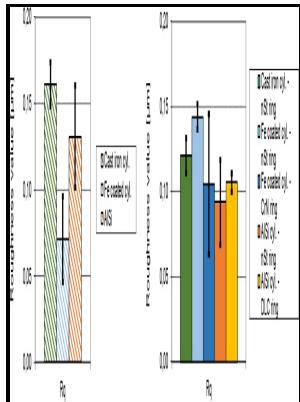


# Topographic characterisation of cylinder liner wear

University of Birmingham - Characterization of a Cylinder Liner Surface by Roughness Parameters Analysis



Description: -

- topographic characterisation of cylinder liner wear
- topographic characterisation of cylinder liner wear

Notes: Thesis (Ph.D) - University of Birmingham, School of Manufacturing and Mechanical Engineering, Faculty of Engineering, 2000.

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## Identifying cylinder liner wear using precise coordinate measurements

Official URL: Abstract This paper explores the use of fractal approaches for the possible characterization of automotive cylinder bore surface topography by employing methods such as differential box counting method, power spectral method and structure function method.

## Resource

The experiments were carried out with samples produced from original engine parts to have the original surface topography available. Both parameters are given for the initial surfaces before the test and the worn surfaces after the experiment.

## Effects of cylinder liner surface topography on friction and wear of liner

Ny serie, ISSN 0346-718X ; 3186 KeywordsHoning, Characterisation, Blechmantel, Groove Parameters, Quality Control, Oil Consumption, Wear, Friction, Mixed Lubrication Simulation National Category Manufacturing, Surface and Joining Technology Identifiers urn:nbn:se:hhdiva-14649 URN 978-91-7385-505-1 ISBN Public defence 2011-03-18, EA, Hörsalsv.

## Experiments on effects of dust particles on the wear of cylinder liner in internal combustion engine

The surface has is covered with protrusions or spines of varying shapes and sizes, which are created by spraying the mold with a coating and then casting the cylinder liner in the mold.

## Characterization of the friction and wear effects of graphene nanoparticles in oil on the ring/cylinder liner of internal combustion engine

Based on the experimental results, a multi-body and computational fluid dynamics simulation was developed for the floating liner engine. Cylinder-ring wear has been known to play a major role in internal combustion engine durability, performance, emissions and fuel economy.

## **Experimental Investigation of the Effect of Biodiesel Utilization on Lubricating Oil Degradation and Wear of a Transportation CIDI Engine**

Then, the casting material is poured into the mold and allowed to solidify.

## **Experimental Investigation of the Effect of Biodiesel Utilization on Lubricating Oil Degradation and Wear of a Transportation CIDI Engine**

Due to the wear process, the piston ring digs into the cylinder liner specimen and the contact geometries change. Lateral distances between these break-outs in the tribosurface range from 30 to 100  $\mu\text{m}$ . The greater wear depths on the AlSi cylinder, however, lead to a smaller Hertzian pressure at test end compared to the situation at test start.

### **Mutual Effect of Groove Size and Anisotropy of Cylinder Liner Honed Textures on Engine Performances**

Taking into consideration that wear is determined in a fundamentally different manner by these methods, which are affected differently by parameters such as roughness, the wear results obtained with both methods are comparable and therefore reliable. In this manuscript, a similar approach is chosen, where the lubrication regime is calculated via the  $\lambda$  value the minimum oil film thickness divided by reduced roughness. Thesis, Vienna University of Technology.

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