

MLPL : MULTI PROFILOMETER LONGITUDINAL

Continuous measure of the longitudinal evenness



NF P 98-218

Device qualified mlpc®

Description

The MLPL system is a non-contact longitudinal profile measuring device co-developed by Vectra and IFSTTAR (formerly Laboratoire Central des Ponts et Chaussées).

This laser profilometer can be integrated into a single or multi-function vehicle (and is APO compatible). Its metrological qualities are equivalent to those of the APL profilometer. As such, the MLPL is – like the APL profilometer- approved for the acceptance of wearing courses after construction. The measure can be carried out at a speed between 36 and 130 km/h, on dry or slightly wet roads.

The system can integrate the measurement of the macrotexture.



Measuring principle

- The vehicle travels in its lane and does not require any adaptation of the driving or transverse position of the vehicle in order to perform the measurement in the treads.
- The implementation of this system makes it possible to evaluate the NBO grades according to the requested segment lengths as well as the IRI of the examined sections.
- The results of road tests carried out by Cerema show that the measurements issued by the MLPL (from 36 to 130 km/h) and by the APL (at 72 km/h) are similar.
- The measurements from this function are processed with the APL 2015 software similar to the APL.

Features

Sensors	Laser, gyrometer, acceleromete • 2 traces of measurements in the wheel track (necessary to meet the requirements of the method and standard) • Optional equipping for a third measurement trace in the center of the lane
Number of tracks	0,875 m on both sides of the axis
Position of the measurement traces	+/- 100 mm
Measuring range	0,1 mm
Verticale resolution	5 mm
Length range seen by the MLPL	0,05 m à 50 m
Indicators	Raw profile, IRI, APL (NBO, EBO), CP, SW, QSPO Macrotexture indicators : PMP, PTE



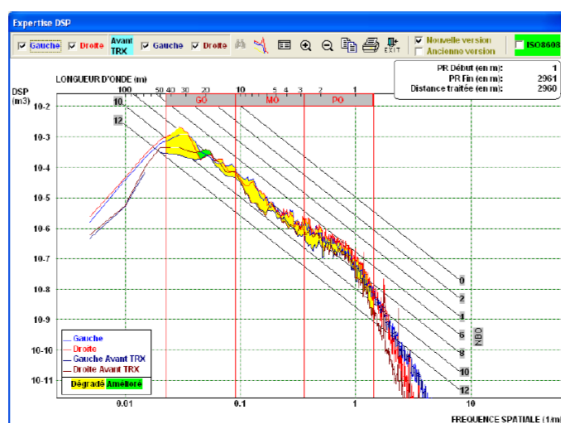
Features

The system allows you to:

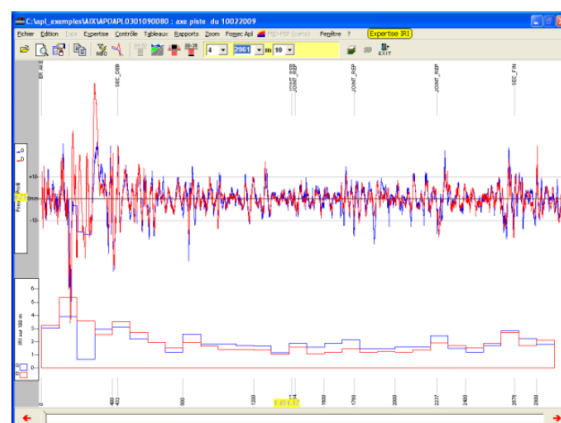
- Circulate without constraint of speed or inconvenience to the user.
- Not permanently or occasionally exceed the size of the carrier vehicle, including measuring equipment. The width of the device, including all equipment, must not exceed 3 m.
- Analyses the energy profiles and notes by waveband (EBO and NBO) as described in the LCPC test method N° 46 and the NF P 98-218 standard

Possible output indicators are:

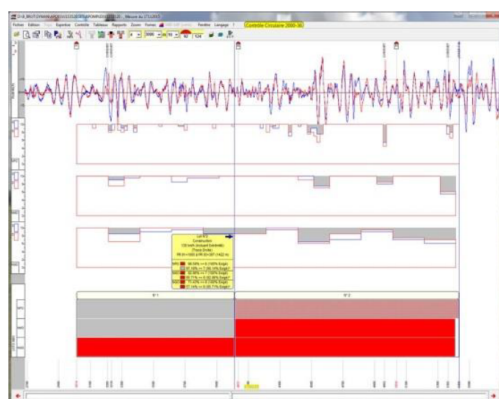
- File of the elementary points constituting the surveyed profile.
- Analysis of the energy profiles and note by waveband as described in the ME-LCPC method n°46 and the NF P 98-218 standard.
- International Roughness Index (IRI) value



Example of DSP expertise before/after work under APL2015



Example of IRI output indicators under APL2015



Example of site control according to circular or configurable thresholds
- site inspection per batch -



Example of site control according to circular or configurable thresholds
- technical note 2015 -