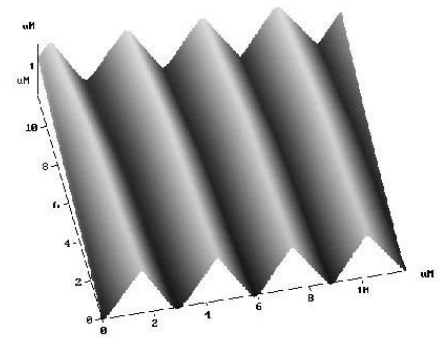
Calibration grating TNTGZ series are intended for Z-axis calibration and nonlinearity measurements.

General Features

Structure	step - SiO ₂ , bottom - Si
Pattern type	2-Dimensional
Period	3±0.05 μm
Height	20.0±1.5 nm*
Chip size	5x5x0.5 mm
Effective area	central square 3x3 mm



TNTGG1 Grating

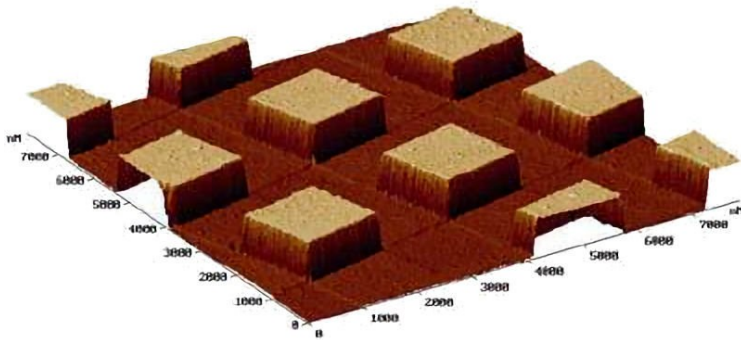


Product Description

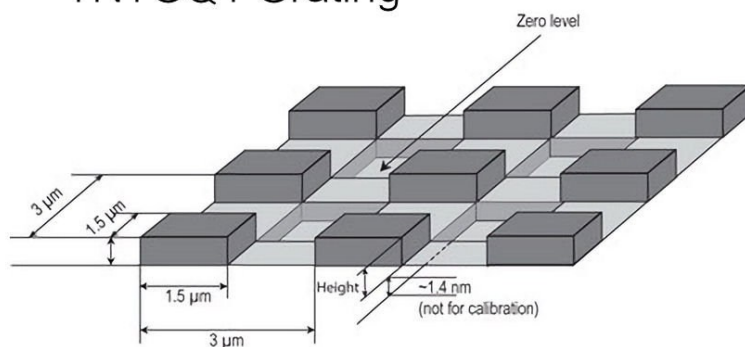
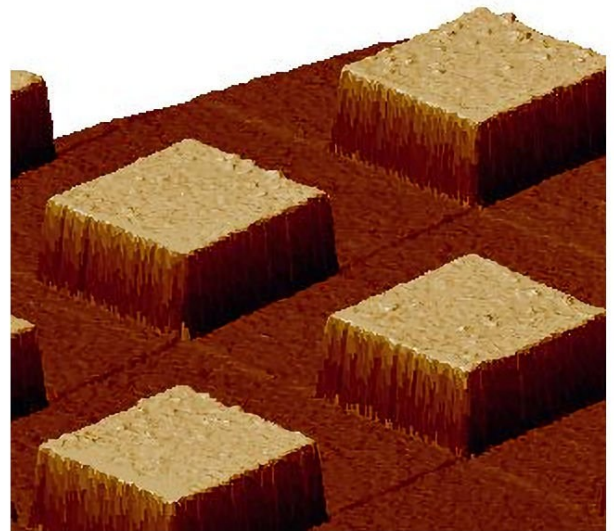
- Calibration grating TNTGG1 is intended for AFM calibration in X or Y axis
- detection of lateral and vertical scanner nonlinearity
- detection of angular distortion;
- tip characterisation.

General Features

Structure	Si
Pattern type	1- D array of triangular steps (in X or Y direction) having precise linear and angular sizes
Period	$3 \pm 0.05 \mu\text{m}$
Chip size	5x5x0.5 mm
Effective area	central square 3x3 mm
Edge angle	70 degrees
Edge radius	$\leq 10\text{nm}$



TNTGQ1 Grating

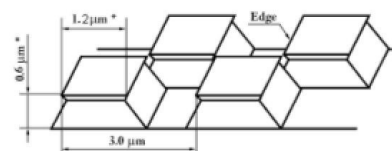
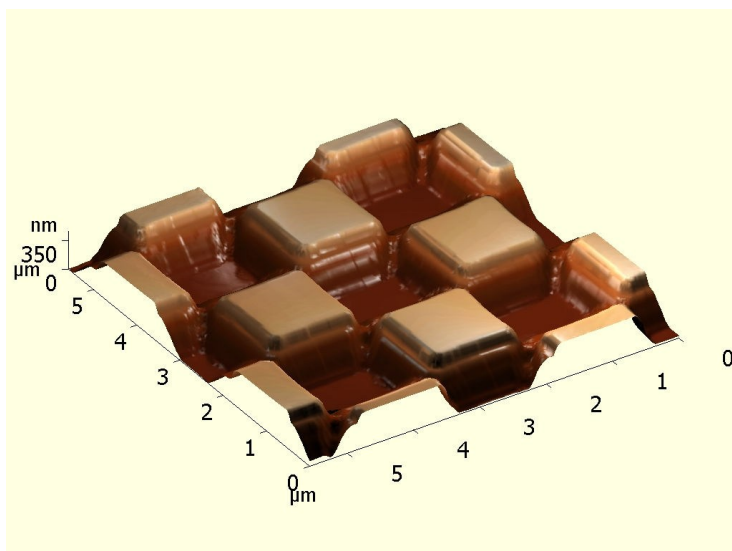


