



Seeing beyond

ZEISS Metrology Expert Tip



**Recognize the Wear of the Styli to
Avoid Measurement Inaccuracies.**

How to Avoid Measurement Inaccuracies Due to Wear?

A stylus, like any other tool, is subject to natural wear and tear. Damage, e.g., due to abrasion, scratches, chipping or soiling (e.g., due to material application, oil, or paint) have a significant impact on measuring accuracy. As this is usually not visible to the naked eye, styli should be checked for damage or soiling under a microscope. How often you should carry out this check depends on the application of the styli and the environmental parameters. Create a type of tool card, like those used for production machines, to gain an overview and determine an inspection cycle.

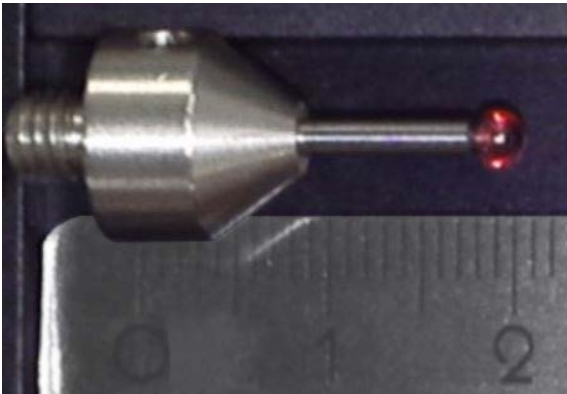


You can easily check your styli yourself by looking through a microscope or a strong light source (>1000 lumens) and replace the styli if necessary. To do this, we recommend checking with 10 to 40x magnification for stylus spheres with 2-8 mm diameter. For measuring probe elements smaller than 1 mm, a magnification of 40 to 80 times is necessary to detect material wear well.

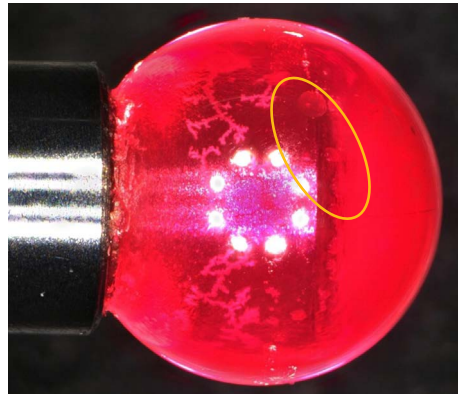
Recognising and Preventing Wear on Styli

Even high-quality styli are consumables that must be checked regularly. This is the only way to avoid measurement inaccuracies, because abrasion of the stylus element and material chipping are inevitable in the long term.

Illustration of a styli with wear



View of the worn stylus in original size.



Enlarged view of the same probe under a microscope.

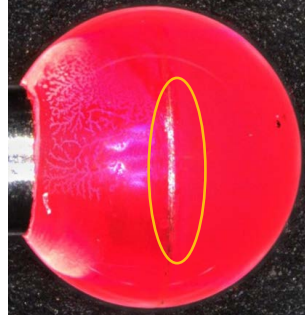
Recognising Material Build-Up on the Stylus

Depending on the material of the measuring piece and the stylus element, material deposits on the stylus tip are unavoidable. This is another reason why probes must be checked regularly to avoid measurement inaccuracies.

Illustration of a styli with material build-up



View of the stylus with material build-up in original size.



Enlarged view of the same probe under a microscope.

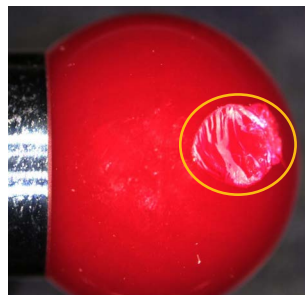
Detect Flaking of Material on the Stylus Tip

The material can flake off, especially after collisions or if the stylus falls to the ground. In this case, the probe should be checked under a microscope immediately afterwards.

Illustration of a stylus with defective material



View of the defective stylus in original size.



Enlarged view of the same probe under a microscope.

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are available in the
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