

SINCE 1991

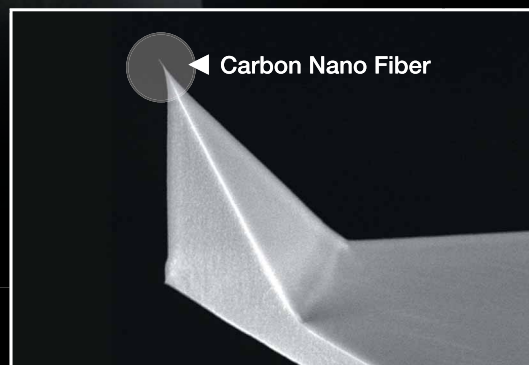
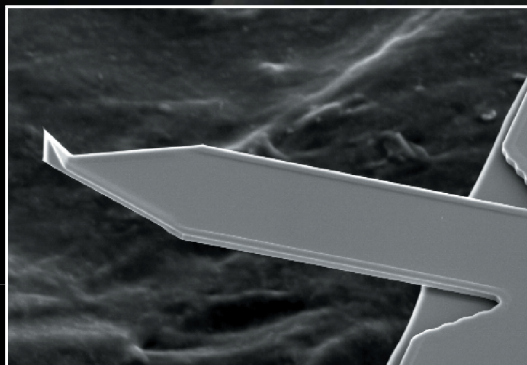
Carbon Nano Fiber

## Silicon Cantilevers with a Carbon Nano Fiber Probe

For routine measurement of thin film roughness

<http://www.olympus.co.jp/probe/>

### 'TipView'



The 'TipView' structure enables easy probe positioning at the point of interest on your sample.

# Silicon Cantilevers with a Carbon Nano Fiber Probe

## <Main Features>

### High aspect ratio probe

The thickness/width of each Carbon Nano Fiber (CNF) Probe at 200 nm apart from its apex is less than 50 nm. Its aspect ratio is higher than 4. The tip radius of its apex is less than 20 nm, typically 10 nm. Such fine probe with tip tilt compensation enables to access small and deep pits on your sample surface (see images below).

### Excellent image-retention

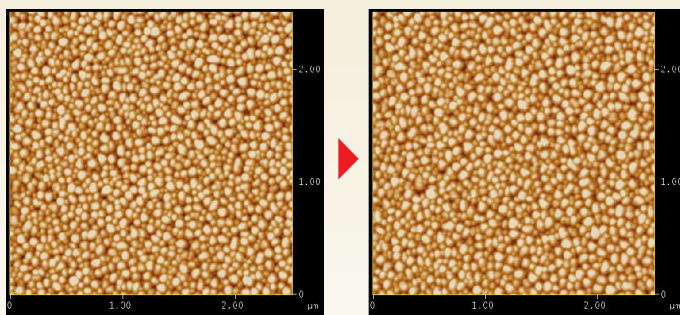
The rodlike-shaped CNF Probe contributes in data quality retention, even worn after the several dozen times of scanning over the rugged samples of a polysilicon thin film. It achieves consistency in the measurement and eliminates the bothersome frequent chip exchange.

### Easy-to learn operability

CNF are compatible with conventional Olympus standard silicon cantilevers, OMCL-AC160TS and OMCL-AC240TS. The compatibility brings you a stress-free usability from the very first operation.

## <Image retention of Polysilicon Thin Film>

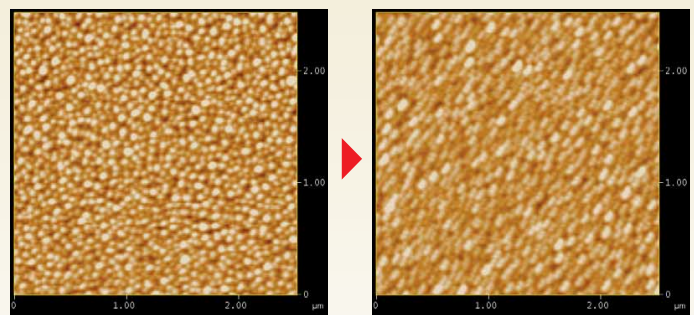
Micro Cantilever with Carbon Nano Fiber Probe



First scanning

60th scanning

Previous Silicon Probe Cantilever



First scanning

60th scanning

### ■ Specifications

Model		OMCL-AC160FS-B2	OMCL-AC240FS-B2
Cantilever	Dimensions	160 (L) x 50 (W) x 4.6 (T) μm	240 (L) x 30 (W) x 2.7 (T) μm
	Resonant frequency (in air)	300 kHz	70 kHz
	Spring constant	42 N/m (typ.)	2 N/m (typ.)
	Material	Silicon (4-6 Ω · cm)	
	Metal reflex coating on back side	Aluminum	
Probe	Shape	Tetrahedral with columnar CNF tip, 'TipView' structure	
	Length (probe-support)	14 μm	15 μm
	Material (probe-support)	Silicon	
	Length (CNF Probe)	0.2 μm or longer	
	Tilt angle (CNF Probe)	Tip compensation 12 degrees (within 6 to 18 degrees)	
	Width (200 nm from tip)	50 nm	
	Tip radius	10 nm (typ.)	
Chip	Material	Amorphous carbon	
	Shape	Trapezoidal cross section, Round chip-shoulder	
	Dimensions	3.4 (L) x 1.6 (W) x 0.3 (T) mm	
Packaging	Total number of chips	18 chips	
	Chip configuration in the box	Pre-separated chip	
	Storage box	Plastic box with a tacky coating	
	Data attached	SEM image (3 chips)	

Note 1: The conductive property is not covered under warranty, while CNF probe is made from amorphous carbon.

Note 2: OMCL-AC160TS-Q2 and OMCL-AC240TS-Q2 are also provided with 3 pre-separated chips.

Specifications are subject to change without any obligation on the part of the manufacturer.



For purchasing information, please contact below by e-mail or fax.  
**OLYMPUS CORPORATION**  
 2-3 Kuboyama-cho, Hachioji-shi, Tokyo 192-8512 Japan  
 tel: +81-42-691-7403 fax: +81-42-691-7509  
 email: [probe@olympus.co.jp](mailto:probe@olympus.co.jp)

For more technical information, please access our web site below.  
<http://www.olympus.co.jp/probe/>