Surface Roughness & Slip Risk

Technical Specifier Guide to Rz Measurement & Compliance



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Surface Roughness Measurement (Rz)

This information should be read in conjunction with BS 5385-3, HSE Guidelines: Assessing the Slip Resistance of Flooring, and CIRIA C652 (Safer Surfaces to Walk On).

A micro-roughness meter measures the micro-roughness parameter Rz (µm).Surface micro-roughness provides an indication of slipperiness under water-contaminated conditions and is obtained by measuring the surface profile of flooring materials. Roughness measurements can also monitor changes in surface characteristics over time, such as wear.Research demonstrates that measuring the Rz parameter allows slip potential to be predicted for a range of common materials. Rz measures total surface roughness, calculated as the mean of multiple peak-to-valley measurements.

When surface micro-roughness data is used to supplement Pendulum Test Values (PTV), results should be interpreted using the tables below (reproduced from UKSRG guidelines).

Classification & Requirements

Table 1: Slip Potential Classification
Based on Rz microroughness values (applicable to water/wet pedestrian areas).

Rz Surface Roughness µm	Slip Risk Potential
Below 10 µm	High Slip Potential
10-20 µm	Moderate Slip Potential
20+ µm	Low Slip Potential

Table 2: Required Rz for Low Slip Potential by Contaminant
Minimum Rz surface microroughness levels required to achieve low slip potential based on liquid contaminant viscosity.

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



Stoneveil Anti-slip Rz 56.38µm