Diamond Coated Tip - Contact Mode - Reflex Coating

NANOSENSORS™ DT-CONTR AFM probes are designed for contact mode (repulsive mode) AFM imaging. The CONT type is optimized for high sensitivity due to a low force constant.

For applications that require hard contact between AFM tip and sample this SPM probe offers a real diamond tip-side coating. This coating features extremely high wear resistance due to the unsurpassed hardness of diamond. The typical macroscopic AFM tip radius of curvature is between 100 and 200 nm. Nanoroughness in the 10 nm regime improves the resolution on flat surfaces.

The AFM probe offers unique features:

- real diamond coating
- AFM tip height 10 - 15 µm
- high mechanical Q-factor for high sensitivity

The DT Diamond Coating is an approximately 100 nm thick coating of polycrystalline diamond on the tip-side of the AFM cantilever leading to an unsurpassed hardness of the AFM tip. The raman spectrum of the coating verifies the real diamond coating.

The reflective coating is an approximately 30 nm thick aluminum coating on the detector side of the AFM cantilever which enhances the reflectivity of the laser beam by a factor of about 2.5. Furthermore it prevents light from interfering within the AFM cantilever. As the coating is nearly stress-free the bending of the AFM cantilever due to stress is less than 2 degrees.

This AFM probe features alignment grooves on the back side of the holder chip. These grooves fit to the NANOSENSORS Alignment Chip.

Cantilever data:

Property	Nominal Value	Specified Range
Resonance Frequency [kHz]	20	11 - 29
Force Constant [N/m]	0.5	0.1 - 1.7
Length [µm]	450	440 - 460
Mean Width [µm]	50	42.5 - 57.5
Thickness [µm]	2	1 - 3

Order codes and shipping units:

Order Code	AFM probes per pack	Data sheet
DT-CONTR-10	10	of all probes
DT-CONTR-20	20	of all probes
DT-CONTR-50	50	.....