



MULTI FUNCTIONAL VEHICLE (MFV)



The Dynatest Multi Functional Vehicle combines the functionality of the RSP with the Laser Crack Measurement System (LCMS) from Pavemetrics. The MFV measures the IRI/RN, longitudinal and transverse profile, macrotexture, raveling and geometrics (crossfall, gradient, and radius of curvature). 2D or 3D pavement imagery from the LCMS across a 4 m width enables rapid and objective crack detection and crack classification, and up to 8 Right of Way cameras, providing a complete view of the road and assets. The MFV brings safety to the forefront, allowing surveys of roads and airports to be performed from a vehicle at normal traffic speeds, day or night, precluding the need for traffic management.

Unique features of the Dynatest Multi Functional Vehicle

- Display distresses spatially
- PCI for a custom defined area
- Crack Algorithms can differentiate between alligator and block cracking
- No black box analysis
- User friendly manual analysis tools provided in Dynatest Explorer
- Modular system allowing connection of Lidar, profiler, LCMS, GPR etc.
- Can calculate the PCI value in Dynatest Solution Center based on raw data and segmentation



■ MODULAR COMPONENT TECHNOLOGIES

Longitudinal and Transverse Pavement Profile— Road Surface Profiler (RSP)

The Dynatest Road Surface Profiler (RSP) Mark III is capable of real-time measurements of longitudinal and transverse profile elevations and calculation of International Roughness Index (IRI), Ride Number (RN), rut depths, and macro texture values.

The Dynatest portable RSP Mark IV is capable of real-time measurements of longitudinal profile elevations, IRI, RN, and MPD in one or two paths.

Both RSP models offer “Stop and Go” operation capability at traffic speeds up to 100 km/h, which enables the calculation of IRI values in traffic and at intersections.⁵

Dynatest’s RSPs meet Class 1 precision and bias specifications as defined by ASTM E950, TxDOT Tex-1001s specification, AASHTO R56-10, and AASHTO R48-10.

Right of Way (ROW) Imagery

ROW imagery is used as a reference for pavement distress surveys and may be conveniently viewed – along with all other imagery and data sets during post-processing in Dynatest Explorer (DE)

Up to eight cameras may be mounted on the Dynatest MFV. High definition (1920 × 1080p) or standard (1280 × 960p) cameras may be used.

3D Pavement Imaging— Laser Crack Measurement System (LCMS)

The LCMS, developed by Pavemetrics acquires 3D profiles and 2D images of the pavement surface using two high speed cameras, laser illumination, and advanced optics.

The LCMS is capable of performing a complete pavement condition inspection across the 4 m pavement lane at speeds up to 100 km/h during day or night.

The LCMS allows for automatic detection and measurement of unsealed cracks, rutting, potholes, raveling and macro-texture. The LCMS automated ratings can be checked and verified in Dynatest Explorer (DE) Distress Rating Module (DRM) back in the safety of an office.

Pavement condition indexes may be calculated directly or exported for use in a pavement management system.

■ DYNATEST EXPLORER™ (DE) ANALYSIS SOFTWARE

DE is a comprehensive network and project-level pavement analysis program which can provide the engineer a complete overview of the functional and structural pavement condition.

With the DE program it is possible to view and store a large number of datasets from different equipment and/or from different years on the same screen.

DE can display 3D and 2D distress data sequentially alongside ROW images, rutting measurement, ride characteristics, geometrics, friction data, Falling Weight Deflectometer (FWD) data, pavement layer moduli output from ELMOD6, and pavement layer thickness data from Ground Penetrating Radar (GPR).

DE Distress Rating Module (DRM) can be used for both the automated and manual analysis of 3D and 2D pavement images to identify, measure, and classify surface distresses such as longitudinal and transverse cracking, potholes, patching, and etc.

DE provides graphical and tabular views of datasets that may be exported directly into pavement management systems (e.g. PAVER), or other databases and software packages.

DE data can be conveniently plotted with Google Earth and the Dynatest mapping program DTMap.