

Special features

The roughness measurement standards are to use for the calibration and checking of the complete contact stylus instrument. This is a very important and efficient functional test. The measurement standards are provided with a known roughness and allow a checking of the stylus (stylus tip radius) as well as of the contacting system, measuring amplifier, filter, profile evaluation through to the read-out display and the profile recorder.

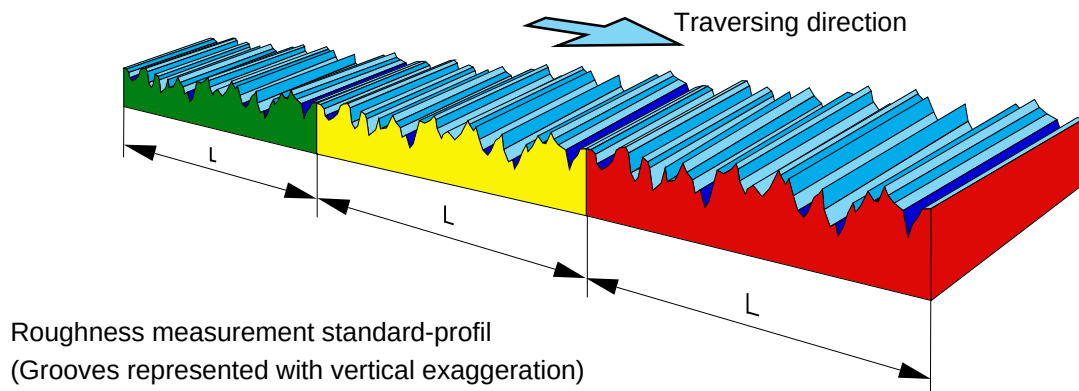
The decisive difference as compared to conventional geometric measurement standards (regular valley profiles either sinusoidal, triangular or trapezoidal) is to be seen in the irregularly ground surface profile. Hence the measurement standards dispose of a wide range of surface deviations occurring in practice, like waviness and roughness of different amplitudes, wave lengths and phase positions. In spite of the irregular profile, the deviations resulting from several measurements are insignificant on account of the special profile characteristics (standard deviation depending on quality grade $\leq 3, 4$, or 5%).

It is possible with these measurement standards to check the correct selection of the cut off λ_c and the kind of the wave filters. That can be modern phase correct profile filters (ISO 11562 (DIN 4777)) but also old RC-filters.

The wave filter represents the essential prerequisite for measurement. A wrong choice of filter or a filter which does not operate correctly, will entail a false measured value.

Profile characteristics

The measuring faces of the roughness measurement standard consist of irregularly ground surface profile repeated after a period L which normally is 4 mm. Crosswise to the traversing direction the profile grooves are constant.



As independent of the position of the sampling sections within the marked measuring areas the portions of profile measured are always of the same size, the standard deviation will be very low for several measurements.

For further information regarding the roughness measurement standard please refer to "technical data"