Product Description

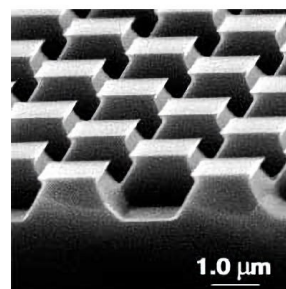
- Calibration grating TNTGQ1 is intended for simultaneous calibration in X, Y and Z directions;
- scanner lateral calibration;
- detection of lateral non-linearity, hysteresis, creep and cross-coupling effects.

General Features

Structure	step - SiO ₂ , bottom - Si
Pattern type	3-Dimensional array of rectangles
Period	3±0.05 μm
Height	20±1.5 nm*
Rectangles side size	1.5±0.35 μm
Chip size	5x5x0.5 mm
Effective area	central square 3x3 mm



TNTGX1 Grating

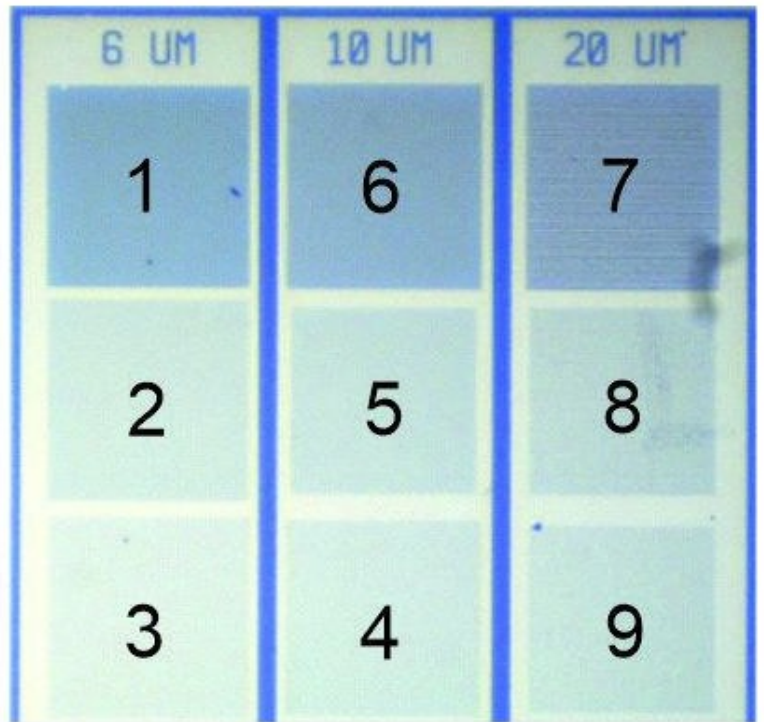
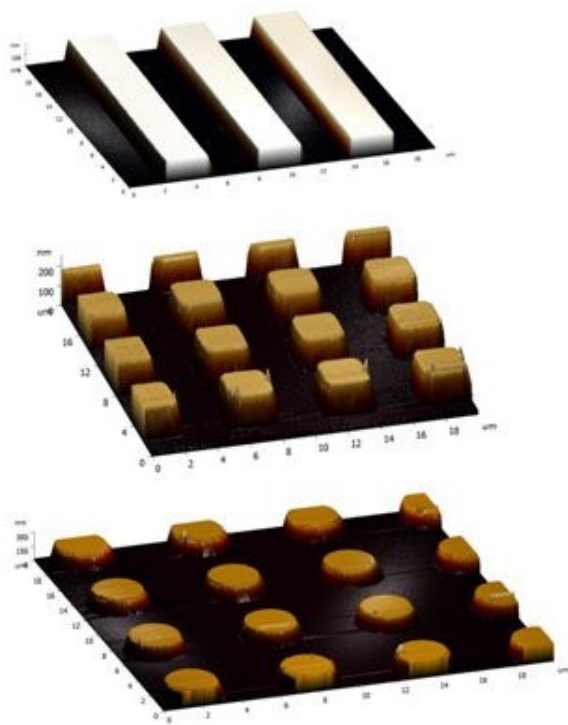


Product Description

- Calibration grating TNTGX1 is intended for lateral calibration of AFM scanners
- detection of lateral non-linearity, hysteresis, creep, and cross-coupling effects;
- determination of the tip sharpness.

