

Type: **M*-CNT-500**
20 nm diameter, 500 nm length, +/- 0.5° tilt precision

Tilt compensated 20 nm CarbonNanoTip for HighAspect Ratio Applications.

We pushed our proven EBD technology to the dimensions of a CNT, but maintaining EBD's key strength: precise tip orientation, precise control in tip dimensions (length and diameter), large volume production. The nanotools® M*-CNT-500 is not using a multiwall carbon nanotube attached to a silicon cantilever. What is critical in nanotube technology is solved for the M*-CNT:

- controlled tip length
- controlled tip orientation (angle accuracy better 0.5 deg)
- automated fabrication process

EBD Material

The high aspect ratio part of the probe is made from HIGH-DENSITY, DIAMOND LIKE CARBON (HDC/DLC). The tips show superior properties over integrated tips, such as high aspect ratio, hydrophobic surface properties, high stiffness / elastic modulus (8x of that of silicon), low thermal mass as well as abrasion resistance. Our HDC dissipates static charge.

This leads to probes offering the extreme durability of diamond together with high resolution imaging capability. Applying our patented **EBD** (electron beam deposition) technique we ensure a stiff and rigid high aspect ratio probe of superior symmetry and nanometer precision.

Technical Data

Tip dimensions

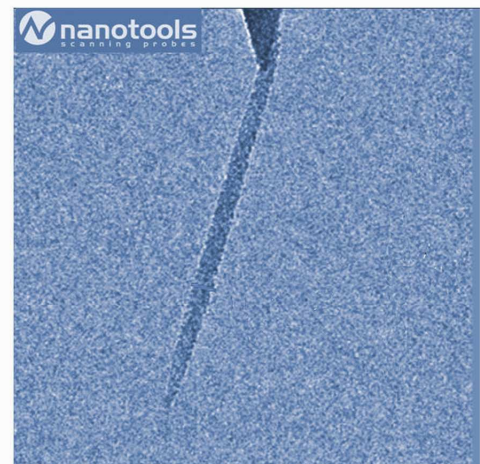
Shape:	cylindrical
Length:	500 nm +/- 100 nm
Diameter:	20 nm +/- 5 nm
Tilt compensation:	3 deg +/- 0.5 deg

Cantilever

ArrowNCR
t: 4.6µm l: 160µm w: 45µm
f: 285kHz k: 42N/m

Coating

Tipside: none
Backside: Al



First in Quality

A 100% quality check by SEM for every tip, high scan speeds, flexibility in combination with stiffness, precise 3 deg tilt compensation and optimized cost per scan are key parameters.

Datasheet for every tip with precise tip dimensions provided.

nanotools is the first and only probe manufacturer being quality certified to ISO 9001.

For more information please contact: info@nano-tools.com
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