

AFM Probe Specifications:

Coating

Gold Overall

Additional Info

AFM probes of the 4XC series feature four different AFM cantilevers for various measurement modes, two on each side of the holder chip:

500DC - Contact mode AFM cantilever, 240AC

Soft tapping mode AFM cantilever for imaging soft samples

200AC - Standard tapping mode AFM cantilever

65AC - High resonance frequency AFM cantilever for High speed scanning

The tetrahedral AFM tips are located precisely at the free ends of the AFM cantilevers. This allows the AFM tips to be positioned accurately over the area of interest on the sample surface.

The gold coated AFM tips are suitable for biological applications, AFM tip functionalization and custom applications. The overall gold coating ensures inertness and electrical conductivity, as well as high and stable laser reflectivity in air, vacuum, liquid and aggressive chemical environments.

AFM Tip:

| Shape | Height | Setback | Radius | Half Cone Angle |
|-----------------------|--|-----------------|---------|------------------------------|
| Optimized Positioning | 14 μm (12 - 16 μm)* | 0 μm | < 30 nm | 0° front, 35° back, <9° side |

* typical values

AFM Cantilever:

| Cantilever | Shape | Force Const. | Res. Freq. | Length | Width | Thickness |
|---|-------|------------------------------|-------------------------------|--|---|--|
| Contact mode AFM cantilever | Beam | 0.3 N/m (0.1 - 0.6 N/m)* | 17 kHz (11 - 22 kHz)* | 500 μm (1 - 515 μm)* | 30 μm (28 - 32 μm)* | 3 μm (2.5 - 3.5 μm)* |
| Soft tapping mode AFM cantilever | Beam | 2.5 N/m (0.75 - 5.3 N/m)* | 75 kHz (50 - 100 kHz)* | 240 μm (1 - 255 μm)* | 30 μm (28 - 32 μm)* | 3 μm (2.5 - 3.5 μm)* |
| Standard tapping mode AFM cantilever | Beam | 9 N/m (2.8 - 21 N/m)* | 150 kHz (100 - 200 kHz)* | 175 μm (1 - 190 μm)* | 40 μm (38 - 42 μm)* | 3 μm (2.5 - 3.5 μm)* |
| High frequency tapping mode AFM cantilever | Beam | 100 N/m (35 - 215 N/m)* | 1200 kHz (650 - 1850 kHz)* | 65 μm (1 - 80 μm)* | 31 μm (29 - 33 μm)* | 3 μm (2.5 - 3.5 μm)* |

* typical values