General Features

Structure	Si
Pattern type	chessboard-like array of square pillars with sharp undercut edges
Period	$3 \pm 0.05 \mu\text{m}$
Height	$\sim 0.6 \mu\text{m}$
Chip size	5x5x0.5 mm
Effective area	central square 3x3 mm
Edge curvature radius	less than 10nm



TNTGL1 Grating

Product Description

Calibration grating TNTGL1 for 2-D and 3-D calibration with three different periods - 6μm, 10μm, 20μm. Step height 168nm.

Each grating has 9 different parts with 3 different structures.

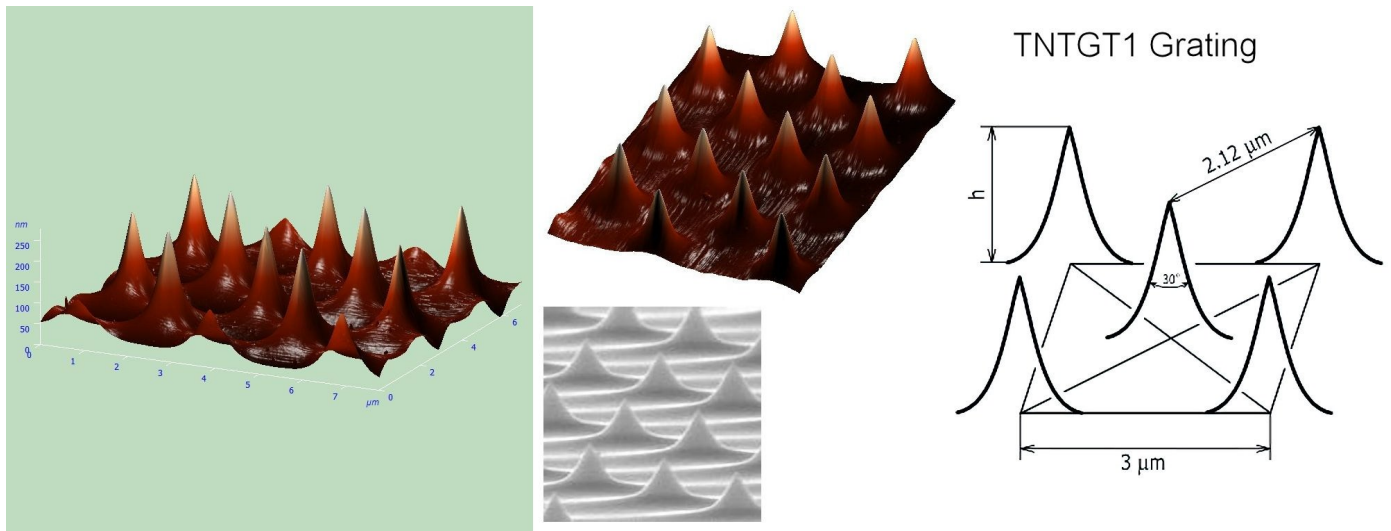
Areas 1, 6, 7 - Lines.

Areas 2, 5, 8 - Pillars.

Areas 3, 4, 9 - Circles.

General Features

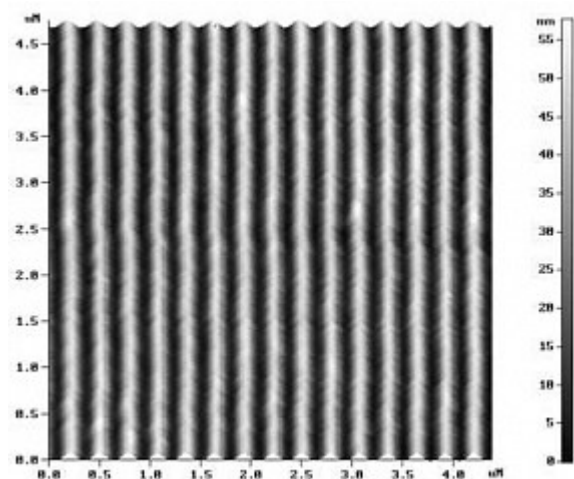
Structure	SiO ₂ on Si
Pattern type	Lines, Pillars, Circles
Period	6μm, 10μm, 20μm, accuracy 2%
Height	168 nm ± 8 nm
Chip size	5mm x 5mm
Effective area	1mm x 1mm, 9 different parts



Product Description

General Features

Structure	the grating is formed on Si wafer top surface
Pattern type	3-D array of sharp tips
Period	$3 \pm 0.05 \mu\text{m}$
Height	$0.3 - 0.5 \mu\text{m}$
Chip size	5x5x0.5 mm
Effective area	central square 2x2 mm
Tip angle	50 ± 10 degrees (on the very tip end)
Tip curvature radius	$\leq 10\text{nm}$
Diagonal period	$2.12 \mu\text{m}$



Product Description

Calibration grating TNDG01 is intended for AFM submicron calibration in X or Y direction. Period is 278nm.

General Features

Structure	the grating is formed on the chalcogenide glass coated by Al
Pattern type	parallel ridges in X or Y direction, 1-Dimensional
Period	278 ± 1 nm
Height	> 55 nm
Chip size	diameter 12.5 mm, thickness - 2.5 mm
Effective area	central diameter 9 mm