

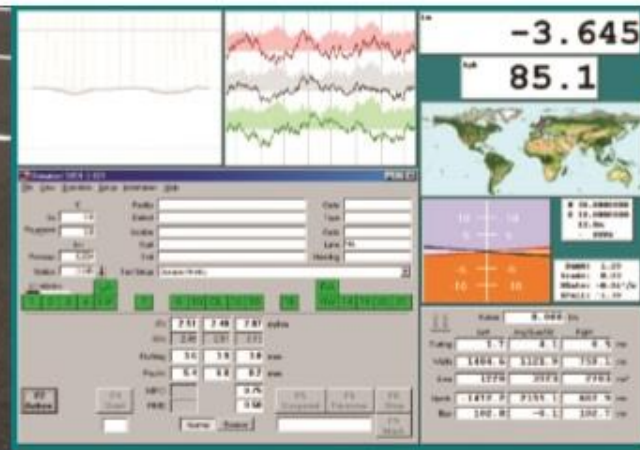


## ROAD SURFACE PROFILER (RSP) MARK III



Dynatest Road Surface Profiler (RSP) 5051 Mark III is designed to provide advanced, automated, high quality pavement longitudinal and transverse profile measurements for engineers, construction superintendents, and pavement network managers.

The RSP Mark III is capable of real time continuous highway speed measurements of longitudinal profile, International Roughness Index (IRI), Ride Number (RN), transverse profile, rut depth, macro texture, and road geometrics (crossfall, curvature and gradient), GPS data and digital photo logging



## MEASURING PRINCIPLE

The longitudinal profile measurement is based on the "South Dakota" method. An accelerometer is used to obtain vertical vehicle body movement, and a laser sensor is used for measuring the displacement between the vehicle body and the pavement. Road profile measurements are obtained by summing the body movement with the appropriate body-road displacements. IRI is calculated in accordance with World Bank guidelines for "Conducting and Calibrating Road Roughness Measurements"

Transverse profile and rut depth are based on a minimum of 5 lasers

Road geometrics (crossfall, curvature, and gradient) can be measured by adding an Inertial Motion Sensor (IMS)

## COMPLIANCE WITH INDUSTRY STANDARDS

AASHTO R 56-14 "Standard Practice for Certification of Inertial Profiling Systems"

ASTM E950/E950M-09 "Standard Test Method for Measuring the Longitudinal Profile of Traveled Surfaces with an Accelerometer Established Inertial Profiling Reference". The RSP III meets the Class 1 precision and bias specifications

TxDOT Tex-1001-S "Test Procedure for Operating Inertial Profilers and Evaluating Pavement Profiles"

## KEY FEATURES

The most accurate, dependable, and long term calibration stability of any profiler on the market

Unique "Stop & Go" feature permits IRI and RN data to be collected in urban areas within traffic

The RSP modular design allows for easy upgrades up to 21 lasers (three of which can be optionally macrotexture lasers), 2 accelerometers, and one inertial motion sensor

Measurements referenced to linear chainage and Differential Geographical Position System (DGPS)

Real-time profile data calculation and storage

Optional GPS and digital photo logging can be stored with profiler measurement data

Optional texture lasers can be used to collect real-time Mean Profile Depth (MPD) macro texture

Optional 100 mm line lasers improve profile measurements on textured surfaces

Solid Construction with corrosion resistant and durable materials—providing long term performance and low maintenance cost of the unit

## ADVANTAGES

The "Stop & Go" feature allows IRI measurements to be taken at all traffic speeds, allowing testing at junctions, traffic lights, roundabouts and testing of short sections where it is difficult to gain enough speed, or when it is not possible to do a pre-section

Standard 5G accelerometers provide the highest precision of vehicle motion measurement

Graphical real-time display of the IRI, RN, laser elevations, inertial profile, macrotexture, and photo-logging

Easy step by step on screen help and calibration procedures displayed allowing in-field calibrations

Built-in analysis software reporting IRI, PI, RN and marking bumps/dips, scallops/must-grinds, leave-out sections