Surface Roughness Measurement

This information should be read in conjunction with British Standards BS5385-3: 2024, HSE Assessing the slip resistance of flooring, CIRIA C652.

Micro-roughness meter measures the micro roughness parameter Rz.

Surface microroughness is an indication of slipperiness in water-contaminated conditions may be simply obtained by measuring the surface roughness of flooring materials. Roughness measurements may also be used to monitor changes in floor surface characteristics, such as wear. Research has shown that measuring the Rz parameter allows slip-periness to be predicted for a range of common materials. Rz is a measure of total surface roughness, calculated as the mean of several peak-to-valley measurements.

When surface microroughness data is used to supplement pendulum test data, the roughness results should be interpreted using the information reproduced in Table 2 (from UKSRG, 2011).

Interpretation of surface roughness	
Below 10 µm	High slip potential
10-20 µm	Moderate slip potential
20+ µm	Low slip potential

Table 1 Slip potential classification, based on Rz microroughness values (applicable for water/wet pedestrian areas)

Minimum roughness (Rz)	Contaminant
20 µm	Clean water, coffee, soft drinks
45 µm	Soap solution, milk
60 µm	Cooking stock
70 µm	Motor oil, olive oil
Above 70 µm	Gear oil, margarine

Table 2 Typical Rz surface microroughness levels for a low slip potential, as a function of contaminant type

For further information or advice please contact 0345 130 2241 or email technical@grestec.co.uk.