

# Morphological decomposition of the surface topography of an internal combustion engine cylinder to characterize wear

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## **Abstract**

A surface topography decomposition methodology is presented. It decomposes a surface into three elements: reference surface (waviness and form), superficial roughness (related to friction and wear) and valleys (related to lubricant circulation and reservoirs). It is applied to cylinder liners from an internal combustion V6 engine from in order to remove form and waviness components. The study of the resulting superficial roughness component has allowed a precise wear characterization.

## **Keywords**

Surface decomposition, cylinder bores, roughness characterization

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