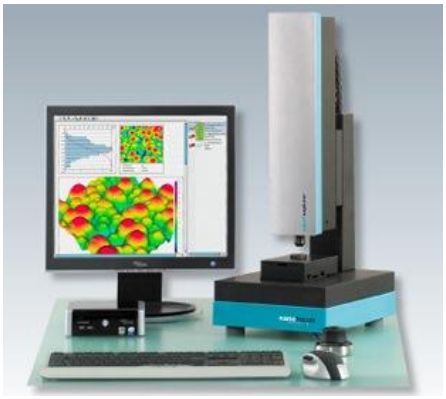
Falex Tribology Confocal Microscopy

Quality
Knowledge
Partner Solutions



What can we achieve with Confocal Microscopy ?

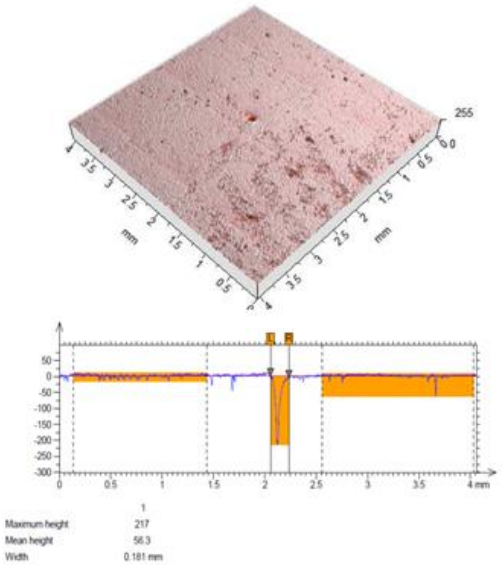
Confocal Microscopy is an imaging technique that has recently become more user friendly and affordable. It offers increased optical resolution and contrast to microscope images and more so, allows the measurement of real 3-D surface topology.

The technique has gained increasing popularity in the scientific and industrial communities and is nowadays applied from life sciences, up to semiconductor inspection and materials science.

Falex Tribology nv extensively uses the confocal microscopy to investigate the 3D surface topography and surface characteristics of metallic, ceramic, polymeric and/or composite materials before and after wear testing. One of our major challenges in industrial tribology is the characterization of modest to low wear.

Analysis of effects on windshield wipers

Easy detection and quantification of defects in the µm range, on the surface of transparent materials such as glass. Analysis tools to accurately measure characteristics such as volume and depth (see image on the right).



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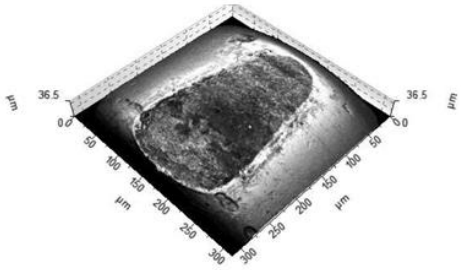
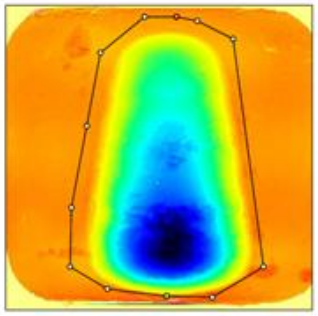
Analysis of wear on an irregular component

The wear on the surface of very small components in a small gear can be visualized with high accuracy (See image below). With the aid of the analysis software the volume loss can be isolated from the original form

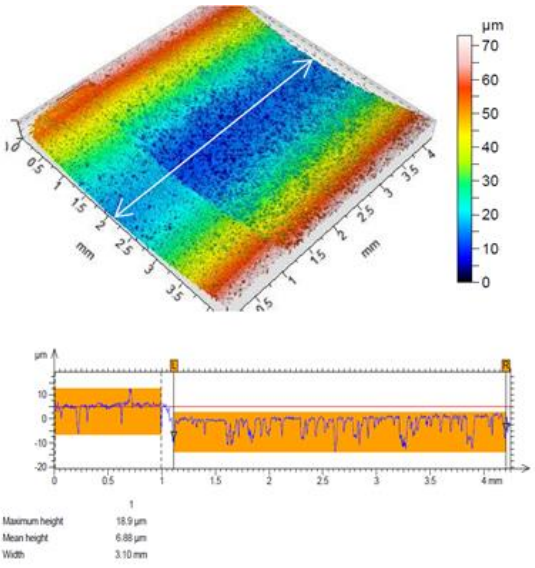




	Hole	Peak
Surface (µm²)	43317	2215
Volume (µm³)	218036	287
Max. depth/height (µm)	12.3	2.09
Mean depth/height (µm)	5.03	0.130

Analysis of wear on coated pistons

Wear on cylindrical segments such as parts of curved piston liners from the automotive industry. Wear depth along the sliding direction can be easily extracted with the aid of the analysis software.



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