

# Microprobe tested in setup for roll measurement

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Large-scale rotors in the paper and steel industry are called rolls. Rolls are reground at regular intervals and dimensional measurements are made throughout the machining process. Deviations from required diameter, form and texture affects the quality of the end product.

One task in the MicroProbes project was to integrate a microprobe in an existing roll measurement machine (Fig. 1 and Fig. 2).



Figure 1. Paper roll with microprobe in background.



Figure 2. RollResearch scientist installing a microprobe in a roll measuring machine.

The performance of the developed microprobe together with the data acquisition was evaluated and in one measurement a roughness standard was used. The roughness standard had been calibrated in a laboratory of VTT MIKES using a stylus instrument (Talysurf 2).

The comparison of primary profiles measured with stylus instrument and microprobe show good agreement considering that there are uncertainties of the exact location of the profile combined with the inhomogeneity of the roughness standard (Figure 3).

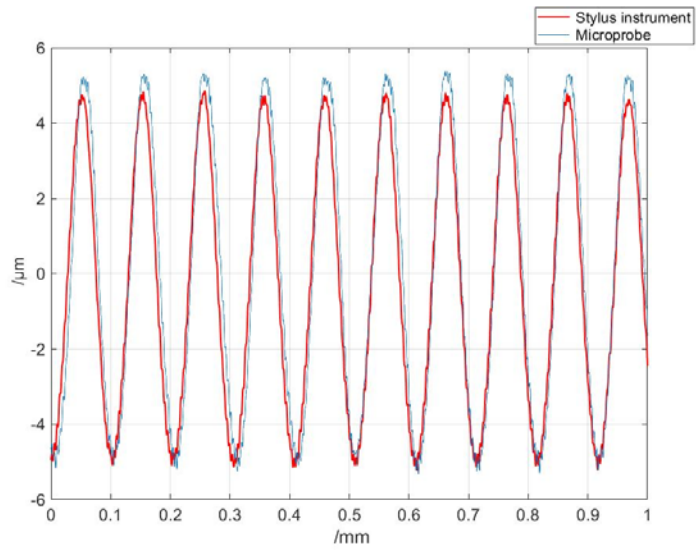


Figure 3. Comparison of primary profiles of a roughness standard (Mitutoyo 178-601) measured in laboratory by a stylus instrument (Talysurf 2) and measured by an industrial microprobe setup.