

## **Standard Reference Cantilevers for Atomic Force Microscopy Spring Constant Calibration**

Art. ID	NIST-3461
Unit	each
Deliverydetails	No Dangerous Good

### Description

The certified values delivered by this Standard Reference Material (SRM) are intended for validating methods for determining the stiffness of atomic force microscope (AFM) cantilevers as well as directly calibrating AFM test cantilevers using the reference cantilever method. A unit of NIST-3461 consists of one silicon microfabricated device approximately 1.6 mm by 3.0 mm containing an array of seven (7) uniform, rectangular cantilevers of varying length and stiffness at the end. Each cantilever is nominally 50  $\mu\text{m}$  wide and 1.45  $\mu\text{m}$  thick with lengths of 300  $\mu\text{m}$  to 600  $\mu\text{m}$  in steps of 50  $\mu\text{m}$  (from left to right in the image in Figure 1, see certificate, the lengths are 300  $\mu\text{m}$ , 400  $\mu\text{m}$ , 500  $\mu\text{m}$ , 600  $\mu\text{m}$ , 550  $\mu\text{m}$ , 450  $\mu\text{m}$ , 350  $\mu\text{m}$ ). Each unit has a unique serial number etched onto the lower portion of the device surface (see certificate). The device comes adhered to a polydimethylsiloxane (PDMS) gel film in a protective antistatic enclosure with a removable top. It can be used as-is by temporarily removing the top or could be carefully transferred to an appropriate alternative holder.