

Laser Crack Measurement System

The laser crack measurement system (LCMS)

uses laser line projectors, high speed cameras and advanced optics to acquire high resolution 3D profiles of the road. This unique 3D vision technology allows for pavement condition assessment of both asphalt and concrete surfaces up to 4m in width during the day or at night at speeds that can reach 100km/h. The LCMS acquires both 3D and intensity (image) data of the road surface with 1mm resolution allowing for the characterization and the visualisation of high quality images and shape (texture) of the road surface.

LCMS data is acquired and compressed in real time in the survey vehicle so as to minimize storage needs (<1Gb per km). The collected data can then be analyzed using Pavemetric's data processing toolbox (DLL library of C/C++ functions). This library has functions to detect and analyze cracks, lane markings, ruts, potholes and macro-texture (MPD). Patches, ravelling and sealed cracks are also detectable in the LCMS data. Rutting is measured and characterized using more than 4000 points and rut depth and type (short, multiple, long radius) is evaluated. Concrete road surfaces can be scanned to evaluate the joints and the alignment of the concrete slabs and the presence of tinning.



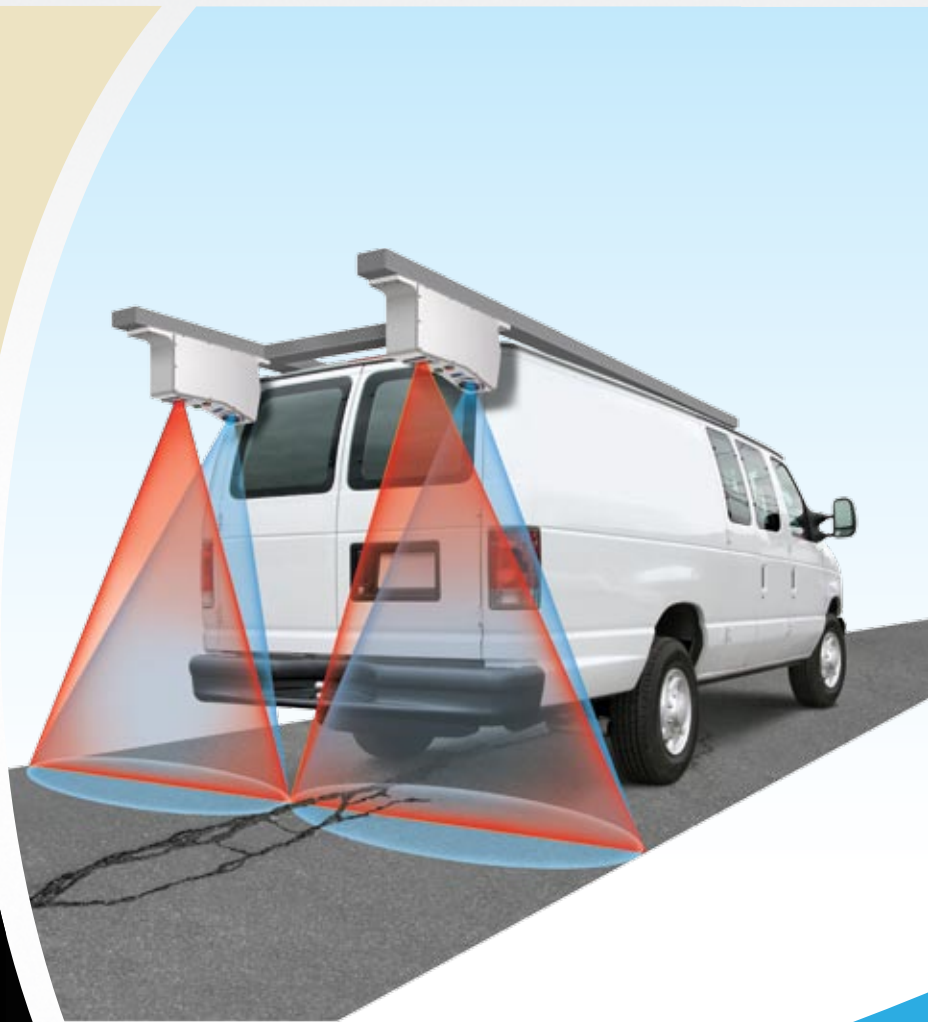
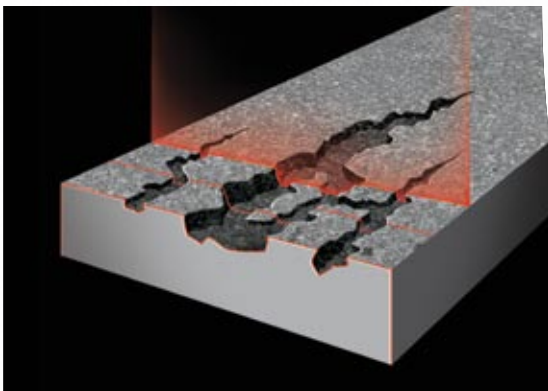
KEY FEATURES

- Crack detection and severity
- 4160 point rutting (rut depth, rut type)
- Multiple macro-texture measurements (MPD)
- 3D and 2D data to characterise: Pot holes, patching, ravelling, sealed cracks, joints in concrete, tinning, etc.
- Day and night operation
- Low power consumption

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SYSTEM SPECIFICATIONS

- Number of laser profilers: 2
- Sampling rate: 5600 profiles/s
- Vehicle speed: up to 100km/h
- Profile spacing: 5mm (adjustable)
- Transversal field of view: 4m
- Transversal resolution: 1mm
- Depth range of operation: 250mm (adjustable)
- Depth resolution: 0.5mm
- Laser profiler dimensions: 428mm (h) x 265mm (l) x 139mm (w)
- Weight: 10kg
- Power consumption (max): 150W at 120/240 VAC



All specifications subject to change without notice

