



## ISO 13473-5

### Characterization of pavement texture by use of surface profiles —

#### Part 5: Determination of megatexture

*Caractérisation de la texture d'un revêtement de chaussée à partir de relevés de profils de la surface —*

*Partie 5: Détermination de la mégatexture*

Second edition  
2025-03

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2025-06

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This document was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

This second edition cancels and replaces the first edition (ISO 13473-5:2009), which has been technically revised.

The main changes are as follows:

- default measure  $RMS_{Me}$  in mm instead of  $L_{Me}$  in dB;
- use the same pre-processing procedures as in ISO 13473-1 (drop-out and spikes);
- use digital filters to calculate megatexture, earlier done by spectral analysis;
- improvements of the uncertainty description of megatexture calculations;
- informative annex with reference program and reference calculations, available at the [www.erpug.org](http://www.erpug.org) homepage.

A list of all parts in the ISO 13473 series can be found on the ISO website.

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This corrected version of ISO 13473-5:2025 incorporates the following correction:

- correction of the first formula in Note 3 to entry of term 3.3.5.

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Pavement surface texture largely influences factors such as noise emission caused by tyre/road interaction (see Reference [1]), tyre/pavement friction (see Reference [2]), and comfort, as well as rolling resistance (see Reference [3]) and wear of tyres. Reliable methods of measuring and characterizing texture are therefore essential. Texture is subdivided into micro-, macro- and megatexture according to ISO 13473-2. A method for measurement and calculation of a macrotexture indicator based on a profile measurement is specified in ISO 13473-1[4]. A procedure for measuring macrotexture by the volumetric patch method is described in EN 13036-1[5]. Currently, no reliable and practical method of measuring pavement microtexture in situ is available. This document aims to provide means of measuring and calculating a megatexture indicator useful for pavement surface characterization.

Megatexture is an important texture range lying between macrotexture and unevenness. This type of texture has wavelengths of the same order of magnitude as a tyre/road interface and is often a result of potholes or 'washboarding'. Some common types of singularities, such as a single depressed (e.g. a pothole) or protruding (e.g. caused by tree roots) spot on the pavement, will also show up in a texture profile spectrum as megatexture. Although some pavements, such as paving stones, possess an intrinsic megatexture, it is usually an unwanted characteristic resulting from defects in the surface. Megatexture is an undesirable feature, the higher the value, the worse the road is perceived: megatexture is known to increase tyre/road noise by inducing tyre vibrations. At the same time, these tyre vibrations cause energy dissipation in the tyre. The rolling resistance increases and this leads to highly unwanted fuel consumption and CO<sub>2</sub> emission (see also 3.2).