Dynatest

Portable Road Surface Profiler (RSP) Mark IV

Dynatest portable Road Surface Profiler (RSP) Mark IV is designed to provide advanced, automated, high quality pavement roughness measurements for engineers, construction superintendents, and pavement network managers. The portable RSP Mark IV can be fitted easily to most vehicles.

The RSP Mark IV is capable of real time, continuous, highway-speed measurements of longitudinal profile elevations, international roughness index (IRI), ride number (RN), and (optionally) macro texture, GPS data and digital photo logging

Dynatest®

ES France - Département Bio-tests & Industries
127 rue de Buzenval BP 26 - 92380 Garches
Tél. 01 47 95 99 90
Fax. 01 47 01 16 22
e-mail : bio@es-france.com
Site Web : www.es-france.com

Dynatest®

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 Word Bank guidelines for “Conducting and Calibrating Road Roughness Measurements”.

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 IV 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, reliable, and long term calibration stability of any profiler on the market
- Unique “Stop & Go” feature permits IRI & RN data to be collected in urban and rural networks within traffic
- Laser sensors are transversely adjustable to any width of 1.50 to 2.00 m via telescopic arms
- Measurements referenced to linear chainage and Differential Geographical Position System (DGPS)
- Real-time profile data calculation and storage in two wheel paths
- Optional GPS and digital photo logging can be stored with profiler measurement data
- Optional Texture Laser can be used to collect real-time mean profile depth (MPD) macro texture
- Optional 100 mm Line Lasers improve profile measurements on textured surfaces
- Optional Line Laser adjustable mounts allow laser angles from 0 to 90 degrees from travel direction
- 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
- The RSP is designed to allow in-field vertical alignment of the profiler ensuring the lasers are mounted at the optimum distance (Standoff) from the pavement surface. This is critical for an inertial profiling system mounted to a vehicle since the loaded weight of the vehicle can change which can change the standoff of the mounted lasers. Improper standoff can reduce the measurement range of the lasers
- The vehicle independent test system can be quickly mounted to a vehicle’s standard 5.08 cm x 5.08 cm square receiver tube opening and to heavy duty European trailer hitch receivers and is easily removed from the vehicle for storage or shipping
- 5G accelerometers that provide a very high precision of 0.01G
- Graphical 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, leaveout sections
- The test system can be powered from a vehicles standard 12V trailer wiring connection
- Ethernet communication between portable profiler electronics and the data storage laptop PC inside the vehicle

www.dynatest.com

Dynatest A/S, HQ
Tempovej 27-29
2750 Ballerup
Denmark

Dynatest Inc, US
576 NE 23RD AVE
Gainesville, FL 32609
USA

Learn more about the RSP